



The Chiropractic Profession and Its Research and Education Programs

Final Report

Submitted to:

Florida State University
Tallahassee, Florida

*Prepared in response to legislative proviso
in Specific Appropriation 161
of the 2000 General Appropriations Act*

Submitted by:

MGT
of America

2123 Centre Pointe Boulevard
Tallahassee, Florida 32308

December 15, 2000



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PREFACE

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During the 2000 session, the Florida Legislature considered the findings of a report studying the need for and feasibility of a school of chiropractic education at Florida State University (FSU). This legislatively mandated report was conducted by the State University System's Board of Regents and the Florida Department of Education's Postsecondary Education Planning Commission. The Legislature responded to the report by directing FSU to develop an implementation plan for the establishment of a school of chiropractic education at FSU.

FSU contracted with MGT of America, Inc., to assist in developing the implementation plan for chiropractic education. The project involved consideration of potential missions, recruitment and enrollment practices, the curriculum and clinical training experiences, staffing and organizational arrangements, and facilities and resources required. This report is one of eight reports prepared to meet the legislative mandate. Listed below are the titles of all eight reports:

- ***The Chiropractic Profession and Its Research and Education Programs***
- ***Model Chiropractic Education Programs***
- ***Alternatives for Chiropractic Clinical Training at Florida State University***
- ***Programs and Strategies to Recruit Minorities in Chiropractic Education***
- ***Best Models for Preparing Chiropractors for Providing Health Care to Seniors and Underserved Populations***
- ***Facilities Needs for a Chiropractic School at Florida State University***
- ***Costs of Chiropractic Education***
- ***Implementation Plan for a School of Chiropractic Education at Florida State University***

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The 2000 Florida Legislature directed Florida State University, in consultation with the Florida Board of Regents, to develop an implementation plan for the establishment of a school of chiropractic education at Florida State University. This report, which examines the status of the chiropractic profession and its education programs, is a part of the development of that plan.

The report reviews the history of the chiropractic profession, the status of the profession today, consumer experiences with chiropractic care, the contributions that chiropractic care is making and can make to the nation's health care, the status of chiropractic education in the U.S., and Florida's needs for chiropractic education.

In summary, the study's findings are outlined below.

National Growth in Complementary and Alternative Medicine (CAM)

- Complementary and Alternative Medicine (CAM) is one of the fastest growing sectors of the nation's health care industry and now accounts for \$20 to \$30 billion per year in consumer expenditures.
- Chiropractic is one of the leading CAM professions and accounts for approximately \$8 billion per year in health care expenditures.

Definition of Chiropractic Care

- Chiropractic services can be defined as: a drugless health care profession with a relatively broad diagnostic practice scope and a treatment scope that emphasizes structure and function of the body's musculoskeletal framework and the relationship this has to health in general. The practice of chiropractic is closely associated with spinal manipulation, a key intervention, but the range of services provided can include physiotherapy, lifestyle and dietary counseling, a variety of myofascial and rehabilitation approaches, as well as alternative medical procedures such as acupuncture and homeopathy.

State Licenses and Scope of Practice

- The practice of chiropractic is licensed in all 50 states and over 30 countries worldwide, including most of the developed nations.

- The authorized scope of practice for chiropractors varies from state to state, depending on state legislation.

Florida's Scope of Practice

- Florida has one of the broadest authorized scopes of practice and includes the right of patients with third-party health coverage to go directly to a chiropractor for treatment.

Reasons and Conditions for Patients Seeking Chiropractic Care

- The primary reasons that patients seek chiropractic care are for illness related to back pain, headaches, and neck pains. Other types of illnesses for which chiropractic treatments are sought include lower and upper extremity pains, chest pains, and abdominal pains.
- The primary causes of patient conditions for which chiropractic care is sought are activities of daily living, motor vehicle accidents, overuse/repetitive stress, work and sports/exercise/recreation.
- Almost 10 percent of the patients seeking chiropractic care do so for wellness and preventive care reasons.

Consumer Use and Satisfaction with Chiropractic Care

- Consumers of chiropractic care have expressed overwhelming satisfaction with the services. A survey of Floridians revealed that over 90 percent of those who have used chiropractic care during the past three years were satisfied with those services.
- Nationally, the percentage of the U.S. population who has used chiropractic services has increased from 5 percent in 1980 to over 45 percent in the late 1990s.
- A 2000 Florida survey revealed that over 29 percent of Floridians have used chiropractic care just within the past three years.
- The survey also revealed that 92.3 percent of those previously using chiropractic care would do so again if they had illnesses that chiropractors treat.

Research Proves Effectiveness of Chiropractic Care for Selected Conditions

- During the past 20 years, over 100 studies of the effectiveness of chiropractic care, both alone and in combination with other treatments, have been conducted by reputable researchers. The studies have included clinical trials, research of medical records, consumer surveys, and chiropractic surveys.

- The research has shown that chiropractic care is either more effective or as effective as comparable pharmaceutical and surgical treatments for back and neck pains and for certain types of headaches.
- Perhaps of even more importance, the research has shown that chiropractic care is significantly safer than comparable pharmaceutical and surgery treatments, producing far fewer (about 4,000 times fewer, according to one study) negative side effects such as chronic pain, disability, or death.
- The effectiveness of chiropractic care for nonspine-related disorders has not been proven by research, although the research in these areas has been sparse.
- Very little research has been conducted on the wellness/preventive effectiveness of chiropractic care. Thus, no evidence currently exists either supporting or denying the hypothesis that chiropractic care improves the overall health of an individual.

Relative Costs of Chiropractic Care

- Although the research findings are mixed, the general consensus of the research is that the costs of chiropractic care are significantly lower than the costs of comparable pharmaceutical and surgery treatments when all costs are considered.

Critics Still Exist

- In spite of the research-proven success of chiropractic care for selected illnesses, the growing use of chiropractic by consumers, and the high levels of satisfaction of consumers with their chiropractic care, some health care providers, particularly some allopathic physicians, still openly criticize the profession as ineffective.
- A large part of this criticism is most likely due to the almost century-long organized campaign by the American Medical Association to eliminate the chiropractic profession. That campaign included major efforts to convince allopathic doctors as well as the general public that chiropractic care was not effective and could be dangerous.
- The campaign was finally stopped when the AMA was prohibited by the U.S. Supreme Court in 1993 from illegal antitrust activities against the chiropractic profession.

Chiropractic Care Entering the Mainstream of Health Care

- Today, chiropractic care is entering the mainstream of the nation's health care system.
- Many allopathic physicians, especially the younger ones, now view chiropractic care as effective for appropriate illnesses and readily refer patients to chiropractors.
- Although still small, a growing number of multispecialty clinics now include both allopathic and chiropractic physicians.
- The nation's leading group practice for back pain, the Texas Back Institute, includes a broad range of medical specialists, including chiropractors.
- The National Institutes of Health (NIH) now includes chiropractors on staff and allocates research funds for chiropractic research.

Chiropractic Education

- To be licensed in the 50 states, an individual must have earned a doctor of chiropractic degree from an accredited chiropractic school.
- Sixteen accredited chiropractic schools currently offer the doctor of chiropractic degree in the U.S.
- All 16 of the schools are private schools that are funded primarily by student tuition and fees.
- The annual tuition and fees per student range from \$8,000 to \$15,000 compared to about \$4,000 per year for Master's and Ph.D. students in Florida's public universities.
- For the most part, the 16 chiropractic schools in the U.S. are single discipline schools, although some have added other health professional programs in recent years.
- None of the nation's chiropractic schools offer Ph.D. programs designed to prepare faculty to teach chiropractic courses or prepare researchers for chiropractic research. A real need exists for such a program in the U.S.
- All Florida students have to go out of state and pay high private school tuition rates to obtain a doctor of chiropractic degree.
- The closest chiropractic school to Florida is Life University in Atlanta. Unfortunately, graduates of the university have, historically, had difficulty in passing the Florida licensure requirements.

- The higher tuition and fee rates plus the necessity of going out of state has been credited as preventing many minorities from becoming chiropractors. Currently, only about 1 percent of Florida chiropractors are Black and only 4 percent are Hispanic, whereas about 25 percent of patients are minorities.

Chiropractic Research

- Compared to allopathic-related research, the level of chiropractic research in the U.S. has been minuscule. Only about \$1 is spent on chiropractic for every \$500 spent on allopathic research, just within the research programs conducted by the nation's higher education institutions. When all of the research conducted by the nation's private pharmaceutical and medical research companies is included, the ratio of chiropractic to allopathic research becomes even more dramatic.
- The rapid growth of consumer demand for complementary and alternative medicine (CAM) over the past decade has led to a significant growth in CAM research, with Congress now appropriating funds specifically for CAM (including chiropractic) research.
- The federal government has now established a national chiropractic research consortial center at the Palmer Chiropractic School in Davenport, Iowa.
- Unfortunately, the research capacity of the nation's chiropractic schools is relatively limited. The total amount of research funds reported by all 16 schools is only about \$13 million, or less than \$1 million per school.
- No significant chiropractic research programs currently exist in the U.S. in a multidiscipline research university environment. A new chiropractic research program at Florida State University would be the first major multidiscipline chiropractic research program in the U.S.

Chiropractic Care Part of Solution to National Cost of Health Care Crisis

- Florida, which leads the nation in growing demand for health care due to the aging and growth of its population, is facing a major cost of health care crisis.
- The causes of the crises are many and complex. One major cause is an insufficient supply of health care professionals. Another major cause is a health care delivery model that maximizes the use of the more expensive pharmaceutical and surgical treatments.

- Chiropractic care offers a way of altering the delivery of health care so that patients enter the health care delivery system at the lowest cost, least invasive point and are then referred for the more expensive treatments only as needed. A trial program using chiropractors as primary care physicians has been established by a Blue Cross and Blue Shield HMO in Chicago and is dramatically reducing the cost of health care.
- Consumer preference for this approach, although still small, is growing as evidenced by the rapid growth in consumer expenditures on complementary and alternative medicine, which are now in the range of \$20 to \$30 billion per year.
- A new chiropractic school at Florida State University could help resolve the state's (and nation's) cost of health care crises by producing chiropractors who are fully trained to serve as primary care physicians with full diagnostic skills and a full set of nonpharmaceutical, nonsurgical treatment skills. These physicians could then refer those patients needing the more expensive pharmaceutical and surgical treatments to allopathic physicians.
- Chiropractors have been serving in a direct access care provider role in Florida since 1993 when Florida's statutes mandated that third-party carriers allow insureds to seek chiropractic care without referrals. The experience over the past seven years has shown chiropractors to be effective in this role.
- The effectiveness of chiropractors in diagnosing and treating illnesses and in making appropriate referrals is also supported by the fact that the cost of malpractice insurance for chiropractors is significantly below that for allopathic physicians.

A New Chiropractic School at Florida State University Offers Many Benefits to the People of Florida

- A new chiropractic school at FSU would be the first chiropractic program in the nation at a multidiscipline graduate research university.
- Florida State University would immediately, upon the establishment of the new school, become the nation's leader in:
 - providing a doctor of chiropractic education program in a multidiscipline environment;
 - conducting chiropractic and other alternative medicine research; and

- producing Ph.D.s to teach at other chiropractic schools and conduct chiropractic research.
- As national leader in chiropractic and other alternative medicine research, FSU will be able to attract large sums of complementary and alternative medicine research funding to the state.
- The people of Florida will benefit, because FSU will be producing chiropractic graduates fully capable of providing the state's citizens with lower-cost and less-invasive treatments as the first line of offense against illnesses, reserving the more expensive pharmaceutical and surgical treatments for the more serious illnesses.
- The students of Florida will benefit, because they will not have to go out of state and pay the higher private institution tuition and fees to obtain a doctor of chiropractic degree.
- The minority students will obtain significant benefits, because one of the more attractive careers in medical care will no longer be effectively denied to them.

1.0 INTRODUCTION

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The 2000 Florida Legislature directed Florida State University, in consultation with the Florida Board of Regents, to develop an implementation plan for the establishment of a school of chiropractic education at Florida State University. This report, which examines the status of the chiropractic profession and its educational programs, is a part of the development of that plan.

The report reviews the history of the chiropractic profession, the status of the profession today, consumer experiences with chiropractic care, the contributions that chiropractic care is making and can make to the nation's health care, the status of chiropractic education in the U.S., and Florida's needs for chiropractic education.

1.1 A Nonbiased, Objective Review

After it became public knowledge that MGT had been authorized to develop the plans for a chiropractic school at Florida State University, we received many supporting comments. Many people were pleased that Florida would now be able to serve the approximately 900 Florida students now having to go out of state each year to study chiropractic. Others were pleased that Florida's higher education system would be doing its part to ensure an adequate supply of chiropractic physicians to meet the growing health care needs of Floridians. Still others were excited about the major national void in chiropractic research that will be filled by Florida's establishing the first chiropractic education program in the nation at a major graduate research university. Particular excitement was expressed about the opportunities for joint chiropractic research projects with other scientific disciplines, such as allopathic medicine, nutrition, sports medicine, bioengineering, and the other major research programs at Florida State University. And still others were excited about having a chiropractic education program

at a public university where tuition rates will be lower than the rates at other U.S. chiropractic schools, which are all privately owned and almost totally dependent on tuition for their revenues. This latter fact was of particular importance to many low-income and minority groups who, for the most part, have been effectively barred from the chiropractic profession because of high education costs.

At the same time that we were receiving the many positive comments, we were surprised to also receive some skeptical, and in some cases, highly negative comments from several health care professionals and from university faculty. We were aware of the efforts of the antitrust lawsuit by a group of chiropractors against the American Medical Association (Getzendaner, 1987), that was finally decided in 1992 by the U.S. Supreme Court in favor of the chiropractors. The court concluded, among other things, that the AMA and its representatives had sponsored an organized campaign designed to discredit the chiropractic profession and that their many derogatory comments about chiropractors and chiropractic treatments were not supported by facts. We probably should have expected that many of those same opinions would still exist today, since they were widely propagated over several decades and it has only been seven years since that case was decided. Yet, we were surprised when we heard concerns to the effect that chiropractic health care is not effective and is more faith based than science based, and, as such, has no place in a public graduate research university.

In view of these negative criticisms, our study team made the decision that we must address those concerns and issues head on. We felt that we owed Florida State University, the Florida Legislature, and the people of Florida a totally objective evaluation of the pros and cons of establishing the first chiropractic education program at a public graduate research university in the nation at Florida State University. Such a study would have to address the concerns of critics or it would be dismissed by them as a non-

objective study. More important, whether to even establish a school and, if so, the specific plans for the school would depend heavily on the findings relative to those concerns. Accordingly, we decided to identify to the best of our ability the specific concerns of those critical of establishing a chiropractic school at FSU, determine how widely those views were held, and, most important, determine to what extent those opinions are supported by facts and scientific research findings.

We pledged to ourselves that we would keep an open mind until all of the evidence had been collected and evaluated. We urge the readers of this report to do the same.

1.2 Concerns of Critics

Strange as it may sound, we had some difficulty specifically wording the criticisms of a chiropractic school at FSU. In some cases, it boiled down to “I just do not like the idea, regardless of what your report says.” It is difficult to respond to that type of criticism, and we reconciled ourselves to the fact that some people will be “against” because that is what they want to do, regardless of the facts. Other people, however, were more open minded, readily voiced their concerns, and seemed willing to withhold their final opinion until seeing the facts. The concerns expressed by the open-minded people included:

- Chiropractic treatments are not particularly effective;
- Claims of chiropractors are not backed by scientific research;
- Chiropractors are not sufficiently educated to perform the treatments that they offer;
- Chiropractors are not adequately trained to diagnose illnesses and, therefore, should not be the point of entry of patients into the health care system;

- Chiropractic treatments are dangerous and may frequently hurt or injure a patient;
- Chiropractic treatments are not covered by third-party payers;
- Chiropractors have a practice of keeping a patient coming back for office visits beyond the number of visits required to heal the patient;
- Allopathic and osteopathic physicians do not refer patients to chiropractors;
- Chiropractic treatments are no more effective than physical therapy; and
- Pharmaceutical drugs and surgery are more effective, safer, and less expensive ways to treat health problems than are chiropractic manipulations.

Each of these criticisms is addressed in the subsequent sections of this report.

Because there is a fairly widespread lack of exposure to chiropractic generally, and to chiropractic research in particular, we have also published a separate, more comprehensive report that addresses the same topics covered in this one, but in more detail. That report, titled "A Comprehensive Assessment of the Chiropractic Profession and Education," expands on the more bottom line nature of this version and delineates more detailed references and citations that are behind our conclusions presented here.

1.3 Composition of Study Team

Our study team for this report consisted of:

- **Kent Caruthers, M.B.A., Ph.D., Project Director.** Dr. Caruthers holds a Ph.D. in higher education finance as well as an M.B.A. He has extensive background in higher education planning and brings skills and pragmatic insight to implementation of graduate study programs. He directed MGT's previous development of a plan for a medical school for Florida State University.
- **Ken Boutwell, Ph.D., Team Leader.** With a Ph.D. in economics, Dr. Boutwell brings experience in health care economics to the team. He was a team leader for the previous development of a plan for a medical school at FSU. He also was a cofounder of Capital Health Plan, an HMO in Tallahassee, Florida.

- **Dianne Speake, Ph.D.** Dr. Speake holds her Ph.D. in nursing, and brings a clinical background to the team. She has over 20 years of experience in higher education and public health administration. Dr. Speake was responsible for the analysis of medical care in inner-city underserved areas of Florida and development of affiliated agreements with hospitals and clinics for the FSU medical education study.
- **Cynthia Balogh, Ph.D.** Dr. Balogh's doctorate is in higher education. Dr. Balogh has over 20 years of experience in postsecondary education, including research in the areas of health professions education programs. She served as Project Coordinator for Florida State University's study on medical education.
- **Robert Mootz, D.C.** Dr. Mootz has experience in many areas of chiropractic, including 13 years in full- or part-time private practice (3 of which were in a multidisciplinary clinic), 8 years as a clinical and research faculty member at a chiropractic college, and now works in a state government health services research and policy position.

Other than Dr. Mootz, none of our team members, prior to this study, had ever been treated by a chiropractor, although some of us have family members who had. We knew very little about chiropractic treatments prior to beginning the study, and some of us had our own levels of skepticism. We asked Dr. Mootz, who holds a chiropractic degree, to join our team to give us input from a chiropractic point of view.

1.4 Overview of This Report

With a detailed review of literature, site visits to eight chiropractic institutions around the country, consultation with content experts, research on specific needs of the state of Florida, and critical appraisal and synthesis of all information gathered, we have developed an objective and evidence-based technical evaluation of the chiropractic profession, research, and education, which is presented in this report. Major emphasis is placed on presenting facts and figures. Where the evidence is clear, we have drawn conclusions. Where the evidence is not so clear, we have noted that also.

Unfortunately, the research funding for chiropractic treatments has been minuscule compared to the billions spent by the pharmaceutical companies and the federal government on allopathic-related treatments. Although the jury is still out on the effectiveness of chiropractic treatments in some situations, primarily because of the lack of scientific research, some conclusions can be drawn. For example, evidence for effectiveness for patients with certain kinds of back, neck, and headache problems is solid and at least on par with research related to other treatments in terms of quantity, quality, and consistency. In many other cases, anecdotal observations suggest that certain chiropractic treatments are effective, yet little or no scientific research has been conducted to either prove or disprove the effectiveness. There has, however, been enough research on chiropractic treatments to draw reasonable conclusions about whether chiropractic should be a part of the world's health care system. This report presents a summary of the findings of that research.

In response to both the concerns of critics and the need of Florida decision makers for an objective assessment of the importance of chiropractors in providing health care for the state's residents, this report addresses the following major topics:

- Overview of Chiropractic Scope of Practice
- Brief History of the Chiropractic Profession
- The Effectiveness of Chiropractic Health Care
- Current Status of Chiropractic Profession in the United States
- Chiropractic Education
- Chiropractic Research
- Consumer Experiences with and Opinions about Chiropractic Care
- Florida's Need for Chiropractic Information

1.5 Reference

Getzendaner, S. (U.S. District Judge, Northern District of Illinois, Eastern Division). *Memorandum, Opinion, and Order. Wilk, et al. v. American Medical Association, et al.*, August 27, 1987.

2.0 OVERVIEW OF CHIROPRACTIC SCOPE OF PRACTICE

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In our interviews and discussions (both formal and informal) for this study, we found both misinformation and confusion about both the types of treatments provided by chiropractors and the effectiveness of those treatments. Even within the chiropractic profession itself, we found mixed opinions about the types and effectiveness of chiropractic treatments.

It should be noted here that the same types of misinformation and confusion exists within allopathic medicine with widely varying opinions among both allopathic physicians and other health care administrators and officials as to the appropriateness and effectiveness of different treatments for a wide range of illnesses. Strong feelings exist among many about the unproven and inappropriate use of some types of surgical and pharmaceutical treatments for certain illnesses. Thus, the misinformation and confusion about the types of treatments and the effectiveness of treatments are not limited to the chiropractic profession.

2.1 Definition of Chiropractic Services

As discussed in the next section, the authorized scope of practice for chiropractors, as well as for other health care professionals, is set by statute by the individual states. Thus, the definition of chiropractic services differs among the states. Overall, however, chiropractic services can be defined as: *A drugless health care profession with a relatively broad diagnostic practice scope and a treatment scope that emphasizes structure and function of the body's musculoskeletal framework and the relationship this has to health, in general. The practice of chiropractic is closely associated with spinal manipulation, a key intervention, but the range of services provided can include physiotherapy, lifestyle and dietary counseling, a variety of*

myofacial and rehabilitation approaches, as well as alternative medical procedures such as acupuncture and homeopathy. State jurisdictional regulations, the training which a chiropractor has received and individual practice preferences determine the specific practice patterns of individual chiropractors.

2.2 Regulatory and Licensure Status

The practice of chiropractic is licensed and regulated in all 50 states and the District of Columbia. Additionally, the practice is licensed or recognized by government health authorities in all Canadian provinces and in over 30 countries worldwide, including Australia, New Zealand, Denmark, England, Germany, the Netherlands, Japan, Saudi Arabia, South Africa, Mexico, and the Russian Federation. (Lamm,1995, Sandefur,1997, and Chapman-Smith, 2000), as noted in Exhibit 2-1.

Each of the 50 states in the U.S. has its own scope of practice statutes and regulations as well as its own licensing requirements for chiropractors, just as it does for other health care professionals. Typically, the scope of practice of chiropractors in the different states includes broad diagnostic authority, although some states limit the use of invasive procedures, such as needle EMG or phlebotomy, in diagnostic testing. All states authorize chiropractors to use manipulation as a primary intervention. The use of other interventions such as modalities, myofacial work, acupuncture, and nutritional counseling varies from state to state. On the exclusive side, all states currently exclude prescribing drugs and performing major surgery from chiropractic practice. However, some states authorize certain minor surgeries.

Variations in the state-authorized scope of practice of chiropractors have been classified as (1) restrictive, (2) intermediate, and (3) expansive. (Cherkin, 1997) Restrictive scopes explicitly prohibit D.C.s from performing two or more of the following:

venipuncture for diagnostic purposes, the use of physiotherapy modalities, the dispensing of vitamin supplements, or the provision of nutritional advice to patients.

**EXHIBIT 2-1
COUNTRIES WHERE CHIROPRACTORS ARE RECOGNIZED
BY NATIONAL HEALTH AUTHORITIES**

African Region	Eastern Mediterranean Region	European Region	Cayman Islands ²
Botswana ¹	Cyprus ¹	Belgium ¹	Jamaica ²
Ethiopia ²	Egypt ²	Croatia ²	Leeward Islands ¹
Kenya ²	Greece ²	Denmark ¹	Puerto Rico ¹
Lesotho ¹	Israel ²	England ¹	Trinidad & Tobago ²
Mauritius ²	Jordan ²	Finland ¹	United States ¹
Namibia ¹	Lebanon ²	Germany ²	U.S. Virgin Islands ²
Nigeria ¹	Libya ²	Hungary ²	
South Africa ¹	Morocco ²	Iceland ¹	
Swaziland ¹	Qatar ²	Ireland ²	
Zimbabwe ¹	Saudi Arabia ¹	Italy ³	
	Turkey ²	Liechtenstein ¹	
Asian Region	United Arab Emirates ²	Netherlands ²	
China-Hong Kong ¹		Norway ¹	
Japan ²	Latin American Region	Portugal ³	
Malaysia ²	Argentina ²	Russian Federation ²	
Philippines ¹	Brazil ²	Slovakia ²	
Singapore ²	Chile ²	Sweden ¹	
Taiwan ²	Columbia ²	Switzerland ¹	
Thailand ³	Costa Rica ²		
Pacific Region	Ecuador ²	North American Region	
Australia ¹	Guatemala ²	Bahamas ²	
Fiji ²	Honduras ²	Barbados ¹	
Guam ¹	Mexico ¹	Belize ²	
New Caledonia ²	Panama ¹	Bermuda ²	
New Zealand ¹	Peru ²	British Virgin Islands ²	
Papua New Guinea ²	Venezuela ²	Canada ¹	

Source: Chapman-Smith, David, The Chiropractic Profession, NCMIC Group, Inc., West Des Moines, Iowa, 2000.

Note: Listed according to the seven world regions adopted by the World Federation of Chiropractic. In most other countries there are no chiropractors in practice, and national health authorities have not considered recognition or lack of recognition.

Legend:

¹ Recognized pursuant to legislation.

² Recognized pursuant to general law.

³ *De facto* recognition.

Michigan, which limits chiropractors to the use of spinal analysis and x-rays to detect spinal subluxations and misalignments and the administration of spinal adjusting procedures to correct these subluxations, is an example of a restrictive state. Five other

states, Mississippi, New Jersey, South Carolina, Tennessee, and Washington, also have restrictive scope of practices.

The expansive scope allows three or more of the following practices: specialty diagnostic procedures, pelvic and rectal examinations, venipuncture for laboratory diagnosis, signing of birth and death certificates, and acupuncture using needles. Oregon is an example of an expansive state. Oregon allows D.C.s to perform minor surgery, proctology, and obstetrical procedures. The state also authorizes chiropractors to employ “chiropractic diagnosis, treatment and prevention of body dysfunctions, correction, maintenance of the structural and functional integrity of the neuromusculoskeletal system and the effects thereof or interferences therewith by the utilization of all recognized and accepted chiropractic diagnostic procedures and the employment of all rational therapeutic measures taught in approved chiropractic colleges.” (FCLB, 1997) Oregon D.C.s may utilize physiotherapy devices, perform venipuncture to collect blood specimens for laboratory diagnosis, give nutritional advice, and dispense nutritional supplements from their offices. Three other states, Idaho, Ohio, and Oklahoma, authorize similar expansive scope of practice for chiropractors.

The remaining 40 states, including Florida, have statutes that fall somewhere in between expansive and restrictive scopes of practice. Florida’s chiropractic scope of practice, however, is much more aligned with the expansive scope of practice. Florida Statutes, Chapter 460, delineate the parameters for practicing chiropractic.

(9)(a) “Practice of chiropractic medicine” means a noncombative principle and practice consisting of the science, philosophy, and art of the adjustment, manipulation, and treatment of the human body in which vertebral subluxations and other malpositioned articulations and structures that are interfering with the normal generation, transmission, and expression of nerve impulse between the brain, organs, and tissue cells of the body, thereby causing disease, are adjusted, manipulated, or treated, thus restoring the normal flow of nerve impulse which produces normal function and consequent health by chiropractic physicians using specific chiropractic adjustment or manipulation techniques taught in

chiropractic colleges accredited by the Council on Chiropractic Education. No person other than a licensed chiropractic physician may render chiropractic services, chiropractic adjustments, or chiropractic manipulations.

(b) Any chiropractic physician who has complied with the provisions of this chapter may examine, analyze, and diagnose the human living body and its diseases by the use of any physical, chemical, electrical, or thermal method; use the X-ray for diagnosing; phlebotomize; and use any other general method of examination for diagnosis and analysis taught in any school of chiropractic.

(c) 1. Chiropractic physicians may adjust, manipulate, or treat the human body by manual, mechanical, electrical, or natural methods; by the use of physical means or physiotherapy, including light, heat, water, or exercise; by the use of acupuncture; or by the administration of foods, food concentrates, food extracts, and items for which a prescription is not required and may apply first aid and hygiene, but chiropractic physicians are expressly prohibited from prescribing or administering to any person any legend drug except as authorized under subparagraph 2., from performing any surgery except as stated herein, or from practicing obstetrics.

2. Notwithstanding the prohibition against prescribing and administering legend drugs under subparagraph 1., or s.449.0122, pursuant to board rule chiropractic physicians may order, store, and administer, for emergency purposes only at the chiropractic physician's office or place of business, prescription medical oxygen and may also order, store, and administer the following topical anesthetics in aerosol form:

- a. Any solution consisting of 25 percent ethylchloride and 75 percent dichlorodifluoromethane.*
- b. Any solution consisting of 15 percent dichlorodifluoromethane and 85 percent trichloromonofluoromethane.*

However, this paragraph does not authorize a chiropractic physician to prescribe medical oxygen as defined in chapter 499.

(d) Chiropractic physicians shall have the privileges of services from the department's laboratories.

(e) The term "chiropractic medicine," "chiropractic," "doctor of chiropractic," or "chiropractor" shall be synonymous with "chiropractic physician," and each term shall be construed to mean a practitioner of chiropractic medicine as the same has been defined herein. Chiropractic physicians may analyze and diagnose the physical conditions of the human body to determine the abnormal functions of the human organism and to determine such functions as are abnormally expressed and the cause of such abnormal expression.

(f) Any chiropractic physician who has complied with the provisions of this chapter is authorized to analyze and diagnose abnormal bodily functions and to adjust the physical representative of the primary cause of disease as is herein defined and provided. As an incident to the care of the sick, chiropractic physicians may advise and instruct patients in all matters pertaining to hygiene and sanitary measures as taught and approved by recognized chiropractic schools and colleges. A chiropractic physician may not use acupuncture until certified by the board. Certification shall be granted to chiropractic physicians who have satisfactorily completed the required coursework in acupuncture and after successful passage of an appropriate examination as administered by the department. The required coursework shall have been provided by a college or university which is recognized by an accrediting agency approved by the United States Department of Education.

2.3 Typical Patient Complaints Treated by Chiropractors

According to a 1991 national survey of chiropractors sponsored by the National Board of Chiropractic Examiners (Christensen, 1993), the chief patient complaints treated by chiropractors concerned low-back and neck problems, as shown in Exhibit 2-2. Other complaints included headache, facial pain, and mid-back pain.

**EXHIBIT 2-2
CHIEF COMPLAINTS OF CHIROPRACTIC
PATIENTS, 1991**

Complaint	Percent of Patients
Low back/pelvis	25.6%
Neck	19.3
Headache or facial	13.3
Mid-back	11.8
Lower Extremity	9.4
Upper Extremity	8.6
Other Nonmusculoskeletal	5.3
Chest	3.7
Abdominal	2.9
Total	100.0%

2.4 Causes of Patient Complaints

The primary causes of patient complaints were activities of daily living, motor vehicle accidents, overuse/repetitive stress, work, and sports/exercise/recreation

activities, as shown in Exhibit 2-3. Interestingly, in spite of the emphasis of chiropractors on wellness/preventive care, only 9.3 % of the patients sought chiropractic services for this reason.

**EXHIBIT 2-3
CAUSES OF PATIENT CONDITIONS**

Cause	Percent of Patients
Activities of Daily Living	18.9%
Motor Vehicle Accidents	14.2
Overuse/repetitive Stress	12.9
Work	10.9
Sports/Exercise/Recreation	9.5
Wellness/Preventive Care	9.3
Emotional Stressors	7.9
Environmental/Dietary Stressors	6.3
Acute Illness	5.1
Chronic Illness	4.5
Other	.5
Total	100.0%

2.5 Chiropractic Specialties

Like other health care providers, practice specialties exist within the chiropractic profession. Although most chiropractors provide a general practice, analogous to the general practice of primary care allopathic or osteopathic physicians, a small but increasing number of chiropractors are specializing in particular practices. Specialties include:

- Clinical Neurology
- Sports Chiropractic
- Nutrition
- Industrial Consulting
- Orthopedics
- Pediatrics
- Rehabilitation
- Radiology

Unfortunately, unlike allopathic physicians, chiropractors have not adopted a titling nomenclature that enables the consumer to clearly differentiate among the services

offered by chiropractors with different specialties. Yet, the specialties do exist and must be considered in the planning for a new chiropractic school.

2.6 Scope of Practice Controversy within the Chiropractic Profession

Unfortunately, a significant amount of controversy exists within the chiropractic profession as to the appropriate scope of practice for chiropractors. The controversy centers primarily around how expansive the scope should be. One group of chiropractors (which we refer to as “separatists”) feels strongly that chiropractors are separate and apart from conventional allopathic medicine and that the scope of practice of chiropractors should be limited to adjustments of the spine (a preferred term for manipulation) only for the purpose of reducing spinal dysfunction (referred to as vertebral subluxation). Although most chiropractors recognize that body structure plays a role in overall well-being, the separatist group is uncomfortable with relating chiropractic interventions to care for any conditions patients have, other than their theoretical model of spinal dysfunction. Hence, they promote that chiropractors should not engage in any kind of general patient evaluation or diagnosis other than tests and procedures to identify theoretical spinal lesions. One of the most commonly stated explanations for their perspective is a belief that engaging in clinical procedures done by allopathic physicians or for similar clinical purposes would be considered a duplication of service that cannot be reimbursed in insurance.

Another major group (which we refer to as “integrationists”) feels that chiropractors should become an integral part of the nation’s medical care system, with chiropractors serving as direct access or limited primary care physicians so that the first line of attack on both illnesses and health maintenance would be nondrug and nonsurgical. Beyond the separatists and the integrationists groups, a small minority of chiropractors,

similar to a small minority of allopathic physicians, espouse a wide range of not-yet-proven health care practices. Since every profession has a minority that practices on the fringe, we will ignore that fringe in this paper.

The controversy between the chiropractic separatists and the integrationists is more than just a difference in preferred scope of practice of individual chiropractors as in allopathic medicine where specialists and generalists practice side-by-side with mutual respect for each other's skills. In chiropractic, the differences are based on a major gap in philosophical beliefs, which seems almost too wide to breach. The separatists are almost religious in their belief that the basic philosophy of chiropractic, as originally espoused by B.J. Palmer, the son of D.D. Palmer who founded the profession in the late 1800s, are as true today as they were in the early 1900s when they were developed and should not be altered. Any attempt to expand the scope of practice of chiropractors to include other forms of health care (e.g., acupuncture) or even to integrate it with other forms of health care is a violation of the separatists beliefs. The integrationists, on the other hand, believe that as the knowledge of effective health care maintenance and treatments expands, along with related technology, so should the scope of practice of chiropractors. However, most integrationists view chiropractic as a drugless and non-surgical discipline but advocate incorporation of both alternative and the more conservative conventional clinical procedures into chiropractic practice.

The differences of opinions between the separatists and the integrationists led, many years ago, to the creation of two national chiropractic associations: the International Chiropractic Association (ICA) representing the more narrow-scope separatists and the American Chiropractic Association (ACA), representing the integrationists. The ACA is the larger of the two associations with about 18,000 members compared with about 8,000 members for the ICA. The programs and

philosophies of the two associations are illustrated in two recent articles, included in Appendix A, written by the presidents of the two associations and published by *The American Chiropractor*. Although the respective organizations do have somewhat different approaches to how to articulate and explain what chiropractors do and how broad of a practice scope they prefer, there are strong similarities. The two organizations do frequently collaborate on political, legislative, and professional promotion efforts. They have also attempted to merge their associations on occasion, but have failed to garner enough internal support (particularly within the ICA) for such a merger.

2.7 Future Trends in Scope of Practice

Chiropractic is at the forefront of an emerging trend in U.S. health care to integrate complementary and alternative health care with the mainline of allopathic and osteopathic medicine. As scientific breakthroughs reveal new knowledge about the human body and as consumers become more knowledgeable about proper health care practices, they are demanding, and more and more providers are responding, that all effective forms of health care be provided to them. The result is that the traditional acute health care model involving allopathic and osteopathic physicians, hospitals, pharmaceutical drugs, and surgery is giving way to include a much broader set of health care practices. (Castleman, 2000, pages 3-11) The broader set of practices, frequently referred to as “complementary and alternative medicine” (CAM) includes chiropractors, nutrition counseling, biofeedback, stress management, exercise, massage therapy, acupuncture, and other nonsurgical and nonpharmaceutical treatments.

Today, at least 75 medical schools, including Harvard, Yale, Columbia, Johns Hopkins, Tufts, Stanford, Ohio State, University of North Carolina and the University of California, Los Angeles, offer courses in alternative therapies. (Castleman, 2000, page

5) More important, more and more allopathic and osteopathic physicians are both referring patients to CAM practitioners and, in a small but growing number of cases, incorporating those professionals into their group practices, and vice versa. Additionally, more and more insurers, including health maintenance organizations (HMOs), are recommending alternative therapies for their members and paying for those therapies. HMOs, in particular, are recommending alternative therapies, especially nonsmoking, exercise, and nutrition counseling, for their members as ways of preventing illnesses.

Perhaps the greatest driving force creating the emerging trend of integrated medicine is consumer demand. In 1997, Americans spent \$21 billion on complementary and alternative medicine. (Castleman, 2000, page 4) The health knowledge explosion, combined with the ready access to information via the Internet, television, and printed media, has resulted in more and more people becoming aware that they must take responsibility for their own health. They are understanding that many illnesses can be prevented through proper nutrition, exercise, and other lifestyle changes, and that proven alternatives to traditional pharmaceutical and surgical treatments exist for certain illnesses, particularly some chronic illnesses. The result, according to a Harvard Medical School survey, is that approximately 42 percent of Americans use alternative therapies. (Castleman, 2000, page 4)

A major indicator of the importance of the growth in complementary and alternative medicine is the fact that the National Institutes of Health (NIH) has created the National Center for Complementary and Alternative Medicine, which has received congressional funding of over \$50 million for CAM research. The availability of CAM research funds is attracting the attention of both traditional medical schools and CAM research programs, such as the Consortium for Chiropractic Research, which includes 16 chiropractic schools in the United States.

Finally, for the first time in human history, medical services are moving beyond incident-based treatments for acute illnesses to health care for the whole person over a lifetime. The resulting research and educational opportunities are astounding. The nation's health education programs in all professions face an unprecedented set of opportunities to change and improve the nation's health delivery system. The question is, Will they be able to lay aside a century of specialization and antagonism toward each other to give the consumer the full range of integrated health services needed, or will old turf protection and professional jealousies continue to fragment the nation's health care system?

In spite of the philosophical beliefs of the separatists, chiropractors and the continuing (but dwindling) opposition from allopathic physicians and their associations, it is the opinion of our study team that the scope of practice of chiropractors will continue to expand. Historically, unsubstantiated beliefs have been able to temporarily delay both research and the implementation of research findings, but seldom have been able to permanently prevent the true facts from eventually making their way into practice. Practicing physicians in the late 1800s raised major opposition to Louis Pasteur's theory that germs were a cause of infectious diseases, only later to have the entire allopathic health care system built on that theory. Similarly, a physician, Dr. W. W. Keen, was denied hospital privileges at every hospital in Philadelphia in the late 1800s because he proposed to use antiseptics for surgery. He later was recognized as one of the greatest surgeons of his time in the U.S. (Carter, 1992) Similarly, our study team feels that the chiropractic scope of practice will continue to expand and will eventually be fully integrated into the nation's health delivery system. As scientific research validates the effectiveness of some complementary and alternative health care treatments and practices (while invalidating others), those treatments and practices will become an

integral part of health care. Consumers will demand such integration with their dollars, as already illustrated by the over \$21 billion per year being spent on complementary and alternative health care. With the explosion in the amount of health care knowledge and the ready availability of that knowledge on the Internet, as well in print and television media, consumers will play an increasingly important role in the direction of health care. And the health care delivery system will respond to that demand! Those providers who fail to respond will be left behind.

As a part of the nation's health care system, chiropractors will have no choice other than to respond to the demands of consumers if they want to remain as providers. As new research reveals new chiropractic treatments that are effective and new combinations of chiropractic and other practices that are effective, consumers will demand those services. Innovative health care providers will provide them, leaving behind those who refuse to do so. Thus, there is no question that the future trend of chiropractic is an expanding and integrated scope of practice.

2.8 Implications for a New Chiropractic School

A new chiropractic school at Florida State University must, first and foremost, teach students those skills that will enable them to practice the full scope of practice authorized by Florida statutes. Florida regulations specifically consider the practice to be "primary care" in that patients maintain direct access to chiropractors. Thus, D.C.s in the state are held to a standard of care that requires them to consider and coordinate their patients' overall health care needs, including diagnosis and referral as appropriate. The school must fully prepare students to fulfill all responsibilities granted to chiropractors by the state of Florida.

Second, the school must not be caught in the profession's philosophical battle, except to the extent that any philosophical beliefs pose a barrier to sound scientific research and the development of curricula based on scientific research. The school's research and educational programs must be based strictly on objective research and the critical appraisal skills inherent with scientific methodology. This is not meant to imply that chiropractic training should be confined only to those conditions for which high-quality studies have documented effectiveness any more than it is confined for other clinical disciplines. Rather, the chiropractic curriculum should be developed and refined in a manner similar to that of any other first-class clinical discipline, giving students the critical skills they need to engage in life-long learning; the depth of expertise to tailor clinical decision-making to individual patient needs; and effectively integrate evidence, biologic variation, and clinical necessity into practice.

A chiropractic program at a major university such as FSU can both preserve the unique contributions of chiropractic health care principles and the culture of higher education and research to better serve the needs of graduate chiropractors and their patients.

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3.0 BRIEF HISTORY OF THE CHIROPRACTIC PROFESSION

3.0 BRIEF HISTORY OF THE CHIROPRACTIC PROFESSION

Like all health care professions, chiropractic has an intriguing history. To understand that history, however, one must first understand the health care environment in the late 1800s when chiropractic began.

3.1 Turn of the Century Health Care Environment

In the late 1800s and early 1900s, health care consisted primarily of competing treatments of vitalism, herbalism, magnetism and leeches, lances and tinctures. Scientific research played only a limited role, and often no role, in the choice of treatments. Neither consumers nor practitioners had much knowledge of either the causes of, or cures for, illnesses. Even less knowledge existed about how to achieve and maintain a healthy body and mind. Treatments for illnesses were most often based on anecdotal evidence (i.e., this has been tried before and seemed to work) and often on superstitions and beliefs.

Numerous private medical schools existed in the U.S. and taught a wide range of mostly unsubstantiated practices. No national medical education standards existed and the consumer had no assurance of the skills possessed by, or the effectiveness of the treatments practiced by a practitioner.

3.2 Emergence of Three Major Approaches to Health Care

Within the chaotic health care environment of the late 1800s and early 1900s, health care professionals were constantly in search of more effective treatments and approaches to health care. Today, health care professionals are even more in search of effective treatments and approaches to health care – but at a much more sophisticated level. In the late 1800s and early 1900s, the search was much more basic. Out of this

search-for-basics period in health care's history, three significantly different, but important, approaches to health care evolved:

- One approach was allopathic medicine, which emphasized the use of drugs and surgery to treat acute illnesses.
- Another was chiropractic that emphasized the use of nondrug and nonsurgery procedures to both treat illnesses and maintain good health by enabling the body to self heal.
- A third still significant approach was osteopathic medicine that emphasized both the use of drugs and surgical procedures and non-drug, nonsurgical procedures. (In recent years, osteopathic has evolved more towards the allopathic approach, so that today little difference exists between osteopathic and allopathic treatment procedures.)

Other approaches to health care, such as homeopathy, herbology, naturopathy, and magnetic healing also evolved during the 19th century, with many naturalist approaches predating chiropractic and osteopathy. Many of these practices have been absorbed or have disappeared in the ensuing 100 years. However, many such approaches are experiencing a resurgence today as a result of more interest in CAM.

3.3 Origin of Chiropractic

Unlike the other approaches to health care, the origin of chiropractic can be traced to a specific time and place: September 18, 1895, in Davenport, Iowa (Phillips, 1997). A practitioner by the name of Daniel David Palmer had practiced in the community for many years as a "magnetic healer." Harvey Lillard, a hard-of-hearing janitor who worked in Palmer's building, had informally attributed his deafness to a traumatic event where he felt a pop in his upper back area. (Palmer, 1910) Palmer felt around the area Lillard claimed to have popped, and reasoned that perhaps the asymmetrical protrusions he found resulted from that event. Palmer convinced Lillard to let him try to reduce the irregularity. Placing his hands on the protrusion, he then forcefully thrust upon it. The

result was that Lillard claimed to “hear the wagons on the street,” something he could not do prior to receiving the treatment (Palmer, 1910).

Palmer, obviously, became excited by his discovery and proceeded over the ensuing years to learn more about and to expand the types of body manipulation techniques for treating different illnesses. He named his newly discovered approach to health care “chiropractic” (from Greek meaning “by hand”). He established the Palmer School of Chiropractic at Davenport to train others in the new approach to health care and, and in so doing, established the chiropractic profession.

3.4 A Time Period for Choosing the Nation’s Approach to Health Care

Palmer’s creation of the new chiropractic profession occurred during a time in which the nature of health care and training of physicians was undergoing great scrutiny and witnessing massive reorganization and legitimization. Within this environment, chiropractic became just another approach competing with vitalism, herbalism, pharmaceuticals, surgery, magnetism and leeches, lances and tinctures. And Palmer’s chiropractic school became just another of a host of small, private “medical” schools in the U.S., each offering its own quality, or lack thereof.

3.5 Emergence of Allopathic Medicine as the Nation’s Dominant Approach to Health Care

The state of health care and health care education was in such chaos in the early 1900s that Carnegie Foundation for the Advancement of Teaching authorized a national evaluation of the profession, with particular emphasis on medical education. The resulting Flexner report (Flexner, 1910), named after the study director and now famous in medical education circles, revolutionized not only medical education in the U.S. but

also the nation's basic approach to health care. Among other things, the Flexner report led to both the establishment of medical education standards and stricter standards for licensing physicians.

The result of the Flexner report was profound. Many marginal medical schools were forced to close. Allopathic medicine emerged as the dominant approach to health care. All other approaches, including chiropractic and osteopathic health care, were branded as unproven approaches to health care and were prohibited from being practiced as medicine in most states.

3.6 *Organized Campaign to Eliminate Nonallopathic Approaches to Health Care*

In the ensuing years after the Flexner report, a major and organized campaign was waged by allopathic physicians to prevent all other competing health care professionals from practicing. Chiropractors, along with practitioners of other non-allopathic approaches, were arrested for practicing medicine without a license. The American Medical Association (AMA), its local chapters, and individual allopathic physicians designed and carried out an extensive and prolonged campaign to discredit chiropractors and to prevent them from practicing. In some states, allopathic physicians could lose their license if they referred a patient to a chiropractor. The AMA specifically stated that it was unethical for physicians to refer patients to chiropractors as late as 1980. The AMA formed a Committee on Chiropractic (later renamed the Committee on Quackery so as not to dignify the term chiropractic) "to study the chiropractic problem." The Secretary of the committee stated in a memo to the AMA Board that the committee's objective was the "elimination of chiropractic." (Carter, 1992)

Even today, it is difficult to determine how much of the actions of allopathic physicians and their organizations to prevent chiropractors from practicing were motivated by economic considerations and how much by a genuine concern for the welfare of patients. Evidence presented in court cases suggests that economic considerations were the dominant motivator, since many of the discrediting campaign strategies regarding the effectiveness of chiropractic treatments were found by the courts to be unsupported by facts.

3.7 Impact of Organized Campaign

The organized campaign of allopathic physicians and their associations against chiropractors had a profound effect on both the chiropractic profession and the availability of chiropractic services to consumers during most of the 20th century. The campaign played a significant role in:

- preventing the establishment of any public-funded chiropractic education programs;
- limiting, and for many years preventing, the appropriation of public funds for chiropractic-related research while billions were appropriated for allopathic research;
- delaying the licensing of chiropractors by the states for years. It was in 1974 when the last state licensed chiropractors;
- limiting the legal scope of practice of chiropractors in most states; and
- limiting the availability of third-party payments for chiropractic services.

In other words, the allopathic profession gained the political upperhand after the Flexner report in 1910, and used that power base to severely limit the growth of chiropractic health care. It has only been since 1992, when the U.S. Supreme Court ruled in favor of chiropractors in their antitrust lawsuit against the AMA, that the

organized campaign has ceased. However, its effects linger on in the minds of many allopathic physicians, especially older physicians, who still view chiropractic as an ineffective approach to health care.

3.8 Chiropractic Continued to Grow

In spite of the organized campaign of the allopathic physicians against chiropractic, the chiropractic profession continued to grow throughout the 20th century.

Milestone events in that growth are summarized as follows:

- 1895 – The profession was founded by Daniel Palmer based on his experience with restoring a patient’s poor hearing.
- 1898 – The Palmer School of Chiropractic enrolls its first student.
- 1902 – The Palmer School begins issuing the Doctor of Chiropractic (D.C.) degree.
- 1904 – Efforts to initiate licensing for chiropractors begins in Minnesota.
- 1906 – Palmer serves time in jail for the unlicensed practice of medicine, sells his interest in the Palmer School to his son Bart, and moves to Portland, Oregon, to found a new school (which today is the Western States Chiropractic College).
- 1910 – Bart “BJ” Palmer introduces spinal radiography, making chiropractic the first profession to use the technology clinically.
- 1915 – Kansas and North Dakota become the first states to license chiropractic.
- 1935 – The National Chiropractic Association establishes a Committee on Educational Standards and appoints Jon Nugent, D.C., as Director of Education. Nugent becomes known as chiropractic’s “Flexner,” devoting 25 years to improvement of the profession’s educational programs, increasing training to 4 academic years.
- 1947 – National Chiropractic Association Council on Education assumes role in accreditation of broad scope schools.

- 1952 – The International Chiropractic Association creates the Chiropractic Education Commission, assuming the role of accrediting body for narrow scope institutions.
- 1963 – The American Medical Association formally adopts an organized plan developed by the Iowa Medical Society to “contain and eliminate the profession of chiropractic” through the establishment of its “Committee on Chiropractic,” later changing its name to “Committee on Quackery” so as to not dignify the chiropractic profession.
- 1973 – Chiropractic becomes included coverage in Medicare through Congressional legislation.
- 1974 – The Council on Chiropractic Education receives formal recognition with the U.S. Office of Education, and Louisiana becomes the last state to license chiropractic.
- 1975 – National Institutes of Health and the Institute of Neurological Diseases and Stroke convenes an interdisciplinary workshop to assess the research status of spinal manipulative therapy.
- 1976 – Five D.C.s (Wilk, et al.) file suit against the American Medical Association and 10 other health care associations for violation of federal antitrust legislation.
- 1978 – First interdisciplinary professional conference on the spine held in New Zealand.
- 1979 – The New Zealand Commission of Inquiry finds that the chiropractic profession has legitimacy and much medical opposition in unfounded and politically motivated.
- 1980 – The first scholarly textbook on chiropractic is published by a major medical publishing house: “Modern Developments in the Principles and Practice of Chiropractic” by Scott Haldeman.
- 1983 – Wilk et al. antitrust case against the American Medical Association is decided in favor of the chiropractic plaintiffs and appealed to the U.S. Supreme Court where the decision is upheld in 1992.
- 1992 – Commissioning of D.C. in the U.S. Armed Forces becomes federal law.
- 1993 – The Ontario Ministry of Health issue and economics study indicating that wider inclusion of chiropractic with the Ontario health care plan would be cost effective.

- 1993 – The State of Washington Department of Labor and Industries becomes the first governmental agency to establish a full-time policy and research position for chiropractic.
- 1993 – The *New England Journal of Medicine* publishes a study documenting that Americans spend as much or more from discretionary out-of-pocket spending for alternative services than they do for conventional services. Chiropractic is the most highly utilized nonmedical intervention.
- 1997 – The U.S. Agency for Health Care Policy and Research releases a research report on the status of the chiropractic profession summarizing the profession's evolution into the health care mainstream.
- 1998 – The National Institutes of Health Office of Alternative Medicine funds a chiropractic research center at the Palmer Center for Chiropractic Research.

Today, chiropractic health care is licensed in all 50 states, and over 60,000 chiropractors are practicing in the U.S. with thousands more practicing in over 30 foreign countries. It is now common for allopathic and osteopathic physicians to refer patients to chiropractors and vice versa. Today, Medicare, workers' compensation programs, health insurance carriers, and other third-party payers reimburse for chiropractic services. In addition, the federal government is funding chiropractic-related research, and chiropractic services have been added to the medical services provided to the nation's armed forces. And today, chiropractic is emerging as an integral part of the nation's health care system.

3.9 Role of Consumers in the Growth of Chiropractic

A legitimate question is: How did chiropractic continue to grow in the face of an organized and sustained campaign by a powerful and wealthy segment of the health care industry to destroy the profession? The answer is multifaceted. Perhaps the most dominant reason, however, is that consumers found the services of chiropractors to be

beneficial and continued to demand those services in spite of contrary advice from allopathic physicians and their associations and even the refusal, for many years, of third-party payers to reimburse for chiropractic costs. The satisfaction of consumers, combined with the dollars produced by their demand, enabled chiropractors to both continue to practice and to continue to grow in numbers. Armed with consumer dollars and support, chiropractors were able to mount legal battles against the AMA and its members to stop the antitrust campaign and to mount political campaigns to gain authority to practice in all states and to force third-party payers to reimburse for chiropractic services. They were also able to put more of their own money into research to prove the effectiveness of certain chiropractic treatments for certain illnesses and to further improve the treatments.

3.10 Chiropractic Health Care Not Yet There

In spite of the gains of the chiropractic profession over the past few decades, however, chiropractic is not yet a major component of the nation's health care system:

- The legal scope of practice of chiropractors differs in almost every state, and in some states is severely limited.
- Many third-party payers still either refuse to pay for chiropractic services or severely limit the payments.
- The amount of public funds for chiropractic research is trivial compared with the amount of public funds available for allopathic-related research.
- No public universities in the U.S. offer degree programs in chiropractic. All education programs are private, and for the most part isolated, degree programs.
- While more allopathic and osteopathic physicians now refer patients to chiropractors, such referrals are still frowned upon by many physicians, especially the older ones.

3.11 Implications for a New Chiropractic School

The time has come, in the progressing history of chiropractic health care, for the establishment of a science-based chiropractic school in a national graduate research university. The actions of consumers have firmly established chiropractic as a significant part of the nation's health care delivery systems. All states (as well as over 30 foreign countries) license chiropractors, and most third-party payers reimburse for chiropractic services. However, a great void exists in chiropractic research and in the teaching of chiropractic students in a multidiscipline environment.

A new chiropractic school must build upon the long history of chiropractic education and patient care, but, at the same time, aggressively move the profession more toward a science-based practice. The new school must move away from simply teaching a set of musculoskeletal adjustment techniques toward teaching the full diagnosis of illnesses and the combination of treatments to both prevent and heal those illnesses. The school must go further to establish a sound multidisciplinary chiropractic research program that seeks scientific knowledge about treatments and combinations of treatments that will both prevent and cure illnesses.

Through a sound, multidisciplinary research program and a sound education program based upon that research, a new chiropractic school in a national graduate research university will help the chiropractic profession to achieve its century-long quest as an essential and integral part of the nation's health care industry. More important, the new program will expand the scientific base for chiropractic treatments and, in so doing, improve the health care that consumers are seeking.

3.12 References

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4.0 THE EFFECTIVENESS OF CHIROPRACTIC HEALTH CARE

4.0 THE EFFECTIVENESS OF CHIROPRACTIC HEALTH CARE

Just how effective is chiropractic health care? As indicated earlier, the AMA and many allopathic physicians maintained for most of the 20th century that chiropractic was ineffective and should not be relied upon by consumers either as a source of health maintenance or cure for illnesses. Chiropractors, on the other hand, have held that chiropractic care helps the body to both heal itself and to maintain good health. Therefore, many chiropractors have maintained that chiropractic is superior, in many ways, to allopathic medicine and should be the first line of attack on illnesses for most people. In reality, chiropractic is neither uselessly ineffective nor a cure-all. There is abundant research supporting its utility for a number of musculoskeletal conditions. However, along with any number of preventive and holistic approaches, persuasive studies regarding its value for general health and nonmusculoskeletal conditions have not yet been conducted.

4.1 Consumer Use and Satisfaction

Consumers have clearly endorsed chiropractic care and, in doing so, have disagreed with the stand taken by the AMA and many allopathic physicians. Surveys have shown that during any year, approximately 11 percent of people in the U.S. receive chiropractic care. Data show that U.S. consumers spend approximately \$8 billion per year on chiropractic care, with a substantial proportion of this money coming directly out of their pockets rather than from third-party payers. Large numbers of consumers have not, however, bought into the claim by chiropractors that chiropractic care is necessary to maintain health. Only about 9 percent of the chiropractic patients (or less than 1 percent of the adult population) seek care for wellness/preventive care reasons (see Exhibit 2-4, earlier). Over 90 percent of chiropractic patients seek care for specific

conditions, primarily back and neck problems. As discussed later, in section 8.0, consumers who have used chiropractic services are very satisfied with those services. In fact, a larger proportion of chiropractors' patients are likely to return to them for subsequent back pain episodes than are back pain patients of family practitioners. From a consumer point of view, chiropractic is a very useful and highly utilized form of health care. Ultimately, that may be the most significant measure needed.

4.2 Level of Effectiveness Shown by Research

Although the level of research in chiropractic is much smaller than in other forms of health care, sufficient research has been conducted to reach firm conclusions about the effectiveness of chiropractic care. For specific illnesses, scientific research has proven that chiropractic care is effective in treating musculoskeletal disorders, especially lower back pain, shoulder and neck pain, and headaches.

4.2.1 Understanding the Complexities of Health Research

Before discussing the research findings in more detail, the reader needs to understand that any health-related research is highly complicated. For example, a seemingly simple study of the effectiveness of chiropractic versus other treatments for lower back pain must deal with:

- different types of patients;
- different types of conditions (e.g., back pain);
- different causes of conditions (e.g., auto accident, sports injury, lack or exercise);
- the different physical conditions of the patients;
- different kinds of treatment (eg, there are over 100 different manipulation techniques);

- different measures of effectiveness (e.g., short-term pain relief, long-term pain relief, elimination of the source of pain, prevention of reoccurrence);
- appropriate length of time of the study; and
- consistency and appropriateness of treatments applied.

Depending upon how the study chooses among the above and other factors to establish study parameters, different conclusions about the effectiveness of different treatments may be reached. For example, it is not unusual for one study that measures effectiveness in terms of immediate relief from existing pain to reach a totally different conclusion than another, seemingly identical, study that measures effectiveness in terms of long-term relief of pain or prevention of reoccurrence. A study that measures effectiveness of a particular treatment in terms of immediate pain relief may find that the treatment was not effective. Another study of the same treatment, which measures effectiveness in terms of long-term prevention of reoccurrence of the illness, may find the treatment to be highly effective. Thus, seemingly identical or similar studies may reach completely different conclusions because the studies only seemed identical when, in fact, they had significantly different study parameters. (Perhaps this is why we do not know whether coffee is good for us or not.) With the above understanding of the complexities of research, we can now review the results of studies of the effectiveness of chiropractic treatments.

4.2.2 Effectiveness of Chiropractic Methods on Musculoskeletal Disorders

More than 50 randomized clinical trials have evaluated spinal manipulation for low-back pain. Forty-one of the studies found that manipulation was either more effective or as effective as other forms of treatment. Twenty-eight of the 41 studies found manipulation to be more effective, and 13 found it to be as effective. Ten of the 50 total studies were considered by reviewers to be the best-designed studies. Of those ten, eight showed manipulation to be more effective. (Shekelle, 1992a).

No studies have found any other comparable treatments to work better than manipulation for the musculoskeletal complaints studied. Several meta-analysis (comparisons of the results from many similar studies) of the effectiveness of manipulation have been performed. All of them concluded that manipulation was effective. Exhibit 4-1 briefly summarizes clinical trials involving manipulation, and Exhibit 4-2 lists some recent examples of published trials and reviews.

**EXHIBIT 4-1
BRIEF SUMMARY OF FINDINGS ON SPINAL MANIPULATION
RESEARCH CLINICAL TRIALS (RCT)**

Acute LBP¹: 14 RCTs² 7 favored manipulation 4 favored significance in subgroups 3 found no difference
Subacute and chronic LBP: 9 RCTs² 5 favored manipulation over other treatments 3 reported no significant differences 1, made no conclusions from the data
Mixed LBP¹: 13 RCTs² 9 favored manipulation 1 significant in subgroup only 3 reported no difference
Manipulation vs. placebo: 11 RCTs² (4 sham manipulation, 7 detuned modalities) 8 favored manipulation (including 4 of the 5 best-designed studies)
Acute and chronic neck pain: 10 RCTs² 4 favored manipulation 6 no statistical difference Statistical pooling of five better studies yielded a .06 effect size favoring manipulation (a change of 16 on 100 pt scale)
Headache: 11 RCTs² 8 favored manipulation (muscle tension/cervicogenic/migraine) 3 equivocal (migraine, episodic muscle tension)

- ¹ Lower Back Pain
² Research Clinical Trials

4.2.3 Effectiveness of Chiropractic Treatments for Lower Back Pain

Almost 40 different randomized clinical trials of spinal manipulation for patients with lower back pain have been conducted (Koes, 1996). A 1992 meta-analysis concluded that spinal manipulation was more effective than other tested treatments for some, but not all, patients depending upon the nature of their pain.

Two of the best quality studies were not included in the meta-analysis because of their comprehensiveness that enabled their results to stand alone. Both of these studies found a statistically significant clinical benefit of manipulation in terms of functional status

in patients whose pain had persisted between two and four weeks prior to treatment. (Hadler, 1987; MacDonald, 1990). The combined results of these two studies indicated that spinal manipulation is more effective than comparison treatments (Shekelle, 1992b).

Since the 1992 Shekelle meta-analysis was completed, at least eleven additional clinical trials have been published that compare lower back pain treatments that included spinal manipulation (Herzog, 1991; Koes, 1992; Wreje, 1992; Blomberg, 1994; Erhard, 1994; Pope, 1994; Triano, 1995; Meade, 1995; Cherkin, 1998). The results of these trials are mixed; however, no studies to date have shown that manipulation is less effective than any treatment to which it has been compared. For example:

- One study showed that the addition of spinal manipulation to exercise therapy improved functional and pain outcomes measured at one month. (Erhard, 1994)
- Two pragmatic studies found manipulation combined with other treatments to be superior to conventional nonmanipulative therapy (Koes, 1992; Blomberg, 1994).
- One study of patients with subacute low back pain showed an improvement (but was not statistically significant) in pain relief in the group receiving manipulation. (Pope, 1994)
- One study of patients with sacroiliac joint dysfunction did not show a benefit for pain from spinal manipulation. (Herzog, 1991)
- One long-term study (one or more years) found manipulation to have benefits (Koes, 1992).
- A study comparing chiropractic adjustment for care of simple acute back pain without complications (e.g., workers' compensation) showed similar results to a specific physical therapy exercise regimen, but both were more expensive than a no-treatment control. (Cherkin, 1998)
- Another study of 178 patients found that manipulation produced similar functions, pain and patient satisfaction benefits but the amount of required physical therapy and medication was substantially lower for the manipulation group. (Andersson, 1999)

The most recent study on chronic low-back pain was a prospective, observational, community-based study comparing 93 patients seen across 40 private chiropractic clinic

locations and 45 patients treated at six medical clinics in the same region. Patients were closely matched at baseline with respect to frequency, severity, and type of low-back pain, and the psychosocial dimensions of general health. Chiropractors used spinal manipulation and physical therapy modalities, whereas medical physicians most frequently used anti-inflammatory medication. Chiropractic patients averaged four office visits compared with one for the medical patients. Chiropractic patients showed improvement across all outcomes: 31 percent improvement in pain severity, 29 percent in functional disability, 36 percent in sensory pain quality, and 57 percent in affective pain quality. Medical patients showed minimal improvement in pain severity (6 percent) and functional disability (1 percent), and showed deterioration in the sensory (29 percent) and affective (26 percent) dimensions of pain quality. Satisfaction scores were higher for chiropractic patients.

The overall conclusions from the review of the research of the effectiveness of chiropractic treatment for lower back pain are, as one might expect, that for certain types of lower back pain, chiropractic treatments are more effective than other treatments; for other types of pain, chiropractic is equally effective. Chiropractic is clearly a major and important clinical procedure, and along with other treatments should be fully considered by any patient with lower back pain.

4.2.4 Effectiveness of Chiropractic Treatments for Neck Pain

After low-back pain, neck pain is the most common symptom for which patients seek chiropractic care. There have been at least 18 randomized trials for manipulation with head and neck pain complaints. Nine favored manipulation and eight found manipulation equal to other treatments, although conventional levels of statistical significance were reached for only some of the outcomes in some studies. (Hurwitz, 1996; Vernon, 1999) Specifically for neck pain, five randomized clinical trials have

examined spinal manipulation (Koes, 1992; Cassidy, 1992; Howe, 1983; Sloop, 1982). Like those for low back pain, the clinical trials of manipulation for neck pain varied widely in terms of quality, but recent trials have had better designs.

One of the better studies compared physical therapist-provided manipulation to detuned diathermy and usual general practitioner care for patients with nonspecific low-back pain and neck pain syndromes. (Koes, 1992) Overall, this study concluded that both of the physical therapist-treated groups had better outcomes than the other two groups, and that the group receiving manipulation did statistically significantly better at one year than the group receiving nonmanipulative physical therapy.

A recent meta-analysis reviewed studies of patients with several neck pain clinical syndromes who had received a variety of manual therapies including manipulation and mobilization (Aker, 1996). This analysis found a benefit for the group treated with manual therapy. However, because of the heterogeneity among patient types and treatments, the study was unable to attribute this benefit directly to manipulation or to any particular patient presentation.

4.2.5 Effectiveness of Chiropractic Treatments for Headaches

For patients with muscle tension-type headaches, two of the best quality trials offered contradictory conclusions. One of the best quality trials on 150 chronic tension headache patients showed statistically significant improvements for the manipulated group, compared with a group treated with amitriptyline, in terms of headache intensity assessed four weeks after concluding six weeks of therapy (Boline, 1995). An interesting observation on dropout rate was that only 5 percent of subjects dropped out of the manipulation group, but 27 percent dropped out of the amitriptyline group.

The other trial explored episodic tension-type headaches on 75 subjects. (Bove, 1998) It compared four weeks of soft tissue work and manipulation to soft tissue work

and placebo laser therapy. Both groups improved similarly in terms of headache duration and diminished medication use, but no changes in pain intensity were seen. This study suggests that there is no added benefit for manipulation in episodic tension headaches over general soft tissue (massage) work. Two studies of lesser quality also reported short-term benefits for the group treated with manipulation (Hoyt, 1979; Jentsen, 1987).

Another randomized trial for cervicogenic headache compared cervical manipulation to deep friction massage on 53 patients. (Nilsson, 1997) Statistically significant differences for reductions in medication use and headache duration were seen in the manipulation group. A statistically significant decrease in intensity (almost twice as much) was reported for the manipulation group.

There have been three trials of manipulation for patients with migraine headaches. One compared it to mobilization, and reported decreases in pain intensity in the patients treated with manipulation but no differences with respect to mean frequency or duration attacks, or mean disability (Parker, 1978). A more recent trial examined the effect of combining manipulation with amitriptyline for prophylaxis of migraine headaches on 218 subjects. (Nelson, 1998) All three groups (manipulation alone, manipulation plus amitriptyline, and amitriptyline alone) demonstrated clinically important improvements in preventing migraines over time. During the post-treatment follow-up, reduction from baseline was 24 percent for amitriptyline, 42 percent for spinal manipulation and 25 percent for the combined group (statistically significant). Although there was no advantage to combining amitriptyline and spinal manipulation, manipulation seemed to be as effective as a well-established and efficacious treatment (amitriptyline). Given the benign side effects profile, the authors suggested manipulation should be considered a treatment option for patients with frequent migraine headaches.

The most recent clinical trial included 127 subjects who were randomized into manipulation and usual medical care, with the manipulation group improving more than the comparison group in frequency, duration, disability, and medication use. (Tuchin, 2000) Of interest in this study was information collected on self-reported stress reduction that was reported by more than 80 percent of manipulation subjects. The authors speculate that a mechanism of effect for manipulation with migraine sufferers may not be neurological or vascular but rather related to general reduction in stress levels.

Thus, for cervicogenic, chronic muscle tension and migraine headache patients, manipulation has been shown to be effective in randomized designs of moderate or better quality. However, manipulation does not appear to offer any advantages over soft tissue treatment for episodic tension headaches.

4.2.6 Effectiveness of Chiropractic Treatments for Other Musculoskeletal Conditions

The potential benefits of manipulative therapy for other musculoskeletal conditions are largely unknown at present. The information about potential benefits is limited mostly to case series reports. In one small clinical trial of sacroiliac manipulation for the treatment of anterior knee pain (AKP) associated with reduced activation of the knee extensor muscles, (Suter, 2000) 28 patients were assigned to manipulation or control groups where the controls received the same functional assessments, but received no joint manipulation. All patients showed significant muscle inhibition (measured by EMG) in both legs and sacroiliac dysfunction on clinical assessment with 23 subjects being symptomatic at the workup. Following manipulation, the treatment group had a significant decrease in muscle inhibition in the symptomatic leg. No changes were measured in the control group and no differences in knee movement or muscle activation were measured in either group. Although far from definitive, this lends insight

to clinical observations that have been made regarding muscle imbalances associated with spinal dysfunction.

4.2.7 Effectiveness of Chiropractic Treatments for Nonspine-Related Disorders

Far less research has been conducted on the effectiveness of manipulation for nonmusculoskeletal disorders, and among the studies that have, evidence favoring significant benefit has not been reported. Case studies predominate along with a few well-designed pilot studies. Unfortunately, few conclusions can be drawn from these. Among the better-designed reports are comparisons of manipulation to usual care for primary dysmenorrhea, chronic pelvic pain, childhood asthma, and hypertension. (Balon, 1998). The primary outcomes of all studies have been essentially equivocal to nontreatment or comparison treatment groups thus far. Some benefit with reduced medication use was reported in the asthma study (Balon, 1998).

4.3 Cost-Effectiveness of Chiropractic Care

With the constantly rising costs of health care over the past several years that threatens to price many consumers out of the health care market, the costs of different types of health care become a critical issue. Although cost studies are highly complex and many of them have limitations, most studies show that when all costs (office visits, pharmaceutical, surgery, physical therapy, hospitalization, diagnostic tests, and lost work time) are considered, chiropractic is the most cost-effective form of health care for those conditions treatable by chiropractic.

Actuarial reviews dominate the literature regarding the cost-effectiveness of chiropractic services, and workers' compensation actuarial database reviews are the most common types of reports as shown in the cost studies listed in Exhibit 4-4.

**EXHIBIT 4-4
LIST OF CHIROPRACTIC-RELATED COST STUDIES**

- Assendelft, W.J., Bouter, L.M. Does the goose really lay golden eggs? A methodological review of workmen's compensation studies. *J. Manip Physiol Ther* 1993; 16(3): 161-168.
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- Hurwitz, E.L., Coulter, I.D., Adams, A.H., Genovese, B.J., Shekelle, P.G. Utilization of chiropractic services in the United States and Canada. *Am J. Pub. Health* 1998; 88(5): 771-776.
- Jarvis, K.B. Cost per case analysis of Utah industrial back injury claims: chiropractic versus medical management for diagnostically equivalent conditions. *DC Tracts* 1989; 1(2): 67-79.
- Jarvis, K.B., Phillips, R.B., Morris, E.K. Cost per case comparison of back injury claims of chiropractic versus medical management for conditions with identical diagnostic codes. *J Occup. Med.* 1991; 33(8): 847-852.
- Johnson, M.R., Ferguson, A.C., Swank LL. Treatment and cost of back or neck injuries – a literature review. *Palmer Research Forum* Spring, 1985:68-78.
- Johnson M.R., Schultz, M.K., Ferguson, A.C. A comparison of chiropractic, medical and osteopathic care for work-related sprains and strains. *J Manip Physiol Ther.* 1989; 12(5):335-344.
- Johnson, W.G., Baldwin, M.L., Burton, J.F. Why is the treatment of work-related injuries so costly? New evidence from California. *Inquiry.* 1996b; 33:53-65.
- Johnson, 1999.
- Manga, P., Angus, D., Papadopoulos, C., Swan W: *The Effectiveness and Cost Effectiveness of Chiropractic Management of Low Back Pain.* Ottawa, Ontario, Canada: University of Ottawa, 1993.
- Manga, 1998.
- Mosley, C.D., Cohen, I.G., Arnold, R.M. Cost-effectiveness of chiropractic care in a managed care setting. *Am J Man Care.* 1996; 2(3):280-282.
- Nyiendo, J., Lamm, L. Disabling low back Oregon workers' compensation claims. *J. Manip Ther.* 1991; 14(3): 177-184.
- Shekelle, P.G., Markovich, M., Louie, R. Comparing the costs between provider types of episodes of back pain care. *Spine* 1995; 20(2):221-227.
- Shekelle, P.G., Ian, Coulter I, Hurwitz, E.L., Genovese B., Adams, A.H., Mior, S.A., Brook, R.H. Congruence between decisions to initiate chiropractic spinal manipulation for low back pain and appropriateness criteria in *North America Ann Intern Med.* 1998. 129:9-17.
- Skargen, E.L., Oberg, B.E., Carlsson P.G., Gade, M. Cost effectiveness analysis of chiropractic and physiotherapy treatment for low back pain and neck pain. Six-month follow-up. *Spine* 1997; 22(18):2167-77.
- Stano, M.A. Comparison of health care costs for chiropractic and medical patients. *J Manipulative Physiol Ther.* 1993; 16(5):291-99.
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- Wolk, S. *Chiropractic vs. Medical Care: A Cost Analysis of Disability and Treatment for Back-related Workers' Compensation Cases.* Arlington, VA: Foundation for Chiropractic Education and Research, 1998b.

All but one of the studies have concluded that chiropractic care is equivalent or less expensive to other provider treatments for similar conditions, with the majority reporting overall cost benefits to chiropractic management.

4.3.1 Comparing Chiropractic Care of Work Injuries with Alternatives

Fourteen of 17 retrospective actuarial reviews from 14 different jurisdictions in the United States prior to 1981 concluded that the total costs for injured workers managed by chiropractors were lower than similar cases managed by other providers. (Johnson, 1985) Savings were not always the result of lower professional costs but rather from lower costs in other areas such as lower hospital utilization and lower pharmaceutical costs. In 16 of the 17 studies, less time loss from work was reported for patients under chiropractic care. (Johnson, 1985).

Publications after 1981 provide additional data regarding cost-comparison trends, and have improved on the descriptive methodology used in earlier studies. A review of low-back and neck sprain/strain claims in Iowa, for example, reported average case medical payments to providers at \$352 for medical physicians and \$223 for chiropractors. (Johnson, 1989) Reviews of Utah claims indicated that overall compensation costs were ten times greater for medical physicians compared with chiropractors. (Jarvis, 1991) Additional studies from Florida in 1988 and Oregon in 1991 reinforce these trends. (Wolk, 1998a, 1998b; Nyiendo & Lamm, 1991) A similar conclusion was also reported in Australia (Ebrall, 1992).

A recent well-designed study from a private workers' compensation carrier in California reported that for equivalent populations of patients, the health care costs of chiropractic and medical care were similar (\$1,044 vs. \$1,075). (Johnson, 1996b) However, indemnity costs (related to lost work time) under chiropractic care were

substantially less, making the average total claim costs (health care plus indemnity) under chiropractic care 20 percent less (\$1,526 vs. \$1,875).

4.3.2 Comparing Health Care Costs Outside of Workers' Compensation

The largest economic analysis of private sector chiropractic costs was conducted by Stano, (Stano 1993, 1994) who analyzed two years of MEDSTAT fee-for-service claims data records. Of records on 2,000,000 patients, 395,641 (19.7%) had been designated by one of the 493 ICD-9 codes relating to neuromusculoskeletal disorders. Nearly a fourth of the 395,641 patients had been treated by chiropractors. The total health care costs paid by third-party payments were significantly lower for those patients treated by chiropractors. (Stano, 1993) Total adjusted cost differences ranged from \$291 to \$1,722 over the two-year period (Stano, 1994). Stano noted that outpatient costs tended to be slightly lower for patients exclusively using medical services, but lower hospital utilization for those under chiropractic care more than offset these additional costs. (Stano, 1994)

Stano and Smith (1996) subsequently compared health insurance payments and patient utilization patterns for episodes of low-back conditions care, controlling for differences in clinical (e.g., severity, episodes of relapse) and insurance coverage characteristics. They reported that costs were higher for episodes where the medical doctor was the first contact provider.

In contrast, however, Shekell (1995) concluded that chiropractors had significantly more visits per episode, and the highest mean outpatient cost per episode. Disparity in the conclusions drawn between Shekelle and Stano may have resulted from differences in the data pool and study methods. Shekelle's study was observational in nature and reviewed evidence collected from the RAND Health Insurance Experiment data from the

1970s. Data on 1,020 episodes of back care, totaling 8,825 visits by 686 different persons was evaluated. Chiropractors provided 40 percent of the care received.

Costs of chiropractic care delivered in managed care settings have also been reported. (Mosley, 1996) Again, the research design was a retrospective actuarial review. Total health care costs for comparable cases of neck and back pain for members in health insurance maintenance organizations (HMOs) who sought chiropractic care and other treatment methods over a one-year period showed that care, prescription, and imaging costs were lower in the group managed by chiropractors. Patient satisfaction and surgical rates were nearly identical for both groups.

Carey (1995) reported a comparison of outcomes (functional recovery, return to work, complete recovery from back pain, satisfaction) and cost of care for patient management by chiropractors, orthopedists, and primary care physicians in both urban and rural regions of North Carolina. Clinical outcomes were assessed by telephone interviews. Results were similar for all groups, although satisfaction was highest in those treated by chiropractors. Chiropractic costs were extrapolated from numbers of visits based on statewide average costs per visit (not actual reimbursement). These estimated costs were highest for chiropractic and orthopedic care and lowest under management by primary care physicians. However, these differences may be accounted for by the fact that medical delivery was provided under managed care, while all of the chiropractic cases were fee-for-service.

4.4 *Complication Side Effects of Chiropractic Versus Other Treatments*

One of the greatest advantages that chiropractic provides is that the risk of negative side effects are much, much smaller for chiropractic care than for surgical

and/or pharmaceutical care for comparable illnesses. In a major literature review, RAND estimated that the rates of serious complications from chiropractic treatments were:

- 5 to 10 per 10 million manipulations vertebrobasilar;
- 3 to 6 per 10 million for major impairment;
- fewer than 3 deaths per 10 million manipulations; and
- about 1 per 100 million manipulations for complications involving canda equina (Hurwitz, 1996).

In contrast, medications commonly used for back pain can cause much more significant complications (Anker, 1994; Bjarnason, 1993) as can lumbar surgery (Hoffman, 1993; McGregor, 1995). The most common medical treatment for those musculoskeletal conditions routinely cared for by chiropractors is the prescription of non-steroidal anti-inflammatory drugs (NSAIDs). Complications from NSAIDs were documented by Fries in 1992 at one out of every 2,500 patients leading to an estimated 3,200 deaths per year (Fries, 1992). Two other reports by Roth, 1996, and Tamblyn, 1996, estimated that complications from NSAIDs lead to approximately 2,600 deaths and 20,000 hospitalizations per year. Complications from NSAIDs is of special concern for older populations.

Thus, the limited research to date on the safety on chiropractic services indicates that chiropractic is about 4,000 times as safe as NSAIDs, a common pharmaceutical alternative. Similar safety studies for surgery were not found in our review, but anecdotal evidence suggests that chiropractic treatments are far safer than surgical treatments.

Additional evidence of the higher safety of chiropractic treatments is found in a comparison of professional liability experiences. The percentage of chiropractic physicians who have been sued for malpractice is significantly lower than the percentages of medical professionals (Brady, 1994; Medical Liability Monitor, 1996).

The average annual premium costs for chiropractic malpractice coverage in 1996 ranged from a low of \$611 in Indiana to a high of \$4,107 in Connecticut, with a national average of \$2,177 (Mootz, 1997). In contrast, the average annual internal medicine premium costs for the same year ranged from a low of \$1,308 in Arkansas to a high of \$20,000 in Florida, Illinois, and New York (Medical Liability Monitor, 1996).

4.5 Implications for a New Chiropractic School

A new chiropractic school must build a curriculum that is based, to the extent possible, upon existing research. The school must teach chiropractic students to diagnose illnesses and conditions properly, use chiropractic techniques that have been proven scientifically to be effective, and to minimize the cost of health care. The school must design and teach a curriculum that emphasizes cost-effective health care.

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**5.0 CONSUMER EXPERIENCES
WITH AND OPINIONS ABOUT
CHIROPRACTIC CARE**

5.0 CONSUMER EXPERIENCES WITH AND OPINIONS ABOUT CHIROPRACTIC CARE

As indicated in earlier chapters, chiropractic is traditionally considered one of the complementary and alternative medicine (CAM) disciplines. However, recent studies in the *New England Journal of Medicine* and *JAMA* suggest that as far as consumers are concerned, alternative care may be far more mainstream than medical care. Further, patient satisfaction with chiropractic care is constantly higher than that of physician care for low-back problems.

- The proportion of the U.S. population that has used chiropractic services has increased dramatically from less than 5% in 1980 to over 35% by the late 1990s.
- Annual health care visits to alternative care providers exceed those to primary care medical providers by almost a factor of two to one (629 billion compared with 386 billion in 1997).
- Expenditures on alternative medicine services overall have increased by 45% from 1990 to 1997, exceeding the total out-of-pocket expenditures Americans spend on hospital care.
- Chiropractic care and massage therapy are the most used of alternative care approaches.
- Consumer demand for chiropractic care is continuing to grow.
- Chiropractic care is now a core benefit in many health insurance plans, and despite reduction in the amount of use of chiropractic per patient under managed care, the number of patients seeking services continues to increase.
- No precise estimates of total current expenditures for chiropractic care could be found, but general extrapolations suggest that since 1987, the total annual expenditures have increased from somewhere near \$3.5 billion to over \$8 billion.
- Virtually every study that has measured patient satisfaction as an outcome has shown it to be higher than satisfaction with comparison medical care.

5.1 Proportion of Population Treated by Chiropractors

The proportion of the United States population that uses chiropractors and the number of chiropractic visits per capita have more than doubled since the 1980s. (Cherkin, 1997) A national survey commissioned by the United States Department of Health, Education, and Welfare reported that 3.6 percent of the population used chiropractors that year and that there were 62 visits per 100 person-years to chiropractors in 1980. (Von Kuster, 1980) Additionally, the 1980 National Medical Care Utilization and Expenditure Survey reported that 4 percent of the population saw a chiropractor. (Mugge, 1984; Mugge, 1986) Another community-based study of claims data collected between 1974 and 1982 reported 41 chiropractic visits per 100 person-years. (Shekelle, 1991) The chiropractic visit rate, as calculated from a recent cluster sample in five communities in 1997, had risen to 100 visits per 100 person-years (Hurwitz, 1998), with only small differences in the estimated use rates among sites (San Diego, California; Portland, Oregon; Vancouver, Washington; Minneapolis-St. Paul, Minnesota; Miami, Florida).

A national telephone survey of the United States adult population conducted by David Eisenberg at Harvard reported that nearly 10 percent of the population had used a chiropractor in 1990. (Eisenberg, 1993) One of the most interesting things about this survey was that the total number of visits for “unconventional care” was estimated to be 425 million visits compared with 388 million visits in 1990 for all primary care physicians. Massage services and chiropractic services were the most frequently used forms of “nonmedical” care.

A follow-up study conducted in 1997 reported a 47 percent increase in the use of alternative medicine providers and estimated that there had been a 45 percent increase in expenditures for such services. (Eisenberg, 1998) The percentage of the U.S.

population who used alternative care increased from 33.8 percent (60 million people) to 42.1 percent (83 million people). The probability of an alternative care users seeing an alternative practitioner increased from 36.3 percent (22 million people) to 46.3 percent (39 million people). The increase in annual visits to alternative practitioners grew from 427 million to 629 million, nearly double the number of visits to all primary care physicians (386 million). Another key finding of this work was that only a minority of alternative care users discussed their use of an alternative provider with their medical doctors. In fact, the percentage of alternative care users who discussed their use with their M.D. dropped slightly from 39.8 percent to 38.5 percent between 1990 and 1997. According to Eisenberg (1998), the differences were attributable primarily to an increase in the proportion of the population seeking alternative therapies, rather than increased visits per patient.

In terms of chiropractic usage specifically, the changes were not as dramatic. The rate of chiropractic usage grew to 11 percent, and the total number of visits per 1,000 population increased from 904.8 to 996.1. Interestingly, the number of chiropractic visits per patient decreased slightly, indicating that more people are using services, but duration of care is decreasing. It seems likely this can be attributed, at least in part, to the dramatic increase in managed care market share that occurred between the periods of the surveys.

A 1999 consumer survey published in January 2000 by Consumer Report found that 43 percent of the respondents with back pain problems had used chiropractic services. Further, they found that a majority of those who had used the services rated them more effective than conventional medications and physical therapy.

A new nationally representative Internet survey on alternative care use was published in May 2000 by Intersurvey, Inc. (www.intersurvey.com), an organization

established by two Stanford University professors using sound scientific methodology to assess public attitudes and behavior. The survey is based on a sample of 1,148 adults. The margin of error has a 95 percent certainty of being +/- 2.9 percentage points. The survey found that two-thirds of Americans have tried at least one form of alternative therapy. Chiropractic was the second-most tried form of alternative care (by only one percentage point behind massage therapy) and rated "extremely effective" by the greatest number of users. Approximately 37 percent of the population has now experienced chiropractic at least once.

5.2 Types of Treatments Provided by Chiropractors

Section 4.0, earlier, described in detail the kinds of diagnostic and care procedures provided by chiropractic physicians, and Section 4.3 outlined what research studies tell us regarding the usefulness of chiropractic methods for various conditions. From a patient's perspective, we can get a sense of what they use chiropractic services for by looking again at the Eisenberg (1993, 1998) studies. Exhibit 5-1 lists the conditions for which patients reported they sought chiropractic care in those surveys, comparing changes in rates between 1990 and 1997. The proportion of people reporting they had back pain increased slightly. However, the proportion of back pain patients indicating they saw a chiropractor increased by a third. The proportion of headache patients seeking chiropractic care doubled, and smaller increases occurred for patients with arthritis and sprains/strains. Interestingly, the condition for which the largest proportion of suffers used chiropractic care in 1997 was the category of "neck problems." Unfortunately, this category was not reported for the 1993 study. Other studies offer consistent findings and indicate that at least a third of all low-back pain patients seek services from chiropractors. (Franklin, 1994; Carey, 1995; Shekelle, 1995).

**EXHIBIT 5-1
CONDITIONS FOR WHICH PATIENTS SEEK CHIROPRACTIC CARE**

Condition	% Reporting Condition		% with Condition Who Saw Provider	
	1990	1997	1990	1997
Back Problems	19.9%	24.0%	19.5%	30.1%
Arthritis	15.9%	16.6%	7.6%	10.0%
Headaches	13.2%	12.9%	6.3%	13.3%
Neck Problems	no data	12.1%	no data	37.5%
Sprains/Strains	13.4%	10.8%	9.6%	10.3%

Source: <http://www.chiroweb.com/archives/17/01/10.html>

5.3 Expenditures on Chiropractic Treatments

The annual cost of chiropractic care in the United States is not known with certainty, but was estimated at \$3.5 billion in 1987. (Nichols, 1996) Expenditures for all types of alternative therapies in 1990 were \$13.7 billion, \$10.3 billion of which was paid out-of-pocket. (Eisenberg, 1993) Chiropractors were by far the practitioner most often seen. These figures are quite astounding because the out-of-pocket expenditures for 1990 for hospitalizations in the U.S. were \$12.8 billion. (Eisenberg, 1993) The follow-up study seven years later reported a 47 percent increase in the use of alternative medicine providers and estimated that there had been a 45 percent increase in expenditures for such services. (Eisenberg, 1998) The estimated expenditures for alternative care providers increased from \$14.6 billion to over \$21.2 billion. A crude estimation of current expenditures based on growth in use since the 1987 estimate might place annual expenditures for chiropractic care at somewhere between \$8-\$10 billion.

5.4 Consumer Satisfaction with Chiropractic Treatments

Observational studies consistently have found that low-back pain patients receiving chiropractic care, which typically includes (but is not restricted to) spinal manipulation, are more satisfied than those receiving medical care, although physical

therapy and some specialty care receive fairly high levels of satisfaction. (Kane, 1974; Cherkin, 1989; Coulter, 1994; Carey, 1995, Cherkin, 1998) How much of this enhanced satisfaction is a specific result of the spinal adjusting or manipulation per se is not known. Coulter surveyed 486 patients from 44 California chiropractors, exploring various dimensions of satisfaction along a range of health care encounter components. Patients gave the D.C.s a mean satisfaction score of 89.93 on a 100 point scale. (Coulter, 1994) This level of satisfaction is among the highest seen in similar surveys in medicine and dentistry. Among the reasons why one might expect chiropractic care to be more satisfying than medical care might be that chiropractors have more frequent and closer contact with their patients, they are more comfortable and confident dealing with back pain, they provide patients with a clear explanation of the cause of their problem (often documented on an x-ray), and they do not need to refer the patient for physical treatment. (Cherkin, 1989; Coulehan, 1985) In another study, chiropractors were retained as primary provider by a much greater percentage of their patients (92 percent) who had a second episode of back pain care than were medical doctors. (Shekelle, 1995).

5.5 Survey of Florida Consumers

Because the demographics of Florida are different from that of the rest of the nation (and, in many ways, are a forerunner of what the rest of the nation will be in the future), we conducted a telephone survey of Floridians to determine their usage, satisfaction, and opinions about chiropractic care.

The survey interviewed 781 Floridians and revealed the following findings:

- 29.1 percent of Florida adults have used chiropractic services during the past three years (Exhibit 5-2).

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- 38.4 percent of the households in Florida have had a least one household member receive chiropractic care during the past three years (Exhibit 5-2).
- 10.3 percent of Floridians were using chiropractic health care at the time of the survey.
- 90.3 percent of those using chiropractic care are either very satisfied or somewhat satisfied with the treatments. Only 4.8% are not satisfied (Exhibit 5-3).
- 92.3 percent of those who previously used chiropractic care stated that they would likely use chiropractic care again. The conditions for which most would use chiropractic care are back problems, head/neck ailments, extremity (arms, hands, legs, feet) ailments, headaches, and a general check-up (Exhibit 5-4).
- In general, those who have previously used chiropractic services (or someone in their household has) had a higher level of confidence in the abilities of chiropractors than those who had not used the services (Exhibit 5-5).
- However, a majority of both those who had previously used chiropractic services and those who had not feel that there is not acceptance for the chiropractic profession among other health care professionals (Exhibit 5-5, row e).
- 88.2% of adult Floridians feel that the State of Florida should offer the doctorate of chiropractic degree as a part of the state university system's professional degree programs.

**EXHIBIT 5-2
PERCENT OF RESPONDENTS WITH SPECIFIC HEALTH CARE VISITS
DURING THE PAST THREE YEARS (N=781)**

HEALTH VISIT	RESPONDENT	ANOTHER HOUSEHOLD MEMBER	TOTAL PERCENT FOR HOUSEHOLD
Doctor's Office	79.6%	16.9%	96.5%
Clinic/Hospital	60.3	18.8	79.1
Primary Care Doctor	72.1	16.6	88.7
Specialist Doctor	63.8	17.3	81.0
Chiropractor	29.1	9.3	38.4
Overnight Hospital	35.0	11.4	46.4

**EXHIBIT 5-3
LEVEL OF SATISFACTION WITH CHIROPRACTIC SERVICES**

LEVEL OF SATISFACTION	PERCENT OF RESPONDENTS (N=227)
Very Satisfied	73.1%
Somewhat Satisfied	17.2
Not Too Satisfied	2.6
Not at All Satisfied	2.2
No Response	4.8

**EXHIBIT 5-4
LIKELIHOOD OF THOSE PREVIOUSLY USING CHIROPRACTIC CARE OF SEEKING FUTURE CHIROPRACTIC BY TYPE OF CONDITION**

TYPE OF CONDITION	PERCENT VERY LIKELY OR SOMEWHAT LIKELY (N=227)
General Check-up	61.7%
Routine Medical Care	47.1
Improved Wellness	51.5
Back Problems	91.2
Head/Neck Ailments	83.3
Headaches	59.0
Extremity Ailments	67.0
Other Health Problems	40.1
At Least One of the Above	92.3%

**EXHIBIT 5-5
OPINIONS ABOUT CHIROPRACTIC SERVICES**

OPINION	PERCENT WHO STRONGLY AGREE OR AGREE	
	RESPONDENTS WHOSE HOUSEHOLD USED CHIROPRACTIC SERVICES (N=300)	RESPONDENTS WHOSE HOUSEHOLD HAVE NOT USED CHIROPRACTIC SERVICES (N=481)
a) Chiropractors provide examination, diagnosis, and referral services to patients similar to those provided by General Practice doctors.	55.5%	37.8%
b) Chiropractors offer levels of quality in health care similar to that of General Practice doctors.	56.8%	36.0%
c) Chiropractors can provide specialty services not available from a General Practice doctor.	81.5%	65.5%
d) There is general acceptance of the Chiropractic profession among residents of Florida.	68.3%	60.9%
e) There is general acceptance of the Chiropractic profession among other health care professionals in Florida.	37.9%	39.5%

Overall, the survey revealed that Floridians have a high utilization of chiropractors, are satisfied with the services they are receiving, have confidence in the abilities of chiropractors, and will use them again when their need for relevant health services occurs. Almost 90 percent feel that the state university system should establish a Doctor of Chiropractic program as a part of the system's professional degree programs.

5.6 Implications for a New Chiropractic School

A new chiropractic school should fully understand the needs of Floridians for chiropractic care and design a program that meets those needs within the limits of the legally authorized scope of practice for chiropractors.

5.7 References

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**6.0 CURRENT STATUS OF
CHIROPRACTIC PROFESSION IN
THE UNITED STATES**

6.0 CURRENT STATUS OF CHIROPRACTIC PROFESSION IN THE UNITED STATES

Today, chiropractic is an integral part of the nation's health care system. Consumers express overwhelming satisfaction with chiropractic services, and the profession has grown to be the nation's third largest learned health profession after medicine and dentistry. Almost 60,000 chiropractors now practice in the U.S. and approximately 2,500 new chiropractors are graduating from the nation's sixteen chiropractic schools each year. Complementary and alternative medicine, of which chiropractic is a major part, is growing rapidly and becoming an integrated part of the nation's health care system.

In spite of the success of chiropractic treatments and the many satisfied customers, however, some significant problems and issues related to chiropractic care still exist within the nation's health care system. This section provides an evaluation of the current status of chiropractic in the U.S.

6.1 Number of Chiropractors

The number of chiropractors practicing in the U.S. grew from approximately 13,000 in 1970 (Cooper, 1996) to approximately 40,000 in 1990 and then to over 50,000 by 1998 (Christensen, 2000). The best estimate is that approximately 55,000 chiropractors were practicing in the U.S. in 1996, compared to 2,162,000 nurses, 634,000 medical physicians, and 196,000 dentists. As shown in Exhibit 6-1, the estimated number of chiropractors per 100,000 U.S. population in 1996 was 21 compared to 239 medical physicians and 74 dentists.

**EXHIBIT 6-1
ESTIMATED NUMBER OF PRACTICING
HEALTH CARE PROFESSIONALS, 1996**

PROFESSION	APPROXIMATE NUMBER PRACTICING	NUMBER PER 100,000 POPULATION
Nurses ¹	2,162,000	815
Physicians ¹	634,785	239
Dentists ¹	196,000	74
Chiropractic ²	55,000 ³	21

¹ Source U.S. Statistical Abstract, 1998

² Source (Christensen, 2000)

³ The 55,000 estimated chiropractors differ from the 69,114 shown in Exhibit 6-2 because 69,114 is the total number of chiropractic licenses in each state. An estimated 15,000 licenses are duplicative as a result of some chiropractors holding license in more than one state.

6.2 Number of Chiropractors by State

Unfortunately, no accurate data are available on the number of full-time equivalent chiropractors practicing in each state, because an estimated 25 percent of the chiropractors are licensed in more than one state. However, Exhibit 6-2 does show the number of active chiropractor licenses in each state, along with the number of licenses per 100,000 population. The state with the highest number of chiropractic licenses (68.6) per 100,000 population is Arizona; the area with the lowest is the District of Columbia with only 7.4. Florida ranks 25th in the nation with only 32.1 chiropractic licenses per 100,000 population. However, data from the Florida Board of Chiropractic shows that for the year 2000, approximately 22 percent, or 1,059 of Florida's 4,771 licensed chiropractors, have out-of-state addresses, and likely do not practice in the state, leaving only 3,712 actually practicing in Florida. Based on 3,712 chiropractors actually practicing in Florida, the state's ratio of chiropractors per 100,000 population is only about 25, instead of 32. Hence, Florida's actual ranking is probably much lower than 25th.

**Chiropractic Profession:
Current Status of Chiropractic Profession in the United States**

**EXHIBIT 6-2
NUMBER OF ACTIVE DOCTOR OF CHIROPRACTIC LICENSES BY STATE AND
PER 100,000 POPULATION**

(Note: Many chiropractors hold licenses in more than one state)

STATE	1993		1995		1998		Rank
	Active Licensed DCs	Licenses per 100,000 Population	Active Licensed DCs	Licenses per 100,000 Population	Active Licensed DCs	Licenses per 100,000 Population	
Arizona	2,167	59.1	2,384	65.1	2,514	68.6	1
Colorado	1,566	47.6	1,696	51.5	1,916	58.2	2
Georgia	2,026	31.3	2,237	44.7	3,482	53.8	3
Oregon	785	27.6	877	30.9	1,410	49.6	4
Iowa	1,270	45.7	1,231	39.1	1,367	49.2	5
Hawaii	486	43.8	712	64.3	522	47.1	6
South Dakota	188	27	201	28.9	317	45.5	7
New Jersey	2,850	36.9	2,701	34.9	3,387	43.8	8
California	10,692	35.9	9,879	33.2	12,732	42.8	9
Minnesota	1,582	36.2	1,613	36.9	1,823	41.7	10
North Dakota	205	32.1	224	35.1	252	39.4	11
New Hampshire	401	36.2	435	39.2	435	39.2	12
Wyoming	198	43.6	183	40.3	177	39	13
Virginia	950	15.4	1,090	17.6	2,308	37.3	14
Washington	1,593	32.7	1,625	33.4	1,809	37.2	15
Utah	425	24.7	580	33.6	639	37.1	16
Missouri	1,864	36.4	1,856	36.3	1,871	36.6	17
Vermont	330	58.6	261	46.4	206	36.6	18
New Mexico	558	36.8	577	38.1	553	36.5	19
Wisconsin	1,661	34	1,764	36.1	1,710	35	20
Montana	364	45.6	228	28.5	277	34.7	21
Oklahoma	960	30.5	980	31.1	1,062	33.8	22
Idaho	301	29.9	338	33.6	339	33.7	23
South Carolina	1,015	29.1	1,097	31.4	1,165	33.4	24
Florida	3,896	30.1	4,355	33.7	4,153	32.1	25
Nevada	308	25.6	326	27.1	385	32	26
New York	7,558	42	4,926	27.4	5,524	30.7	27
Alaska	162	29.4	186	33.8	166	30.2	28
Massachusetts	1,422	23.6	1,220	20.3	1,813	30.1	29
Kentucky	1,162	31.5	1,055	28.6	1,090	29.6	30
Delaware	200	30	209	31.4	195	29.3	31
Maine	358	29.2	375	30.5	360	29.3	32
Pennsylvania	5,127	43.1	3,190	26.8	3,434	28.9	33
Illinois	2,399	21	2,912	25.5	3,260	28.5	34
Michigan	2,390	25.7	2,440	26.2	2,568	27.6	35
Kansas	614	24.8	637	25.7	675	27.2	36
Connecticut	893	27.2	858	26.1	884	26.9	37
Texas	3,347	19.7	3,682	21.7	4,240	25	38
Arkansas	493	21	508	21.6	542	23.1	39
North Carolina	1,101	16.6	1,292	19.5	1,490	22.5	40
Nebraska	263	16.7	281	17.8	310	19.6	41
Alabama	661	16.4	671	16.6	764	18.9	42
Indiana	919	16.6	900	16.2	964	17.4	43
Ohio	1,563	14.4	1,680	15.5	1,877	17.3	44
Rhode Island	161	16	158	15.8	170	16.9	45
Tennessee	600	12.3	780	16	802	16.4	46
West Virginia	280	15.6	255	14.2	262	14.6	47
Maryland	489	10.2	488	10.2	602	12.6	48
Louisiana	566	13.2	592	14	515	12.2	49
Mississippi	335	13	330	12.5	311	12.1	50
Dist. Columbia	93	15.3	39	6.4	45	7.4	51
TOTAL	71,797	1,477	69,114	1,491	79,674	1,628	

Source: Federation of Chiropractic Licensing Boards. *Official Directory: Chiropractic Licensure and Practice Statistics: 2000-2001 Edition.*

6.3 Status of State Licensure

As reported earlier, all 50 states license chiropractors and maintain minimum standards for the granting of licenses. The standards differ from state to state, with some states having much stricter requirements than others. Additionally, the standards also vary depending upon the legally allowed scopes of practice in each state.

The National Board of Chiropractic Examiners administers a battery of written and practical competency examinations for general practice as well as special tests in physiotherapy and other areas. The four parts of the national exam are:

Part I: Written Basic Sciences examination: anatomy, physiology, pathology, public health, etc.

Part II: Written Clinical Sciences examination: principles and practice, diagnosis, nutrition, techniques, radiology, etc.

Part III: Written Clinical Practice examination: case management, more comprehensive clinical decision making, etc.

Part IV: Oral Practical examination: simulated patients, x-ray, interpretation, technique competencies, etc.

As can be seen in Exhibit 6-3, all states utilize parts, or all, of the results from the national boards in licensing chiropractors. Florida requires that chiropractors pass Parts I, II, and III on the National Board Exams, but not Part IV.

**EXHIBIT 6-3
USE OF NATIONAL BOARD OF CHIROPRACTIC EXAMINERS TESTS
BY STATES IN LICENSING CHIROPRACTORS**

State	National Board Test Parts Required or Accepted		
	Parts I/II	Part III	Part IV
Alabama	X	X	X
Alaska	X	X	X
Arizona	X	X	X
Arkansas	X	X	*
California	X	X	X
Colorado	X	X	X
Connecticut	X	X	
Delaware	X	X	X
District of Columbia	X	X	X
Florida	X	X	
Georgia	X	X	X
Hawaii	X	X	*
Idaho	X	X	*
Illinois	X	X	
Indiana	X	X	X
Iowa	X	X	X
Kansas	X	X	X
Kentucky	X	X	X
Louisiana	X	X	X
Maine	X	X	*
Maryland	X	X	X
Massachusetts	X	X	X
Michigan	X		
Minnesota	X	X	X
Mississippi	X	X	X
Missouri	X	X	X
Montana	X	X	X
Nebraska	X	X	X
Nevada	X	X	X
New Hampshire	X	X	X
New Jersey	X	X	*
New Mexico	X	X	X
New York	X	X	X
North Carolina	X	X	X
North Dakota	X	X	X
Ohio	X	X	X
Oklahoma	X	*	*
Oregon	X	X	X
Pennsylvania	X	X	X
Rhode Island	X	X	*
South Carolina	X	X	
South Dakota	X	X	X
Tennessee	X	X	X
Texas	X	X	X
Utah	X	X	X
Vermont	X	X	X
Virginia	X	X	X
Washington	X		X
West Virginia	X	X	X
Wisconsin	X	X	
Wyoming	X	X	X

* under consideration

Source: Federation of Chiropractic Licensing Boards

6.4 Coverage for Chiropractic Care by Third-Party Payers

Although many patients still pay out-of-pocket for chiropractic services, most have insurance that pays at least part of the cost. As shown in Exhibit 6-4, only about 25 percent of the payments for chiropractic services are direct payments (out-of-pocket) by patients. The remaining 75 percent are paid by third-party payers, with private indemnity health insurance, auto insurance, and workers' compensation insurance being the three largest third-party payers.

As shown in Exhibit 6-5, approximately 75 percent of the 68.8 million workers covered by employer-sponsored health insurance plans in the U.S. have coverage for chiropractic services.

**EXHIBIT 6-4
PAYMENT FOR CHIROPRACTIC SERVICES, BY SOURCE**

PAYMENT SOURCE	ACA Survey¹ (% income)	RAND Study² (% patients)	NBCE Survey³ (% patients)
Direct Payments from Patients (Cash)	27.7	20.9	24.1
Private Insurance (Indemnity)	28.6	41.8	23.1
Auto Insurance	14.5	9.8	16.7
Worker's Compensation	10.8	10.4	9.6
Medicare	8.4	7.3	10.7
Prepaid/Managed Care	8.6	3.7	14.0
Medicaid	1.2	1.5	1.8
Other	0.9	2.3	0.0

¹ Source: Goertz, C. Summary of 1995 ACA annual statistical survey on chiropractic practice. *J Amer Chiropr Assoc* 1996;33(6):35-41.

² Source: Hurwitz, E.L., Coulter, I.D., Adams, A.H., Genovese, B.J., Shekelle, P.G. Utilization of chiropractic services in the United States and Canada: 1985-1991. *Am J Publ Hlth*:1998;88(5):771-776.

³ Source: Christensen, M.G., Kerkhoff, D., Kollasch, M.W. (eds). *Job Analysis of Chiropractic: A Project Report, Survey Analysis and Summary of the Practice of Chiropractic in the United States*. Greeley, C.O: National Board of Chiropractic Examiners, 2000.

**EXHIBIT 6-5
CHIROPRACTIC COVERAGE IN EMPLOYER-SPONSORED PLANS, 1993**

	Millions of Workers	Workers with Chiropractic Benefits	Workers without Chiropractic Benefits	Coverage Status Uncertain
Total	68.8	75%	19%	6%
Among workers in:				
Conventional Plans	33.7	84	11	6
HMOs	15.1	44	45	10
PPOs	13.8	83	13	5
Point-of-Service Plans	6.2	81	13	6

Source: Jensen, G.A., Roychoudhury, C., Cherkin, D.C. Employer-sponsored health insurance for chiropractic services. *Med Care* 1998;36(4):544-53.

6.5 Content of Chiropractic Practice

As is the case for all health care providers, the range of conditions seen by chiropractors varies widely. Two national surveys of a random sample of chiropractors, one in 1990 and another in 1998, reveal that chiropractors most often see patients for musculoskeletal disorders, as shown in Exhibit 6-6.

A review of the records of 1,916 chiropractic patients in 1998, summarized in Exhibit 6-7, revealed that 68 percent of the patients were seeking relief from lower back pain. Another 13 percent were seeking relief from neck/face pain or injury, with the remaining 19 percent seeking help for a variety of other pains.

**EXHIBIT 6-6
RESPONSE TO NBCE SURVEYS REGARDING FREQUENCY OF
PRESENTING/CONCURRENT PATIENT CONDITIONS**

	1990	1998
ROUTINELY SEEN	Spinal subluxation/joint dysfunction Headaches	Spinal subluxation/joint dysfunction
OFTEN SEEN	Muscular strain/tear Osteoarthritis/degenerative joint disease Peripheral neuritis or neuralgia Tendonitis/tenosynovitis Radiculitis or radiculopathy Vertebral facet syndrome Intervertebral disc syndrome Sprain or dislocation of any joint Extremity subluxation/joint dysfunction Hyperlordosis of cervical or lumbar spine Scoliosis Bursitis or synovitis High or low blood pressure Allergies Obesity	Headaches Osteoarthritis/degenerative joint disease Hypolordosis of cervical or lumbar spine Extremity subluxation/joint dysfunction Muscular strain/tear Sprain of any joint Intervertebral disc syndrome Myofascitis Vertebral facet syndrome Radiculitis or radiculopathy Tendonitis/tenosynovitis Hyperlordosis of cervical or lumbar spine Peripheral neuritis Kyphosis of the thoracic spine

**EXHIBIT 6-6 (Continued)
RESPONSE TO NBCE SURVEYS REGARDING FREQUENCY OF
PRESENTING/CONCURRENT PATIENT CONDITIONS**

SOMETIMES SEEN	1990	1998
	Kyphosis of thoracic spine	Scoliosis
	Osteoporosis/osteomalacia	Bursitis or synovitis
	Carpal or tarsal tunnel syndrome	Carpal or tarsal tunnel syndrome
	Skeletal congenital/developmental anomaly	Fibromyalgia
	Articular joint congenital/developmental anomaly	High blood pressure
	TMJ syndrome	Allergies
	Thoracic outlet syndrome	Obesity
	Systemic rheumatoid arthritis or gout	Osteoporosis/osteomalacia
	Occupational or environmental disorder	TMJ syndrome
	Muscular atrophy	Congenital/developmental spinal anomaly
	Nutritional disorders	Dizziness/vertigo
	Menstrual disorders	Thoracic outlet syndrome
	Asthma, emphysema, or COPD	Menstrual disorder
	Upper respiratory or ear infection	Asthma, emphysema, or COPD
	Pregnancy	Congenital/developmental extraspinal anomaly
	Respiratory viral or bacterial infection	Loss of equilibrium/vertigo
	Acne, dermatitis, or psoriasis	Nutritional disorders
	Loss of equilibrium	Systemic rheumatoid arthritis or gout
	Diabetes	Upper respiratory or ear infection
	Psychological disorders	Diabetes
	Eating disorders	Spinal canal stenosis
	Ear or hearing disorders	Viral infection
	Eye or vision disorders	
	Hiatus or inguinal hernia	
	Gastrointestinal bacterial or viral infection	
	Infection of kidney or urinary tract	
	Colitis or diverticulitis	
	Thyroid or parathyroid disorder	
	Hemorrhoids	

Source: Christensen 1993, 2000

**EXHIBIT 6-7
MOST FREQUENT PRESENTING CONDITIONS OF CHIROPRACTIC PATIENTS
RECORDED ON PATIENT CHARTS, 1998**

Low back pain	68%
Neck/face pain or injury	13%
Mid-back pain or injury	5%
Arm pain or injury	3%
Headache	3%
All other	2%
Missing	5%

Source: Hurwitz, 1998.

6.6 Diagnostic Approaches and Procedures

Chiropractic training and literature approach clinical diagnosis in a similar fashion to that of all health care disciplines, in that history, physical and regional examination,

special studies, and specialty-specific evaluation procedures are routinely incorporated. (Evans, 1994; Haldeman, 1993). All accredited chiropractic colleges incorporate standard history and physical examination courses into their curricula and clinical training.

Standard history and physical examination methods are basic chiropractic clinical competencies (Cherkin, 1997) and the clinical evaluation protocols are similar to those of any other health providers. (Souza, 1997; Mootz and Vernon, 1999; Evans, 1994) Using standard historical, diagnostic, and assessment procedures, one of chiropractors' core competencies involves differentiation of problems of mechanical versus visceral origin (Souza, 1997). The chiropractic literature also examines the biopsychosocial considerations in patient care. (Milus, 1994; Hansen, 1999).

History and Physical Examination: Two North American chiropractic practice parameter commissions rated history taking as a necessary component of a chiropractic patient evaluation (Haldeman, 1993; Henderson, 1994). Exploration of presenting complaint, family history, past health history, psychosocial history, and review of systems were considered necessary components of an adequate history (Haldeman, 1993). Standard procedures recommended for history taking emphasize active listening and directed questioning related to the mechanisms of a problem's onset. The extent to which practicing chiropractors actually follow such guidelines is unknown. However, a recent high-quality study conducted by RAND concluded that the proportion of chiropractic spinal manipulation judged to be congruent with appropriateness criteria is similar to proportions previously described for medical procedures provided reassurance about the appropriate application of chiropractic care (Shekelle, 1998). In addition, the NBCE survey indicates that case histories are routinely performed and that chiropractors place substantial importance on the information gleaned from this process.

(Christensen, 1993, 2000) Physical examination is also considered essential for establishing a diagnosis and determining a treatment plan in chiropractic practice parameters. (Haldeman, 1993; Henderson, 1994) Orthopedic and neurological assessment is also a core skill and is considered essential in practice (McCarthy, 1994; Evans, 1994) The Christensen survey (1993, 2000) found that chiropractors report that they routinely perform these assessments. Assessment of general health status and performance of regional examinations were also considered important by chiropractors, but are performed less frequently than physical examinations (Christensen, 1993).

Periodic updating of the physical examination is standard as well, and its use is reported by chiropractors to be frequent (Christensen, 1993, 2000). Reassessment and monitoring of patient progress received special attention by chiropractic practice parameters commissions (Haldeman, 1993; Henderson, 1994). Exhibit 6-8 lists attributes of chiropractic reassessment considered necessary by one of the commissions (Haldeman, 1993). Functional outcomes assessment is increasingly being incorporated into overall clinical strategies for monitoring patient progress (Yeomans, 2000).

Mechanical Assessment Procedures: In addition to the routine clinical evaluation procedures standard to any patient workup (i.e., history, physical and regional examination, and special studies) chiropractors have developed assessment methods for determination of the mechanical status of a patient. Some mechanical assessment strategies are common to physical medicine procedures (Henninger, 1999) and others are unique to chiropractic. Exhibit 6-9 summarizes commonly used mechanical assessment procedures. Osterbauer (1996) reviewed the evidence for reliability and utility of several chiropractic approaches to mechanical assessment procedures for detection of joint dysfunction or subluxation. Procedures with reasonable ("fair to good") reliability included assessments of osseous and soft tissue pain or tenderness.

Procedures for determining mobility, cutaneous temperature differences, and joint position have not fared well in reliability studies.

**EXHIBIT 6-8
NECESSARY PRINCIPLES OF CHIROPRACTIC REASSESSMENT**

- Reassessments are integral to case management and should be made following an appropriate period of care.
- Necessity and content of reassessments are determined by patient response.
- Reassessment shall be made if the patient's status worsens.
- Reassessment shall be made if a patient manifests signs or symptoms in an area not previously evaluated.
- Reassessment should be performed only after it is reasonably expected that measurable change in a patient's condition would have occurred.
- Reassessment should be made in all areas where there were prior positive clinical findings.

Source: Haldeman 1993

**EXHIBIT 6-9
EXAMPLES OF COMMONLY USED CHIROPRACTIC MECHANICAL
ASSESSMENT PROCEDURES**

- Pain provocation
- Static palpation
- Motion palpation
- Range of motion measurement
- Postural symmetry
- Dynamic spinal loading
- Tissue compliance
- Reactive leg length discrepancy
- Gait analysis
- Function capacity and physical performance evaluation

Source: Cherkin 1997

Special Diagnostic Studies: Chiropractic training includes the use of clinical laboratory studies. Details on the application of these tests have long been described in the chiropractic diagnostic literature and in practice parameters (Haldeman, 1993). However, clinical laboratory testing appears to be only rarely or infrequently used in chiropractic practice (Hurwitz, 1998; Christensen, 1993, 2000) and the RAND chart extraction study noted that blood tests are ordered for less than 1% of patients (Hurwitz,

1998). The infrequent ordering of lab tests may be due to legal restrictions on chiropractors performing phlebotomy in some jurisdictions as well as to the types of patients typically seen by chiropractors.

Radiology and imaging is used with far greater frequency than laboratory studies. In the NBCE survey (Christensen, 2000), chiropractors indicated that radiographs were frequently ordered and special imaging studies such as CT or MR were sometimes ordered. In the analysis of office records of patients who sought care for low-back pain, 54 percent of patients had lumbosacral radiography, about 2 percent of patients had CT, and 2 percent had MR imaging during their “episode of care” (Hurwitz, 1998). Thus, except for plain film radiography and special imaging, special diagnostic tests are rarely used by chiropractors. The infrequent use of such diagnostics has been a source of concern regarding diagnostic abilities of chiropractors in some medical circles, but expert guidelines have indicated their use should be highly selective.

Radiology (both technique and interpretation) accounts for a significant proportion of chiropractic education. The American Chiropractic College of Radiology, a specialty society devoted to radiology, serves an advisory role for radiology residency programs at chiropractic colleges, and certifies specialty level competency in radiology. In a study comparing the abilities of chiropractic and medical radiologists, orthopedists, general practitioners, and chiropractic students to interpret radiographs, chiropractic and medical skeletal radiologists scored highest, followed by chiropractic students, orthopedists, and general medical and chiropractic practitioners (Taylor, 1995).

Other special studies sometimes used or ordered by chiropractors include nerve conduction studies, bone scans, and electromyography. Again, the appropriate use of these procedures is incorporated into the curriculum of most chiropractic colleges and is addressed in chiropractic practice parameters (Haldeman, 1993). In the past,

chiropractors have been excluded from medical referral loops and have been forced either to care for patients without such studies or to obtain their own equipment and perform the tests themselves. Hence, either by design or circumstance, chiropractors often rely on low-tech patient assessment procedures of history taking; physical, regional, and mechanical examinations; and plain film radiography while monitoring progress using a therapeutic trial approach to patient management, something now considered to be highly appropriate in the care of low-back problems.

6.7 Chiropractic Technologies

As with all health care disciplines, instrumentation and devices have evolved or been adapted from other settings to meet clinical needs in chiropractic care. (Haldeman, 1993) Chiropractic technologies can be classified as primarily diagnostic or therapeutic in purpose. Examples of diagnostic technologies range from the simple to complex. Devices aimed at measuring range of joint motion may be as simple as hand-held protractor-like goniometers or as complex as computer-linked electro- and video-goniometers. Imaging technologies, mechanical assessment devices, functional capacity testing equipment, and neurophysiological and muscular function assessment tools are areas within chiropractic diagnosis where practitioners may rely on technological devices to render diagnostic decisions.

Therapeutic-related technologies range from mechanical devices for assisting application of manipulation, such as specialized tables that can help isolate clinician-applied movements to particular joints or regions, to physiotherapy modalities and supports. (Haldman, 1993) As with all medical technologies, those with chiropractic applications are in need of better research validation and refinement. There is variability in application and a need to develop better evidence-based protocols for the use of

technologies. Although this field is not as robust an economic sector as medical or surgical devices, there is enough of a potential for research and development with ability for patenting new technologies that this niche will no doubt attract a significant number of vendors to the field. Exhibit 6-10 lists some examples of chiropractic diagnostic and therapeutic technologies.

**EXHIBIT 6-10
CATEGORIES AND EXAMPLES OF DIAGNOSTIC TOOLS AND TECHNOLOGIES**

<p><u>Functional Measurements</u></p> <ul style="list-style-type: none">▪ scoliometry▪ photogrammetry▪ Moire topography▪ bilateral weight distribution▪ automated posture measures <p><u>Measurement of Movement</u></p> <ul style="list-style-type: none">▪ goniometers▪ inclinometers▪ optical systems▪ computer-assisted range of motion systems <p><u>Measurement of Strength</u></p> <ul style="list-style-type: none">▪ manual strength testing▪ isometric strength testing▪ isokinetic strength testing▪ isoinertial strength testing <p><u>Physiological Measurements</u></p> <ul style="list-style-type: none">▪ thermographic devices (thermocouple, infrared)▪ galvanic skin response▪ pressure algometry▪ kinesiologic surface scanning EMG▪ surface electrodiagnostics (EMG, NCV, F-Wave, H-reflex, SSEP)▪ needle electrodiagnostics (EMG, NCV, F-Wave, H-reflex, SSEP)▪ electrocardiography <p><u>Imaging Devices</u></p> <ul style="list-style-type: none">▪ x-ray filtration▪ imaging digitization▪ videofluoroscopy <p><u>Other Devices</u></p> <ul style="list-style-type: none">▪ Doppler ultrasound▪ plethysmography▪ spirometry
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**EXHIBIT 6-10 (Continued)
CATEGORIES AND EXAMPLES OF DIAGNOSTIC TOOLS AND TECHNOLOGIES**

<p><u>Mechanical Thrust Assisting Devices</u></p> <ul style="list-style-type: none">▪ activator instrument▪ Toftness instrument▪ Sweat orthogonal upper-cervical instrument▪ Pettibone cervical adjusting instrument <p><u>Adjusting Tables and Devices</u></p> <ul style="list-style-type: none">▪ Grostic table▪ Thompson terminal point drop table▪ flexion distraction tables▪ hi-lo tables▪ pelvic benches▪ motion palpation stations▪ cervical adjusting chairs▪ knee-chest tables <p><u>Physiotherapy Modalities</u></p> <ul style="list-style-type: none">▪ ultrasound▪ muscle stimulation▪ iontophoresis▪ tens <p><u>Bracing and Supports</u></p> <ul style="list-style-type: none">▪ splints and braces▪ casting supplies▪ orthotics

6.8 Overview of Treatment Methods

Because many people are not familiar with chiropractic treatment methods, we have presented an overview of those methods in this section. Readers already familiar with chiropractic treatment methods or who are not interested in learning more about those methods may skip to section 6.9 on page 6-21.

Chiropractic treatments vary by geographic region due to differences in state laws governing scope of practice as well as individual practice preferences. Spinal manipulation is the therapeutic procedure most closely associated with chiropractic. However, patient management often includes lifestyle counseling, nutritional management, rehabilitation, various physiotherapeutic modalities, and a variety of other

interventions (Haldeman, 1993). Physiologic therapeutics, taught in all chiropractic schools, are included in the chiropractic scopes of practice in most jurisdictions.

The NBCE survey (Christensen, 2000) reported that chiropractors routinely performed chiropractic adjustive techniques. Overall, 98 percent of chiropractors reported having recommended corrective or therapeutic exercise, with 61 percent indicating that they utilized it frequently with patients. More than 90 percent of doctors recommended nutritional counseling, supportive techniques, or supplements, but do so only sometimes. The RAND office record data indicated that of 920 patients who presented with low-back pain, 84 percent received spinal manipulation (or adjustment); 79 percent received nonthrust manual therapies such as mobilization, massage, and heat packs; 31 percent received education; and 5 percent received other forms of therapy such as acupuncture (Hurwitz, 1998).

Overview of Manual Methods: Chiropractors generally prefer the term chiropractic adjustment over the term manipulation, because it is believed to imply a more specific or precise maneuver and distinguishes it from other forms of manipulation. There are at least 100 distinct chiropractic, osteopathic, and physical therapy manipulation techniques, a large array of highly specialized adjusting tables and equipment, and a great deal of variation in the specific techniques used by individual practitioners. (Cherkin, 1997) Exhibit 6-11 is a glossary of common manual methods terms.

Distinctions in Chiropractic versus Manual Medicine Approaches: Both mobilization and manipulation are used to facilitate joint motion. When applied in manual medicine and physical therapy, assessment and manipulative treatment tend to focus exclusively on joint pain and restriction. However, even though the execution of high-velocity manipulative thrusts by chiropractors and nonchiropractors may appear

similar, chiropractic techniques focus on a more global clinical picture to characterize and apply adjustments.

Chiropractors typically consider the nature and mode of condition onset, muscle spasm, pain radiation patterns, static and dynamic postures and/or gaits, and joint pain in determining whether or not a mechanical intervention should be applied. For example, the spinal areas manipulated using typical manual medicine and physical therapy assessment approaches are often based on which joints or regions have restricted motion. In contrast, the decision as to which area to manipulate using various chiropractic techniques may be based upon pain radiation patterns, which paraspinal muscle regions are taut and how they are enervated, the biomechanical function of affected joints compared with that of adjacent areas, and the mechanics involved in initial onset. Thus, the regions manipulated by chiropractors may not correspond directly to the symptomatic region or to the area that a nonchiropractor may feel is the site of the manipulable lesion.

EXHIBIT 6-11 COMMON MANUAL METHOD TERMINOLOGY

- *Spinal manipulative therapy*: a general umbrella term often used to encompass all types of manual techniques regardless of their precise anatomic and physiologic focus, or their discipline of origin.
- *Mobilization*: passive movement of a joint within its physiologic range of motion (this roughly equates to the range of motion a joint can typically be taken through by its intrinsic musculature).
- *Manipulation*: passive joint movement, which takes the joint beyond its physiologic range into the parapsiologic space. Intrinsic muscle contraction alone does not usually move joints this far. When a joint is moved into this parapsiologic range, cavitation can occur which, in a synovial joint, is typified by an audible release or "pop." A gaseous bubble may appear within the synovial fluid for several minutes after manipulation.
- *Adjustment*: passive movement applied by the chiropractor, commonly equated to the term manipulation. Preference by chiropractors for this term relates to implied specificity of how and where the procedure is applied, but may not reflect the cavitation/thrust attributes of manipulation.

Source: Haldeman 1993

In addition, there are many unique features associated with chiropractic techniques, including patient positioning, equipment, characteristics of prestressing joints, and thrust. Decisions about the frequency and duration of chiropractic manipulative treatment may not be much influenced by its effect on range of motion. Rather, progress indicators such as function, coordination, and endurance often influence when and how chiropractic manipulation is provided. Some of the syntax in chiropractic reflects this, with many drawing a distinction between the terms manipulation and adjusting. Exhibits 6-12 and 6-13 outline types and categories of spinal manipulation and list examples of various chiropractic adjustive techniques.

**EXHIBIT 6-12
CATEGORIES OF CHIROPRACTIC MANIPULATIVE AND ADJUSTIVE METHODS**

<p>A. Manual, Articular Manipulative and Adjustive Procedures</p> <ol style="list-style-type: none">1. Specific Contact Thrust Procedures<ol style="list-style-type: none">a. high-velocity thrustb. high-velocity thrust with recoilc. low-velocity thrust2. Nonspecific Contact Thrust Procedures3. Manual Force, Mechanically Assisted Procedures<ol style="list-style-type: none">a. drop-tables and terminal point adjustive thrustb. flexion-distraction table adjustmentc. pelvic block adjusting4. Mechanical Force, Manually Assisted Procedures<ol style="list-style-type: none">a. fixed stylus, compression wave adjustmentb. moving stylus instrument adjustment
<p>B. Manual Nonarticular Manipulative and Adjustive Procedures</p> <ol style="list-style-type: none">1. Manual Reflex and Muscle Relaxation Procedures<ol style="list-style-type: none">a. muscle energy techniquesb. neurologic reflex techniquesc. myofascial ischemic compression proceduresd. miscellaneous soft tissue techniques2. Miscellaneous Procedures<ol style="list-style-type: none">a. neural retraining techniquesb. conceptual approaches

Source: Haldeman 1993

**EXHIBIT 6-13
EXAMPLES OF DIFFERENT CHIROPRACTIC TECHNIQUES**

<p><u>Full-spine high-velocity techniques</u> Diversified Gonstead Thompson Terminal Point Pierce-Stillwagon Pettibone Chiropractic Biophysics</p>	<p><u>Lumbo pelvic techniques</u> Cox flexion-distraction Logan Basic</p>
<p><u>Upper cervical techniques</u> Upper Cervical Specific NUCCA Grostic Orthogonal</p>	<p><u>Miscellaneous/Instrument Adjusting</u> Sacro-Occipital Technique Applied Kinesiology Activator Toftness</p>

Source: Cherkin 1997

Christensen (2000) reported that Diversified, extremity adjusting, Activator, Gonstead, Flexion-Distraction, and Thompson techniques were used by more than half of the practitioners surveyed. Full-spine and extremity techniques are used as primary chiropractic methods by nearly 80 percent of D.C.s. Less than 17 percent use only full-spine techniques, and 2 percent use upper cervical techniques and the same percentage use some other approach as their primary chiropractic care method. Although more than one third of chiropractors indicated that they used other techniques (such as cranial work), the number reporting them as a primary emphasis was too small to warrant an individual listing in the NBCE survey. (Christensen, 2000).

Exercise and Rehabilitation: According to Christensen (2000), 98 percent of chiropractors reported that they used corrective and therapeutic exercises. Evidence based guidelines published by AHCPR stress the importance of early activation of acute low-back pain patients in order to optimize recovery (Bigos, 1994). Chiropractors have incorporated patient activation and exercise into their management strategies since at least the 1930s (Cook, 1994). Chiropractors have also made significant inroads into the care of athletic injuries and sports medicine (Mootz/McCarthy, 1999; Hyde, 1997),

gaining substantial recognition in the sports medicine specialties. The American College of Sports Medicine was one of the first multidisciplinary organizations to allow chiropractors membership status. Chiropractors also have been included by many countries as Olympic team physicians, and serve as team physicians to professional and collegiate sports teams (including the FSU football team). Several leading chiropractic colleges have recently sponsored postgraduate certification programs in sports chiropractic and rehabilitation. A clinical journal devoted to sports chiropractic and rehabilitation has been published for the better part of a decade, and chiropractic authors have increasingly emphasized rehabilitation and activation strategies (Liebenson, 1995; Nelson, 1994).

Chiropractic rehabilitation protocols appear very similar to standard rehabilitation practices. With the increased popularity of fitness and conditioning in recent decades, exercise and rehabilitation have developed their own subspecialty identity within medicine and physical therapy as well as in chiropractic. Chiropractic approaches to exercise range from the low-tech, in-office conditioning and stabilization programs to more extravagant high-tech conditioning equipment. The Chiropractic Rehabilitation Association (CRA), publishes rehabilitation guidelines for chiropractic (CRA, 1992). Exercise and rehabilitation have been classified as “promising” to “established” for increasing functional capacity in chiropractic practice parameters (Haldeman, 1993; Henderson, 1994).

Lifestyle and Activities of Daily Living: Promotion of wellness and lifestyle strategies is also a significant, but underexplored, aspect of chiropractic practice. More than two thirds of chiropractors report using nutritional and exercise counseling in practice (Christensen, 2000), and chiropractic college curricula include courses on the

subject. Health promotion strategies for chiropractors exist in the literature (Jameson, 1991), but data on application in practice is scant.

Ancillary and Complementary Procedures: Chiropractors also use a variety of complementary and ancillary procedures. The most frequently used procedures include cryotherapy, trigger point therapy, nutritional counseling, and bracing. (Christensen 2000) The majority of practitioners also use massage, heat, traction, and electrical muscle stimulation modalities. Acupressure and meridian therapy are used by about 66 percent of practitioners, with less than 10 percent reporting that they use acupuncture. (Christensen, 2000)

6.9 Practice Patterns and Guidelines

Three published practice parameter documents currently exist in print. (Haldeman, 1993; Henderson, 1994; CCP 1998) None of the documents have attempted to delineate specific care decisions or frequencies and duration of care for specific diagnostic conditions. One document from 1992 reported on utilization of chiropractic care for a predetermined range of common work-related low-back diagnoses. (Mootz, 1993) Two of the parameters, one from the U.S. and one from Canada, outline basic clinical thresholds and check points in general terms (Haldeman, 1993; Henderson, 1994). These guidelines were evidence-based, formal consensus documents based on input from a commission of selected experts and community-based practitioners that represented a wide array of approaches and practice philosophies. Both documents independently offer a similar set of recommendations.

The third and most recent guideline was developed by a chiropractic trade association that appointed a panel of narrow scope practitioners who offered their recommendations for vertebral subluxation management. (CCP, 1998) These guidelines

specifically excluded themselves from management of any other condition and did not appear to consider evidence that ran contrary to their commission's opinions.

A large number of published seed algorithms exist for conditions that highlight key benchmarks. Examples are listed in Exhibit 6-14. Only three of the pathways (otitis media, sinusitis, and occupational low-back conditions) have been developed, tested, and refined in practice settings and reported in the chiropractic literature. (Mootz, 1993; Lamm, 1998) Care pathway and guideline development in chiropractic remains in its early stages. Testing and refinement based on outcomes has been recommended as a research priority.

6.10 Integration with Other Health Providers

Less than 5 percent of D.C.s practice in multidisciplinary practice setting as of 1998. (Christensen, 2000) However, increasing numbers of medical practitioners refer patients to chiropractors, and virtually all D.C.s refer patients to M.D.s. With increased awareness and utilization of complementary and alternative medicine, the proportion of D.C.s working in integrated practices is increasing. In addition, discussion of the issue is beginning to appear in the chiropractic literature. (Triano, 1994, 1998) Additionally, new regulations mandating inclusion of CAM providers for purposes of reimbursement have prompted one state's insurance commissioner to convene a panel of medical directors from payers and representatives of alternative medicine trade organizations to determine what the issues and barriers to integration are. (Bielinski, 2000) Examples of issues and barriers associated with integrating practice are outlined in Exhibit 6-15.

**EXHIBIT 6-14
EXAMPLES OF CHIROPRACTIC PRACTICE PARAMETERS, CLINICAL
PATHWAYS, ALGORITHMS, AND TECHNOLOGY ASSESSMENTS**

Chiropractic practice parameters using explicit processes

- Guidelines for Chiropractic Quality Assurance and Practice Parameters (Haldeman, 1993).
- Clinical Guidelines for Chiropractic Practice in Canada (Henderson, 1994).

Clinical Pathways and Algorithms

- A consensus on the assessment and treatment of headache (Nelson, 1991).
- Fatigue: narrowing the differential (Bowers, 1994).
- Improving the clinician's use of orthopedic testing: application to low-back pain (McCarthy, 1994).
- Assessment of sinusitis and sinus pain (Oliver, 1998).
- Fever in the adult patient (Evans, 1995).
- Conservative management of hypertension (Mootz, 1995b).
- Clinical considerations in the mechanical assessment of the cervical spine (McMillan, 1995).
- Evaluation and management of an adult patient presenting with cough (Frischer, 1995).
- Initial screening of chest pain (Souza, 1998).
- Determining how much care to give and reporting patient progress (Hansen, 1994).
- Low-back pain pathogenesis, diagnosis, and management (Aker, 1990).
- Psychological considerations in chiropractic practice (Milus, 1994).
- Chiropractic care parameters for common industrial low-back conditions (Mootz, 1993a).

Technology Assessments

- Proceedings of the First Consensus Conference on Validation of Chiropractic Methods (Bergmann, 1990).
- Focus on Health Policy and Technology Assessment in Chiropractic: Proceedings of the 7th Annual Conference on Research and Education (Hansen, 1992).
- The value of leg length inequality and specific contact short lever adjusting in chiropractic: results of a consensus process by chiropractic expert panels (Mootz, 1993b).

Source: Cherkin, 1997, Mootz and Vernon, 1999

**EXHIBIT 6-15
EXAMPLES OF ISSUES AND BARRIERS TO INTEGRATED PRACTICE**

- Differences in language and syntax between conventional and chiropractic methods.
- Inadequate understanding of each other's central clinical theories and paradigms.
- Lack of exposure and understanding of clinical procedures due to lack of residency rotation exposure.
- Limited exposure to existing clinical and scientific literature.
- Pre-existing biases and/or negative experiences.
- Typically focusing on each other's treatment failures rather than successes.

It also seems likely that marketplace factors will facilitate integration in coming years. With an increasingly greater number of new graduates, the opportunity for established clinics and HMOs to hire recent chiropractic graduates into salaried positions could be high. However, it is uncertain if the current training in chiropractic colleges will be adequate to prepare new D.C.s for practice in such an environment. A need for clerkships and rotations to facilitate this kind of experience seems likely to become increasingly important in chiropractic training curricula.

6.11 Historical Isolation from the Health Care Mainstream

Although the emerging trend is for chiropractic to be integrated with other health care providers, most D.C.s have historically, and still do today, practice in a solo-private office. As a result, chiropractic's integration into the health care system has, historically, been impeded by its isolation from other professions in clinical settings, academic institutions, research, professional organizations, government, and the insurance industry. (Cherkin, 1997)

The reasons for the isolation include the profession's central premise that emphasizes the therapeutic importance of the body's inherent healing abilities, which is in conflict with many traditional biomedical views that focus on external causes of disease. However, what began in 1895 as a difference in theory eventually resulted in the evolution of two distinct approaches to patient care. Differences have been intensified by organized medicine's ostracism toward chiropractic, which sought to exclude chiropractic from every aspect of the American health care system, including professional educational institutions, government policy, and funding opportunities. This isolation fostered professional independence and justified an anti-intellectual attitude among some chiropractors. Chiropractic developed an office-based practice model. As

a result, chiropractic students have traditionally not been afforded exposure to a broad spectrum of clinical conditions and multidisciplinary settings.

Although a variety of natural and conservative interventions are used by chiropractors, the exclusion of drugs and surgery is a significant factor in separating the chiropractic profession from mainstream health professions. In fact, chiropractors are the only doctors licensed in all 50 states diagnosing and treating physical illnesses who do not use drugs or surgery. Chiropractic practice, developing outside the medical mainstream, is more “client-dependent” than “colleague-dependent” (Keating, 1989). Because chiropractors have traditionally received new patients through personal contacts and nonmedical referral sources, they often perceive that they have a stronger sense of alliance with patients than with other health professionals. (Cherkin, 1997)

6.12 Referral Relationships

Despite the lack of direct practice exposure between medicine and chiropractic, referral relationships have evolved, as well as group practices. Interprofessional contact in clinical settings has increased, frequently as a result of patient request. This usually involves simple referrals, but occasionally includes multi- or interdisciplinary arrangements (Triano, 1994). Although awareness of chiropractic remains limited among other health professions, patient requests, in addition to the increasing evidence for efficacy and patient satisfaction, may prompt medical and other practitioners to view chiropractic more favorably (Cherkin, 1997). However, while nearly all chiropractors (99-100 percent) report they routinely refer patients to medical practitioners, only about 50-60 percent of medical providers refer patients to chiropractic physicians. (Cherkin, 1989; Mootz, 1994) The proportion seems likely to be increasing. A random national survey of American chiropractors indicated that D.C.s receive almost as many referrals from

internists as they make. (Christensen, 2000) In contrast, D.C.s indicated that although they make orthopedic or neurology referrals almost monthly, they barely receive one or two referrals per year from such medical specialists.

Recent survey data suggest that a significant proportion of medical physicians perceive value in chiropractic. Berman (1995) reported that 49 percent of East Coast family practice respondents found chiropractic to be “legitimate medical practice,” and that 56 percent had made referrals to a chiropractor. Cherkin (1989) found similar results in a survey of family physicians in Washington state. Patel-Christopher (1990), quoted in Manga (1993), noted that in Canada, 62 percent of medical physicians refer patients with musculoskeletal pain to chiropractors, and that 9.5 percent of medical practitioners are chiropractic patients themselves.

6.13 Clinical Settings

Only a small percentage (less than 5 percent) of chiropractic practices exist within a multidisciplinary setting. (Christensen, 2000) In fact, two-thirds of D.C.s report that they practice in a single doctor’s office, with less than a third practicing with another D.C. A little over 5 percent of surveyed D.C.s indicate that they have hospital privileges. More than 12 percent of D.C.s report having more than one office location, and nearly two-thirds indicate that they make house calls or attend patients in long-term care facilities.

6.14 Conventional Medicine’s Perspective

Medicine’s opinion of chiropractic has only recently changed from almost universal negativism to that of guarded interest (Cherkin, 1997). Until 1980, the American Medical Association explicitly stated that it was unethical for their members to refer a patient to a chiropractor or accept referrals from them. The loss of the landmark antitrust suit

described earlier finally erased those prohibitions (Getzandaner, 1987). The reasons for mutual distrust are many; however, as Cherkin noted, negative attitudes have been reinforced because each profession tends to see the other's treatment failures. In addition to AMA prohibitions towards chiropractors, there were others. In 1969, the American Public Health Association adopted a policy that urged that, "...state legislatures and health agencies not include chiropractors ... under state health programs" (APHA Policy 6903). It was not until 1983 that the APHA instituted a new policy, which recognized spinal manipulation as safe and effective for certain neuromusculoskeletal disorders (APHA Policy 8331). Currently, the organization has a full voting Chiropractic Health section with a D.C. in a senior leadership position in the organization.

Even though many medical doctors believe chiropractic may be of value, few feel well informed about it and many would like to learn more. (Cherkin, 1989) For example, while 70 percent of general practitioners in Nova Scotia felt chiropractic to be useful, and 58 percent made referrals to chiropractors, only 10 percent admitted knowledge of chiropractic. (Goldszmidt, 1995) This lack of knowledge about alternative therapies may partially explain why less than a third of patients who use these therapies even discuss their use with their medical provider. Patients who are aware of organized medicine's past hostility toward chiropractors may be especially reluctant to discuss their use of chiropractic with their medical providers. Our recent survey of Floridians found that only 39 percent of Floridians felt that other health care workers accepted the chiropractic profession, while 64 percent felt that the general public accepted the profession.

The medical profession's perspective on the role of chiropractic is also complicated by the caregiver vs. gatekeeper issue. (Cherkin, 1997) Although sufficient scientific evidence now exists to convince many medical physicians that spinal

manipulation has a place in managing certain patients, it appears that most medical providers believe that access to chiropractors should be managed by medical gatekeepers, viewing chiropractic as a supplement to, rather than a substitute for, traditional medical care. This perspective is reinforced by concern on the part of many medical physicians about the ability of chiropractors to reliably identify and refer patients with potentially serious medical conditions. However, professional liability experience with chiropractic does not suggest that this is a major problem.

The medical profession has largely ignored the potential role of chiropractors as members of interdisciplinary primary health care teams. Increasing attention from government and academia is occurring, however, as evidenced by education and training efforts funded by the Health Resources and Services Administration (HRSA), which awarded chiropractic colleges contracts pertaining to rural and geriatric practice. The potential for chiropractors to be involved in interdisciplinary primary care in rural settings and in primary, secondary, and tertiary capacities within multidisciplinary spine centers has been the subject of discussion in the chiropractic literature. (Triano, 1994) In fact, this year the White House established a fact-finding commission that has been taking testimony around the country to make recommendations for federal policy and legislation that may better reflect the country's attitudes toward complementary and alternative medicine. It is likely that recommendations for more federal dollars for CAM education and research will be made.

6.15 Professional and Scientific Organizations

As a part of the emerging integration of chiropractic into the nation's total health care system, chiropractors are increasingly participating in national, professional, and scientific organizations. A chiropractic special primary interest group (SPIG) has existed

in the American Public Health Association since 1983. In 1995, the APHA voted the SPIG into a full Chiropractic Health Section with voting privileges and agency funding. This provided official recognition for chiropractic and cleared the way for full cooperation and collaboration on an equal basis with other health professions represented at APHA. Chiropractic members of APHA have served on the Governing Council, on advisory committees, and have been active in public health policy-making efforts.

Chiropractors are also members and officers in a wide variety of health profession organizations and groups. For example, about 25 percent of the membership of the American Back Society are chiropractors. Chiropractors have also been active in the North American Spine Society, the American Society of Biomechanics, the International Society for the Study of the Lumbar Spine, the American Academy of Pain Management, the North American Primary Care Research Group, National Association of Medical Minority Educators, the American College of Sports Medicine, Society for Medical Decision Making, the American Public Health Association, and the Silicon Valley Ergonomics Institute. (Cherkin, 1997)

6.16 Implications for a New Chiropractic School

Clearly, a new chiropractic school at Florida State University must, first and foremost, ensure that it provides its students with the full range of competencies necessary to perform the full scope of practice authorized by Florida Statutes.

Beyond the responsibility to equip graduates with a full and sound set of competencies, the school must prepare its students to practice in the integrated, multidisciplinary health care system that is emerging. This means that students must:

- be taught in a multidisciplinary environment;
- receive first-hand experience with multiple types of health care treatments;

- be equipped to fully diagnose patients' conditions and provide or coordinate appropriate care, including efficient interfacing with conventional medicine;
- learn how to practice in an integrated health care system; and
- learn how to stay up-to-date on the latest research findings and how to integrate those findings into their practices.

Although traditionally technology has not played a major role in chiropractic treatments, the combination of rapid growth in technology, more research into alternative chiropractic treatments that involve technology, and the use of technology in integrated health care practices will require that students not only learn to use technology in their practices, but that they also be given the technological base necessary to learn and adopt new technologies as they are developed.

6.17 References

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7.0 CHIROPRACTIC EDUCATION

7.0 CHIROPRACTIC EDUCATION

For a number of reasons, discussed earlier, chiropractic education in the U.S. developed along a track outside of the nation's mainstream of higher education. That track consists of separate, private institutions that concentrate almost entirely on chiropractic education. This is not to say that the current chiropractic schools do not provide high-quality education, because their programs, for the most part, are high quality. It is to say, however, that the separate track has its own set of advantages and disadvantages, which are discussed in this chapter.

7.1 Current Chiropractic Schools

Chiropractic education in the U.S. is currently provided by 16 private, nonprofit chiropractic schools that primarily offer the doctor of chiropractic degree. All 16 are accredited by the Council on Chiropractic Education (CCE), which is sanctioned by the U.S. Department of Education. Additionally, 13 of the 16 are accredited by regional educational accrediting organizations such as the North Central Association of Schools and Colleges.

State and Regional Locations: The 16 schools are located in 11 states as shown in Exhibit 7-1. In terms of regions, the West Coast has 5 colleges; the Midwest, 5; the South, 4; and the Northeast, 2.

**EXHIBIT 7-1
STATE AND REGIONAL LOCATIONS
OF U.S. CHIROPRACTIC COLLEGES**

REGION/STATE	NUMBER OF COLLEGES
WEST	
California	4
Oregon	<u>1</u>
Subtotal	5
MIDWEST	
Missouri	2
Illinois	1
Iowa	1
Minnesota	<u>1</u>
Subtotal	5
SOUTH	
Georgia	1
South Carolina	1
Texas	<u>2</u>
Subtotal	4
NORTHEAST	
New York	1
Connecticut	<u>1</u>
Subtotal	2
TOTAL	16

Primarily Offer Chiropractic Programs: As shown in Exhibit 7-2, other than bachelor's degrees offered as part of their chiropractic programs, only three of the 16 schools offer other degree programs. However, the dominate program at all 16 institutions is, by far, chiropractic.

Enrollments: The 16 schools currently enroll approximately 15,000 students, as shown in Exhibit 7-3. The schools with the largest enrollments are Life University in Georgia, Palmer College in Iowa, and Parker College in Texas.

**EXHIBIT 7-2
DEGREE PROGRAMS OFFERED BY CHIROPRACTIC INSTITUTIONS
FALL 2000**

Institution	Degree Program	
	Graduate	Undergraduate
Cleveland Chiropractic College Kansas City, MO	- Doctor of Chiropractic	- Bachelor of Science in Human Biology
Cleveland Chiropractic College Los Angeles, CA	- Doctor of Chiropractic	- Bachelor of Science in Human Biology
Life Chiropractic College-West San Lorenzo, CA	- Doctor of Chiropractic	(None offered)
Life University Marietta, GA	- Doctor of Chiropractic - Master of Science in Sport Health Science	- Nutrition for the Chiropractic Sciences - Nutrition in Dietetics (Didactic Program) - Business Administration
Logan College of Chiropractic Chesterfield, MO	- Doctor of Chiropractic	- Bachelor of Science in Human Biology
Los Angeles College of Chiropractic Whittier, CA	- Doctor of Chiropractic - Master of Applied Science Musculoskeletal Management	(None offered)
National College of Chiropractic Lombard, IL	- Doctor of Chiropractic	- Bachelor of Science in Human Biology
New York Chiropractic College Seneca Falls, NY	- Doctor of Chiropractic	(None offered)
Northwestern College of Chiropractic Bloomington, MN	- Doctor of Chiropractic	- Bachelor of Science in Human Biology
Palmer College of Chiropractic-West San Jose, CA	- Doctor of Chiropractic	(None offered)
Palmer College of Chiropractic Davenport, IA	- Doctor of Chiropractic	- Bachelor of Science in General Science
Parker College of Chiropractic Dallas, TX	- Doctor of Chiropractic	- Bachelor of Science in Anatomy
Sherman College of Straight Chiropractic Spartanburg, SC	- Doctor of Chiropractic	(None offered)
Texas Chiropractic College Pasadena, TX	- Doctor of Chiropractic	- Bachelor of Science in Human Biology
University of Bridgeport Bridgeport, CT	- offers 4 6th-year, 10 master's-level, and 2 doctorate-level degrees, in addition to D.C.	- offers a total of 5 associate-level and 27 bachelor's-level degrees
Western States Chiropractic College Portland, OR	- Doctor of Chiropractic	- Bachelor of Science in Human Biology

Source: Chiropractic Institution Web Sites.

**EXHIBIT 7-3
HEADCOUNT ENROLLMENTS AT
U.S. CHIROPRACTIC INSTITUTIONS
FALL 1998**

INSTITUTION	HEADCOUNT ENROLLMENTS
Cleveland Chiropractic College Kansas City, MO	583
Cleveland Chiropractic College Los Angeles, CA	533
Life Chiropractic College-West San Lorenzo, CA	770
Life University Marietta, GA	3,689
Logan College of Chiropractic Chesterfield, MO	1,015
Los Angeles College of Chiropractic Whittier, CA	806
National College of Chiropractic Lombard, IL	860
New York Chiropractic College Seneca Falls, NY	875
Northwestern College of Chiropractic Bloomington, MN	794
Palmer College of Chiropractic-West San Jose, CA	711
Palmer College of Chiropractic Davenport, IA	1,716
Parker College of Chiropractic Dallas, TX	1,143
Sherman College of Straight Chiropractic Spartanburg, SC	418
Texas Chiropractic College Pasadena, TX	484
University of Bridgeport Bridgeport, CT	230
Western States Chiropractic College Portland, OR	451
Total Enrollment, Chiropractic Institutions United States	15,078

Source: 1998 IPEDS Fall Enrollment Survey.

Annual Expenditures: The annual expenditures of the 16 colleges totaled \$251.3 million in 1995-96 and ranged from \$29 million at Sherman to \$47.3 million at Life University, as shown in Exhibit 7-4.

Annual Revenues: The annual revenues of the colleges totaled \$249.4 million in 1995-96 and ranged from \$3.6 million at Sherman to \$47.7 million at Life University. As shown in Exhibit 7-5, the primary source of revenue for all of the colleges is tuition and fees, with approximately 90 percent of the revenues coming from that source.

Annual Chiropractic Degrees Granted: The 16 colleges annually graduate approximately 3,600 chiropractic students (Exhibit 7-6). In terms of U.S. region, the number of annual graduations are:

- West 743
- Midwest 1,320
- South 1,224
- Northeast 294

Tuition and Fee Levels: The estimated annual tuition and fee levels paid by chiropractic doctoral students range from \$7,986 at Life University to \$16,000 at Parker, as shown in Exhibit 7-6. The average tuition and fee costs to a student across all universities of a doctor of chiropractic degree is approximately \$47,000 (assuming 3^{1/3} years to obtain a degree.)

**EXHIBIT 7-4
E & G EXPENDITURES AT
U.S. CHIROPRACTIC INSTITUTIONS
1995-96**

INSTITUTION	E & G EXPENDITURES
Cleveland Chiropractic College Kansas City, MO	\$7,010,502
Cleveland Chiropractic College Los Angeles, CA	\$8,163,149
Life Chiropractic College-West San Lorenzo, CA	\$11,128,492
Life University Marietta, GA	\$47,292,247
Logan College of Chiropractic Chesterfield, MO	\$10,292,526
Los Angeles College of Chiropractic Whittier, CA	\$14,889,284
National College of Chiropractic Lombard, IL	\$15,729,432
New York Chiropractic College Seneca Falls, NY	\$14,015,784
Northwestern College of Chiropractic Bloomington, MN	\$9,125,280
Palmer College of Chiropractic-West San Jose, CA	\$9,429,501
Palmer College of Chiropractic Davenport, IA	\$30,729,017
Parker College of Chiropractic Dallas, TX	\$19,143,516
Sherman College of Straight Chiropractic Spartanburg, SC	\$2,888,467
Texas Chiropractic College Pasadena, TX	\$8,355,080
University of Bridgeport* Bridgeport, CT	\$34,834,171
Western States Chiropractic College Portland, OR	\$8,253,761
Total Enrollment, Chiropractic Institutions United States	\$251,280,209

*Enrollments in the chiropractic program at the University of Bridgeport account for only a small percentage of total enrollments at this institution.

Source: 1995-96 IPEDS Finance Survey.

**EXHIBIT 7-5
TOTAL REVENUES* AT
U.S. CHIROPRACTIC INSTITUTIONS
1995-96**

INSTITUTION	TOTAL REVENUES*	REVENUES FROM TUITION & FEES	% FROM TUITION & FEES
Cleveland Chiropractic College Kansas City, MO	\$8,857,137	\$7,412,278	83.7%
Cleveland Chiropractic College Los Angeles, CA	\$9,826,830	\$7,540,471	76.7%
Life Chiropractic College-West San Lorenzo, CA	\$12,179,866	\$11,401,065	93.6%
Life University Marietta, GA	\$47,687,838	\$45,824,839	96.1%
Logan College of Chiropractic Chesterfield, MO	\$14,768,191	\$13,521,998	91.6%
Los Angeles College of Chiropractic Whittier, CA	\$14,367,310	\$12,647,467	88.0%
National College of Chiropractic Lombard, IL	\$15,265,634	\$12,030,863	78.8%
New York Chiropractic College Seneca Falls, NY	\$15,640,509	\$13,140,897	84.0%
Northwestern College of Chiropractic Bloomington, MN	\$10,815,796	\$10,096,904	93.4%
Palmer College of Chiropractic-West San Jose, CA	\$28,726,406	\$26,281,168	91.5%
Palmer College of Chiropractic Davenport, IA	\$10,301,484	\$9,709,008	94.2%
Parker College of Chiropractic Dallas, TX	\$19,527,240	\$18,701,904	95.8%
Sherman College of Straight Chiropractic Spartanburg, SC	\$3,564,926	\$2,717,655	76.2%
Texas Chiropractic College Pasadena, TX	\$8,174,018	\$7,128,609	87.2%
University of Bridgeport** Bridgeport, CT	\$21,640,918	\$18,779,936	86.8%
Western States Chiropractic College Portland, OR	\$8,089,615	\$7,165,395	88.6%
Total Enrollment, Chiropractic Institutions United States	\$249,433,718	\$224,100,457	89.8%

*Excludes revenues drawn from Auxilliary Enterprises, Hospitals, 'Other Sources,' and Independent Operations.

**Enrollments in the chiropractic program at the University of Bridgeport account for only a small percentage of total enrollments at this institution.

Source: 1995-96 IPEDS Finance Survey.

**EXHIBIT 7-6
CHIROPRACTIC COMPLETIONS AT
U.S. CHIROPRACTIC INSTITUTIONS
FALL 1998**

INSTITUTION	CHIROPRACTIC COMPLETIONS
Cleveland Chiropractic College Kansas City, MO	123
Cleveland Chiropractic College Los Angeles, CA	146
Life Chiropractic College-West San Lorenzo, CA	170
Life University Marietta, GA	744
Logan College of Chiropractic Chesterfield, MO	311
Los Angeles College of Chiropractic Whittier, CA	191
National College of Chiropractic Lombard, IL	253
New York Chiropractic College Seneca Falls, NY	253
Northwestern College of Chiropractic Bloomington, MN	187
Palmer College of Chiropractic-West San Jose, CA	181
Palmer College of Chiropractic Davenport, IA	446
Parker College of Chiropractic Dallas, TX	237
Sherman College of Straight Chiropractic Spartanburg, SC	111
Texas Chiropractic College Pasadena, TX	132
University of Bridgeport Bridgeport, CT	41
Western States Chiropractic College Portland, OR	113
Total Completions, Chiropractic Institutions	3,639

Source: 1998 IPEDS Completions Survey.

**EXHIBIT 7-7
ANNUAL FULL-TIME TUITION AND REQUIRED FEES
U.S. CHIROPRACTIC INSTITUTIONS, 1999**

Institution	City	State	Level	Full-Time Tuition	Required Fees	Total
Cleveland Chiropractic College	Kansas City	MO	Undergraduate	\$3,240	\$204	\$3,444
			Graduate	-	-	-
			First-Professional	\$12,104	\$204	\$12,308
Cleveland Chiropractic College	Los Angeles	CA	Undergraduate	\$4,716	\$850	\$5,566
			Graduate	-	-	-
			First-Professional	\$16,299	-	\$16,299
Life Chiropractic College-West	San Lorenzo	CA	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$12,750	-	\$12,750
Life University	Marietta	GA	Undergraduate	\$5,310	\$45	\$5,355
			Graduate	\$7,956	\$30	\$7,986
			First-Professional	-	-	-
Logan College of Chiropractic	Chesterfield	MO	Undergraduate	\$3,040	\$35	\$3,075
			Graduate	-	-	-
			First-Professional	\$9,430	\$240	\$9,670
Los Angeles College of Chiropractic	Whittier	CA	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$17,067	\$410	\$17,477
National College of Chiropractic	Lombard	IL	Undergraduate	\$11,025	\$322	\$11,347
			Graduate	-	-	-
			First-Professional	\$11,025	\$322	\$11,347
New York Chiropractic College	Seneca Falls	NY	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$15,975	\$145	\$16,120
Northwestern College of Chiropractic	Bloomington	MN	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$16,125	\$700	\$16,825
Palmer College of Chiropractic	Davenport	IA	Undergraduate	\$4,185	\$105	\$4,290
			Graduate	\$4,950	\$105	\$5,055
			First-Professional	\$15,645	\$60	\$15,705
Palmer College of Chiropractic-West	San Jose	CA	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$13,095	\$150	\$13,245
Parker College of Chiropractic	Dallas	TX	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$15,300	\$1,300	\$16,600
Sherman College of Straight Chiropractic	Spartanburg	SC	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$11,700	\$63	\$11,763
Texas Chiropractic College	Pasadena	TX	Undergraduate	\$14,100	\$150	\$14,250
			Graduate	-	-	-
			First-Professional	\$14,100	\$150	\$14,250
University of Bridgeport	Bridgeport	CT	Undergraduate	\$13,800	\$841	\$14,641
			Graduate	\$13,800	\$841	\$14,641
			First-Professional	\$13,200	\$841	\$14,041
Western States Chiropractic College	Portland	OR	Undergraduate	-	-	-
			Graduate	-	-	-
			First-Professional	\$14,130	\$660	\$14,790
Mean, All Chiropractic Institutions	-	-	Undergraduate	\$7,427	\$319	\$7,746
			Graduate	\$8,902	\$325	\$9,227
			First-Professional	\$13,863	\$403	\$14,213

Source: 1999 IPEDS Institutional Characteristics Survey.

7.2 Educational Requirements

Although the curriculum differs somewhat among the 16 colleges, especially in the number and types of electives, the core curriculum is similar at all of the institutions. The core curriculum is designed to provide the chiropractic graduate with (Chapman-Smith, 2000):

- (1) substantial knowledge of basic biological sciences;
- (2) the ability to perform a precise neuromusculoskeletal diagnosis to assess the patient's health status and to screen out patients requiring other types of care; and
- (3) an understanding of the distinctive principles and skills of the chiropractic profession.

Those readers interested in a more extensive review of chiropractic education than presented here are referred to Cherkin's (1997) overview of the statutes of the chiropractic profession for the Agency for Health Care Policy and Research. This section draws heavily on Cherkin's work as well as that of Chapman-Smith's, 2000.

Required Student Contact Hours: The minimum student contact time required for a college to maintain Council on Chiropractic Education (CCE) accreditation is 4,200 hours. The average total contact hours of chiropractic training are actually 4,822 hours. The program length at various colleges ranges from 4,400 hours to 5,220 hours. The chiropractic curriculum is divided into basic and clinical sciences. Basic science contact hours account for at least 1,420 hours, approximately 30 percent of the entire chiropractic program. Basic sciences education includes 570 hours of anatomy (40 percent of all basic science hours), 305 hours of physiology (21 percent), 205 hours of pathology (14 percent), 150 of biochemistry (11 percent), 120 hours of microbiology (8 percent), and 70 hours of public health (5 percent). (Chapman-Smith, 2000)

Clinical Sciences: On average, 70 percent of the chiropractic program is composed of clinical sciences. Clinical sciences include chiropractic clinical education

(hands-on manual techniques for diagnosis and treatment) and clinical clerkships (patient management under supervision, generally in outpatient clinics). Chiropractic schools devote an average of 3,380 contact hours to clinical education: 1,975 hours (58 percent) are spent in chiropractic clinical sciences and the remaining 1,405 hours (42 percent) are spent in clinical clerkships. Clinical sciences contact hours involve a variety of settings: lectures, laboratories, and clinics. (Exhibit 7-8)

**EXHIBIT 7-8
CHIROPRACTIC EDUCATION IN TERMS OF AVERAGE HOURS OF LECTURES,
LABORATORIES, AND CLINIC IN 16 CHIROPRACTIC COLLEGES**

Variable	Chiropractic Schools		
	Total	Basic Science	Clinical Science
Lecture Hours	2,675	1,020	1,655
Laboratory Hours	1,115	400	715
Clinical Hours	1,010		1,010
Total	4,800	1,420	3,380

Source: Center for Studies in Health Policy, Inc., Washington, D.C. Personal communication of 1995 unpublished data from Meredith Gonyea, Ph.D., quoted in Cherkin, 1997

Chiropractic education places emphasis on five key areas: adjustive techniques/spinal analysis, principles/practices of chiropractic, physiologic therapeutics, and biomechanics. Typical clinical courses offered in chiropractic colleges are outlined in Exhibit 7-9. Diagnosis and chiropractic principles have the largest percentage of time, followed by orthopedics, physiologic therapeutics, and nutrition. Three major subjects within the clinical sciences (adjustive techniques/spinal analysis, physical/clinical/laboratory diagnosis, and diagnostic imaging) account for an average of 52% of the education in clinical sciences.

**EXHIBIT 7-9
AVERAGE TOTAL CONTACT HOURS IN SPECIFIC CLINICAL SUBJECTS TAUGHT
IN 16 CHIROPRACTIC COLLEGES (INCLUDES LECTURES AND LABORATORIES)**

Clinical Subject	Hours	% of Total
Adjustive technique/Spinal Analysis	555	22%
Physical/clinical/laboratory diagnosis	410	17%
Diagnostic imaging, radiology	305	12%
Principles of chiropractic	245	10%
Orthopedics	135	6%
Physiologic Therapeutics	120	5%
Nutrition/dietetics	90	4%
Professional practice & ethics	65	3%
Biomechanics	65	3%
Gynecology/obstetrics	55	2%
Psychology	55	2%
Research Methods	50	2%
Clinical pediatrics & Geriatrics	50	2%
First aid & Emergency	45	2%
Dermatology	30	1%
Otolaryngology	25	1%
Other	160	7%
Total Hours of Clinical Training	2,460	100%

Course Sequencing: Chiropractic colleges typically operate on a semester or trimester-based system. (Coulter, 1998) Sequencing of the coursework varies somewhat between the two types of academic years. Exhibit 7-10 represents a year-round trimester program, and Exhibit 7-11 illustrates a semester program. Both programs are representative of current college curricula. Both programs are designed at developing scientific knowledge and mastering core chiropractic skills. As the curricula progresses, an increasing number of hours are spent in clinical practice settings applying diagnostic and practice skills.

The trimester program lasts for four years through ten trimesters. The first two years of the program are heavily focused on the basic and clinical sciences. Students spend approximately 40 percent of their first year in lectures and 60 percent in the laboratory. In year two, the focus is again on basic and clinical sciences, with slightly more time spent in lectures. The third year devotes virtually all contact hours to clinical education, including clinical sciences and clerkships. Over 50 percent of the student's time in the third year is spent in clinical settings. Year four consists of a clinical internship for one trimester. Similarly, in a semester-based program, lectures, laboratories, and clinical practice are arranged to provide a meaningful progression of subject matter and hands-on experience.

**EXHIBIT 7-10
SUBJECTS TAUGHT IN A TYPICAL TRIMESTER-BASED CHIROPRACTIC
PROGRAM, BY YEAR AND NUMBER OF CONTACT HOURS**

Year 1	Year 2	Year 3	Year 4
General anatomy (210)*	Pharmacotoxicology (30)	Integrated chiropractic clinical application (90)	Clinical internship (450)
Functional anatomy and biomedics (210)	Clinical microbiology (90)	Physiological therapeutics (30)	
Histology (90)	Pathology (135)	Chiropractic principles (75)	
Human biochem. (105)	Chiropr. Principles (60)	Practice management (75)	
Chiropr. Principles (90)	Chiropr. Procedures (300)	Imaging interpretation (90)	
Clinical chiropractic (60)	Physics and clinical imaging (90)	Radiological position and technique (30)	
Palpation (120)	Clinical orthopedics and neurology (180)	Differential diagnosis (90)	
Neuroscience	Nutritional assessment	Clinical application of manual procedures (60)	
Normal radiological anatomy (90)	Community Health (60)	Clinical Internship (390)	
Human physiology (135)	Physiological therapeutics (105)	Dermatology (15)	
Fundamentals of nutrition (60)	Clinical nutrition (60)	Clinical psychology (15)	
Introduction to physical examination skills (120)	Research methods (30)	Obstetrics/gynecology (15)	
Chiropractic procedures (105)	Practice management (30)	Pediatrics (15)	
	Imaging interpretation (75)	Geriatrics (15)	
	Differential diagnosis (90)	Clinical laboratory clerkship (15)	
	Clinical chiropr. Applied (90)		
Total HRS: 1,515	Total HRS: 1,485	Total HRS: 1,410	Total: 450

* Number of contact hours is noted in parentheses.
Source: Cherkin, 1997.

**EXHIBIT 7-11
SUBJECTS TAUGHT IN A TYPICAL SEMESTER-BASED CHIROPRACTIC
PROGRAM, BY YEAR AND NUMBER OF CONTACT HOURS**

Division	First Year	Hrs.	Second Year	Hrs.	Third Year	Hrs.	Fourth Year	Hrs.
Biologic. Sciences	Human Anatomy	180	Pathology	174	Lab. Diagnosis (II)	32	Clinical Nutrition	26
	Microscopic Anatomy	140	Lab. Diagnosis (I)	40	Toxicology	13	Community Health	39
	Neuroanatomy	72	Microbiology & Infectious Dis.	100				
	Neuroscience (I)	32	Neuroscience (II)	87				
	Biochemistry	112	Nutrition	58				
	Physiology (I)	36	Immunology	13				
Chiopr. Sciences	Chiropractic Principles (I)	56	Chiropractic Principles (II)	58	Chiropractic Principles (III)	42	Integrated Chiropractic Practice	95
	Basic Body Mechanics	96	Chiropractic Skills (II)	145	Clinical Biomechanics	100	Jurisprudence & Pract. Development	46
	Chiropractic Skills (I)	100	Spinal Mechs.	42	Chiropractic Skills (III)	145		
					Aux. Chiro. Therapy	58		
					Intro. Jurisprudence & Pract. Develop.	16		
Clinical Science	Normal Radio-Graphic Anatomy	16	Intro. Diagnosis	87	Orthopedics & Rheumatology	92	Clinical Psychology	46
	Rad. Biophysics & Protection	44	Intro. Bone Pathology	48	Neurodiagnosis	42	Emergency Care	52
Clinical Education			Normal Roentgen Variations & Roentgenometrics	39	Differential Dx.	32	Child Care	20
					Dx. & Symptomatology	116	Female Care	29
					Radiological Techn. Arthritis & Trauma	39	Geriatrics	20
						48	Abdomen, Chest, Special	
	Observer (I)		Observer (II)		Observer (III)	406	X-Ray Procedures	40
							Internship	752
							Auxiliary Chiropr. Therapy Clerkship	33
							Clin. Lab. Clerkship	21
							Clin. X-Ray Techn.	71
							Clin. X-Ray Interpretation	69
						Chiropr. Mgmt. Observer (IV)	31	
Research					Applied Research & Biometrics	32	Research Investigation Project	
Totals		912		978		1,213		1,390

Source: Canadian Memorial Chiropractic College. Toronto, Ontario, Canada

7.3 Comparison of Educational Requirements for Chiropractic and Allopathic Schools

A recent study by Coulter (1998) directly compared chiropractic and medical education. Data were collected from all chiropractic and medical schools in North, and an in-depth analysis of three chiropractic and three medical schools was conducted. Researchers chose three geographically diverse states: California, Iowa, and Texas, which account for almost half of the chiropractic colleges in the United States. A single chiropractic college and medical school were studied in each state. The chiropractic schools included in this study had enrollments of 521, 773 and 1,880, compared with a mean enrollment for all colleges of 787. (CCE Report, 1996) The three medical schools had enrollments of 691, 734, and 745, all moderately above the national average of 536. (JAMA, 1995)

The chiropractic programs consisted of four years of undergraduate education totaling approximately 4,800 contact hours. The medical programs consisted of four undergraduate years, with approximately the same number of contact hours (4,667). Typically, however, medical programs require an additional three-year residency for completion.

Medical schools require at least three years of college education prior to admission, whereas chiropractic colleges require a minimum of two years. In fact, most medical students complete four or more years of college. (Coulter, 1998) National data on graduate chiropractors show that 78 percent have degrees other than chiropractic, of which 54 percent are at least Bachelor's degrees. Most chiropractors completed these degrees prior to the D.C. degree. (Christensen, 2000) The grade point average of students entering chiropractic schools is 2.7 compared with 3.5 for those entering medical schools. (Coulter, 1998)

Considerable similarity exists in the prerequisites required by both professions. Both require biology, general inorganic chemistry, organic chemistry, and general physics. Many medical schools also require mathematics, which is not required in

chiropractic. Both professions require a humanities prerequisite; chiropractic also requires social science/psychology and English or communication credits.

Two questions of paramount importance in comparing the curricula of the two professions are: what subjects are taught and how much is taught? The two programs are relatively similar in total student contact hours: an average of 4,822 hours in chiropractic schools compared with 4,667 hours in medical schools. (Coulter, 1998) Basic science comprises 25-30 percent of the total contact hours in both the chiropractic and medical programs. The two programs have roughly similar contact hours in biochemistry, microbiology, and pathology. Chiropractors receive substantially more hours in anatomy education and physiology, but many fewer hours in public health. Exhibits 7-12 and 7-13 compare medical and chiropractic college hours in key subject areas.

**EXHIBIT 7-12
COMPARISONS OF THE OVERALL CURRICULUM STRUCTURE
FOR CHIROPRACTIC AND MEDICAL SCHOOLS**

	CHIROPRACTIC SCHOOLS		MEDICAL SCHOOLS	
	Mean	Percentage	Mean	Percentage
TOTAL CONTACT HRS	4,822	100%	4,667	100%
Basic Science hours	1,416	29%	1,200	26%
Clinical Science hours	3,406	71%	3,467	74%
Chiropractic Science hours	1,975	41%	0	0
Clerkship hours	1,405	29%	3,467	74%

Source: Center for Studies in Health Policy, Inc., Washington, D.C. Personal communication of 1995 unpublished data from Meredith Gonyea, Ph.D. quoted in Cherkin, 1997.

**EXHIBIT 7-13
COMPARISONS OF HOURS OF BASIC SCIENCES EDUCATION
IN MEDICAL AND CHIROPRACTIC SCHOOLS**

SUBJECT	Chiropractic Schools		Medical Schools	
	Hours	% of Total	Hours	% of Total
Anatomy	570	40	368	31
Biochemistry	150	11	120	10
Microbiology	120	8	120	10
Public Health	70	5	289	24
Physiology	305	21	142	12
Pathology	205	14	162	14
Total Hours	1,420	100	1,200	100

Source: Center for Studies in Health Policy, Inc., Washington, D.C. Personal communication of 1995 unpublished data from Meredith Gonyea, Ph.D. quoted in Cherkin, 1997.

The contrast between the two programs is dramatic in the area of *clinical clerkships*, which averaged 3,467 hours in medicine versus 1,405 hours in chiropractic. In medicine, this comprises on average 74 percent of the total contact hours, while in chiropractic it comprises only 29 percent. Part of the difference is explained by the way in which the programs are structured. In chiropractic, 41 percent of the program is allocated to chiropractic clinical sciences, which consists of extensive laboratory and hands-on training in manual procedures and has no equivalent in medicine. However, because of the private and isolated nature of chiropractic education in the United States, the availability and willingness of publicly funded clerkship and residency rotation open to medical, osteopathic, physical therapy, and other clinical training programs do not exist for chiropractors.

However, combining the chiropractic clinical sciences—which include extensive practical laboratory training—with the clinical clerkships, the percentage of a chiropractic program devoted to *clinical evaluation* is 70 percent compared with medicine's 74 percent. The major difference, therefore, is in didactic teaching and clinical experience. On average, medical students receive twice the number of hours in clinical experience, but receive over 1,000 fewer hours in lectures and laboratory education. If the medical residency is included, the total number of hours of clinical experience for medicine rises to over 6,400 hours. (Coulter, 1998)

Overall, chiropractic education is comparable to that for medicine in all areas, with the exception of somewhat lower prerequisites and a much more limited residency experience. New chiropractic graduates frequently function in associateship roles after graduation, obtaining an informal preceptorship. The trends in chiropractic education over the past several decades have steadily increased prerequisites and moved toward competency-based and problem-oriented training programs. The clinical training for

chiropractic is currently earmarked by many institutions and the CCE for improvement in order to enhance exposure to integrated practice and to become better prepared for higher standards of accountability as well as evidence-based practice.

7.4 Admission Requirements

CCE standards and individual state chiropractic licensing boards substantially influence admissions requirements at chiropractic colleges. The CCE requires a minimum of two years of undergraduate education, with successful completion of courses with a grade of “C” (a 2.5 grade point) or better in Biology, General Chemistry, Organic Chemistry, Physics, Psychology, English/Communication, and the Humanities. Each required science course must include a laboratory. (CCE, 1995) The applicant’s cumulative grade point average must not be less than 2.25, and the total college pre-professional credit units must be at least 60 semester units. Four colleges will soon require a bachelor’s degree for admission. However, additional requirements in specific topic areas (such as physical therapy or minor surgery), and set numbers of hours beyond CCE minimums are frequently adopted by boards. Six State Licensing Boards currently require a bachelor’s degree in addition to the doctor of chiropractic degree for licensure. (Federation of Chiropractic Licensing Boards, 1997)

The chiropractic college admissions process usually includes an application review, assessment of academic transcripts, letters of reference, and an interview. Currently, there is no standardized chiropractic admissions test similar to the Medical College Aptitude Test (MCAT). At most chiropractic colleges a rolling admissions process is used, with qualified applicants being admitted on an ongoing basis. The typical (median) successful applicant has completed over 90 college credits with a “B-“ (2.7) average. (Coulter, 1998)

Comparison with other health care professions: In an inventory of pre-admission requirements comparing schools of medicine, dentistry, osteopathy, podiatry, chiropractic, and optometry, chiropractic students scored the lowest of all professions evaluated on four outcome measures (minimum number of semester hours, completion of four-year bachelor’s degree, minimum GPA required on entrance, and average GPA of previous year’s entering class). (Doxey, 1997) The study examined printed resources collected from 17 medical schools, 16 chiropractic schools, 15 dental schools, 16 optometry schools, 16 osteopathic schools, and 7 podiatric schools. Exhibit 7-14 compares admission requirements for the professions. The authors noted that although the data reflect differences among health care professionals on a limited number of entrance criteria, they do not explain the causes of the differences or offer any insight as to how these measures correlate with successful practice or patient care.

**EXHIBIT 7-14
COMPARISON OF FOUR PRE-ENTRANCE REQUIREMENTS
AMONG PROFESSIONAL TRAINING PROGRAMS**

	Average Minimum Semester Hours Entrance	Average % of Applicants with Bachelor’s Degree on Entrance	Average Minimum GPA Required on Entrance	Average Cumulative GPA on Entrance
Allopathy	100.9	99.4	3.16	3.56
Chiropractic	64.1	42.2	2.38	2.90
Podiatry	90.0	89.4	2.76	3.06
Dentistry	80.0	66.9	2.79	3.13
Osteopathy	95.6	97.0	2.68	3.26
Optometry	90.0	76.9	2.55	3.30

Source: Doxey, 1997

7.5 Philosophical Differences Among Chiropractic Schools

As indicated earlier in Section 2.6, significant philosophical differences exist within the chiropractic profession as to what the scope of practice should be for chiropractors. One segment of the profession feels strongly that chiropractic services should remain

isolated from (i.e., not become an integral part of) mainstream health care and that the scope of chiropractic practice should be restricted primarily to musculoskeletal adjustments. This group, which we have elected to call “separatists” (but which is sometimes referred to as “straights” within the chiropractic profession), is represented by the International Chiropractic Association (ICA) the smaller of the two national associations. The other segment of the profession feels equally as strongly that chiropractic services should be integrated with other health services and that treatment procedures should be based, to the extent possible, on scientific research and should include all treatments that are proven effective. This group, which we have elected to call “integrationists” (but which is sometimes referred to as “mixers” within the chiropractic profession) is represented by the American Chiropractic Association (ACA), the larger of the two national associations. The differences in opinions of the two segments run deep and have existed since the early 1930s.

Unfortunately, the differences in philosophies between the two groups have spilled over into chiropractic education, with some schools identifying with one segment and some with the other. For example, the chiropractic college at Sherman is named Sherman College of Straight Chiropractic, thereby clearly delineating the professional segment with which it aligns itself. Even those institutions that wish to remain neutral in the professional debate often find it difficult to do so. For example, Palmer College, which has faculty and administrators from both campuses, recently joined Life University and the ICA is opposing the use of the term “chiropractic medicine” to replace the term “chiropractic” in state legislation in Rhode Island (ICA, 2000).

ICA has strongly and aggressively opposed any legal or regulatory actions that could lead to the integration of chiropractic services with other health services or to the expansion of chiropractic services beyond musculoskeletal adjustments. To this end,

Robert Hoffman, president of ICA, recently stated, “ICA is watching the educational process and the accreditation process very carefully and will speak with force and conviction if any attempt is made to allow the recognition of chiropractic medicine as a component of chiropractic accreditation.” He went on to state in the same news release, “We see this as an issue on which there can be no compromise and invite every ICA member to be alert to any mention of chiropractic medicine in the press, or any proposed changes in their state, province, or nation that seeks to intrude a medical component into the practice of chiropractic.” (Note: Webster defines medicine as “the science and art dealing with the prevention, cure, or alleviation of disease.”) Hoffman further stated, “ICA is concerned to see a number of chiropractic colleges undergoing name changes, dropping the emphasis on chiropractic and focusing on ‘allied health’ or other terms that imply a reduction in the status of the chiropractic program. ...ICA will be watching the educational process and doing all within its power to maintain the focus on chiropractic as the key component in our professional education. We will not hesitate to question the route some of these educational institutions may be taking and we will demand that the accreditation process and the process of chiropractor licensure maintain a truly chiropractic focus.” (Hoffman, 2000)

As indicated above, some chiropractic colleges, such as Sherman, voluntarily align themselves with one side or the other of the professional controversy. Others get drawn into the controversy because of their alumni. Because most chiropractic colleges are dependent on tuition and fee revenues for their existence, they rely on practicing chiropractors, especially their alumni, to help produce new students. As a result, the institutions are, by necessity, influenced by the profession, particularly their alumni. Any actions or philosophical positions taken by any of the existing chiropractic schools that

might threaten their enrollments have to be considered carefully. Thus, none of the existing institutions are totally free of the controversy within the profession.

7.6 Academic Freedom

Academic freedom is one of the foundations upon which institutions of higher education operate within our nation. For an outside organization, regardless of whether it is part of the profession or not, to try to dictate the standards for accreditation, the curriculum or even the name of the institution to advance a particular philosophy is a clear violation of the academic freedom foundation of an institution. Yet, that is what is happening to the nation's chiropractic schools. Clearly, a new chiropractic school at a national graduate research university could not tolerate such interference. In fact, it is for this very reason that the nation needs a doctor of chiropractic degree program at a major public university where scientific research, not professional philosophies and beliefs, would dominate curricula and research decisions. It may also be the reason that the ICA and others will make every effort to prevent a chiropractic school from being established at a large graduate research university where their influence will be minimal.

7.7 Implications for a New Chiropractic School

The good news is that a very sound set of curricula, textbooks, faculty, and administrators exists in the U.S. to establish a new chiropractic school. By carefully recruiting administrators and faculty from existing chiropractic schools and giving those administrators and faculty time to plan, a new chiropractic school with a sound, science-based academic program can begin accepting its first class of students within 24 months of authorization to proceed.

The challenges that the school will face will include:

- staying free of scope of practice controversy within the profession;
- ensuring that its curricula is as science-based as possible, given the limited amount of chiropractic research to date; and
- effectively integrating the program into the university's full set of academic programs.

7.8 References

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8.0 CHIROPRACTIC RESEARCH

8.0 CHIROPRACTIC RESEARCH

8.1 State of Chiropractic Research

As described in chapter 4.0, a substantial amount of research on spinal manipulation, the procedure most frequently associated with chiropractic care, has already been done. A very productive, but small, number of chiropractic researchers have been making steady and significant progress over the past two decades in researching the effectiveness of chiropractic care. In comparison to medical research, however, chiropractic research is still in its infancy. Yet, there have been pockets of significant work in the basic science fields of biomechanics and neurophysiology, clinical trials on spinal manipulation, and a substantial amount of health services research. Additionally, within the constraints of vehement opposition to federal support for chiropractic training and research on the part of the allopathic establishment, the chiropractic profession has developed a small but credible research infrastructure that has recently seen the establishment of an NIH-funded Consortial Research Center at a chiropractic college.

Although both the funding for and the volume of research activity is dwarfed by the federal support for and prevalence of allopathic-related research, chiropractors have the most productive research enterprise of all of the complementary and alternative medicine (CAM) disciplines. Still, the research infrastructure within chiropractic does not approach that of any of the other medical disciplines, and clearly the consumer would benefit by a research-intensive program at a major university. Perhaps of more significance to Floridians is the fact that research in CAM, and chiropractic in particular, is a growth industry. Chiropractic-program scientists appointed at a major university with a proven funding and scientific track record will be in a premier position to form collaborations and attain research funding in the future.

To date, most of the published research relative to chiropractic relates to effectiveness studies for spinal manipulation. The randomized clinical trial is the gold standard of research designs and more than 50 such trials have been conducted on spinal manipulation. In short, the effectiveness of this procedure for certain kinds of back, neck, and head pain has been so well established that it has been included as a recommended treatment for low-back pain by independently developed, evidence-based government guidelines in the U.S., Britain, and Denmark.

In addition, chiropractic research has been conducted in the basic sciences, particularly relating to biomechanics and neurophysiology. This work has typically been conducted by D.C.s with research appointments in university settings. However, work is occurring at chiropractic colleges as well. A substantial amount of health services research on chiropractic has also been conducted particularly in the fields of utilization, technology assessment, appropriateness, safety, consumer satisfaction, and guidelines development. Particularly interesting is that the research accomplished to date has been performed on a minuscule amount of funding resources. The relevance of this is that as a result of its track record, chiropractic research is truly a growth industry especially as federal funding is dramatically on the rise. The opportunity to establish a meaningful and productive research program at the only major public university in the nation with a chiropractic program is quite high.

Much work remains to be done in the chiropractic research field. Among the most important issues needing attention are infrastructure development (both facilities and personnel); innovations in research methodology, designs, and capacity; and strategic sustainable research program development. Opportunities abound for existing and future institutions to develop chiropractic research programs. For example, one of the most well-known and frequently identified purposes for chiropractic care is within sports

medicine. Chiropractic has become a widespread treatment of choice by professional athletes (such as Tiger Woods, Joe Montana, and countless Olympic athletes) for optimizing competitive performance. However, the field of human performance research in chiropractic remains largely uninvestigated. Given FSU's track record in human performance research, this represents one example of an important research niche with potential funding streams that could be developed if a chiropractic program were established. Occupational health and geriatrics represent examples of other potential underdeveloped research niches in chiropractic that would have direct and obvious implications to Florida residents.

Perhaps more relevant to community health is the potential that research devoted to finding and improving drugless and nonsurgical interventions such as those used by chiropractors can have in improving outcomes while reducing costs. The context of this is discussed in more depth below.

8.2 Historical Availability of Research Dollars

Historically, most of the research on chiropractic treatments has been funded by the nation's chiropractic colleges (from tuition and fee revenues), chiropractic associations, chiropractic insurance carriers, nonprofit chiropractic research foundations, and a few chiropractic benefactors. Unfortunately, the funds from all of these sources combined have been quite small, in the range of \$2 to \$5 million per year. Even today, in an environment where complementary and alternative medicine has become a widely accepted form of health care by consumers, the amount of money spent annually on chiropractic research in the U.S. is minuscule compared with that spent on allopathic-related research.

Just within the nation's colleges and universities (excluding all of the research in the nation's pharmaceutical companies, medical equipment companies, and medical research companies), the estimated annual amount of money spent on chiropractic research in 1998 was only about \$13 million (Meeker, 1999) compared with about \$7.4 billion for allopathic-related research. Hence, just within the nation's universities the annual amount spent on chiropractic research is less than \$1 for every \$500 spent on allopathic-related research.

When all of the research dollars, including those in private businesses, are considered, chiropractic research expenditures become even more trivial compared to allopathic-related research.

8.3 Nation's Health Care System

Clearly, the nation's investment in allopathic-related research has dramatically improved the U.S.'s acute health care system. The U.S., almost certainly, has the best system in the world for treating acute health care problems. Unfortunately, however, the U.S.'s best acute health care system is tremendously expensive. The U.S. spends a much higher percent (14 percent in 1997) than any other nation of its gross national product on health care and has still not produced good health for its citizens. The recent World Health Report 2000 published by the World Health Organization ranked the U.S. 37th out of 191 countries in its overall health care system.

The American orientation toward tertiary care and specialization at the expense of leaving primary care underdeveloped is well recognized. (Starfield, 1991) One must wonder if the health system in the U.S. could have been less expensive and more effective if a larger proportion of the billions of dollars spent on pharmaceutical and surgery research had been dedicated to primary care, preventive, and alternative care—

including drugless and nonsurgical interventions such as chiropractic. The actions of U.S. consumers and the re-emergence of complementary and alternative medicine (CAM) treatments suggests that CAM, while clearly not the whole solution may, in many cases, be more effective and/or less expensive than conventional interventions.

8.4 Why Has the Availability of Funds for Chiropractic Research Been so Small?

The reasons for the historical lack of funding for chiropractic research vis-à-vis the funding for conventional medical research are many and may be related as much to politics and economics as to the potential effectiveness of the two major approaches to health care.

Clearly, the almost century long campaign by the allopathic medical establishment to eliminate all other approaches to health care (see Section 3.6, earlier) has played a major role in preventing the allocation of funds, especially public funds, for chiropractic and other nonsurgical and drugless intervention research. Perhaps the more influential reason, however, for the lack of funding for CAM research has been the lack of economic incentives or return on investments in CAM research. Relatively little, or no, financial rewards exist for a pharmaceutical company, a university, a medical school, a medical research company, a medical equipment company, or an individual researcher in discovering a nondrug, nonsurgical cure or prevention, such as musculoskeletal adjustment. On the other hand, huge financial rewards exist for all participants in the discovery of a new drug, new diagnostic test, or new surgical technique (e.g., laparoscopic surgery, laser surgery).

In fact, pharmaceutical companies, medical schools, research companies, medical equipment companies, allopathic physicians and their associations, and even individual researchers have significant economic incentives in preventing the discovery of low-cost

treatments such as chiropractic, acupuncture, nutrition, and nutrition supplements, which might decrease the demand for their products or services. In practice, a surgeon has a vested economic interest in preventing the discovery of a chiropractic cure for back pain patients that might otherwise be surgical candidates. On the other hand, the surgeon has a great economic interest in research on new surgical cures. Given the option of investing research dollars in either new surgical techniques or new chiropractic techniques, the surgeon is more likely to select the new surgical project, whereas the chiropractor is more likely to select the chiropractic project. Historically, the problem has been that the surgeons, rather than the chiropractors, have been in the position to decide where the nation's medical research dollars are invested.

8.5 Critical Need for Lower Health Care Costs

The U.S. is again facing the major cost of a health care crisis similar to the crisis of the 1980s. Costs are escalating at 10 to 15 percent per year, and are projected to continue to increase at that rate for years to come. As a result, businesses who pay for most of the health insurance costs in the nation are becoming concerned about their ability to continue the payments while remaining competitive in a world economy. The crisis has caused the U.S. Chamber of Commerce to sponsor health summits with state chambers of commerce around the nation. The Florida Chamber of commerce held its own health summit in October 2000, and has appointed a special committee to develop a plan to curb future health insurance cost increases in Florida.

The crisis has also caused more businesses to form health coalitions with other businesses, similar to the coalitions that were formed in the late 1970s and early 1980s that eventually led to the creation of the managed care industry. These coalitions are examining alternative ways, including more use of complementary and alternative medicine (CAM), of controlling costs. A recent survey by the Employers Health

Coalition, Inc., in Tampa, Florida, found two of the five most prevalent diseases in the workplace are Neck/Upper Back/Spine and Lower Back/Sciatica, which annually account for an estimated 277 lost work days per 1,000 employees. Research has shown that chiropractic treatments are highly effective for both of these illnesses and result in fewer lost work days than alternative pharmaceutical or surgery treatments. The Coalition also found that more workers sought help from CAM providers than traditional medicine providers and rated the effectiveness of their CAM providers very high for relevant illnesses.

It needs to be fully understood that the current cost of a health care crisis is a major crisis. Much discussion is already taking place regarding the movement of businesses toward defined contribution health benefits for employees and away from the current prevalent practice of defined benefits. This movement, if it occurs, would shift more of the costs to employees and would, no doubt, result in a major increase in the number of uninsured families, further accelerating the nation's cost of a health care crisis.

8.6 Need for More Research on Lower-Cost Health Care Treatments

The solution to the nation's cost of health care will require a wide range of actions, including significantly expanding the supply of allopathic and osteopathic physicians, chiropractors, nurses, and other health care workers.

One critically important solution is to find lower-cost ways of keeping people healthy and of treating their illnesses when they occur. To this end, Florida and the nation desperately need extensive research on the effectiveness of lower-cost nondrug, nonsurgery treatments that will keep people healthy longer and will heal their illnesses when they occur. Sufficient research already exists to prove that treatments such as nutrition, nutrition supplements, chiropractic, acupuncture, exercise, physical therapy,

and lifestyle changes are highly effective in both preventing and curing a significant number of potential illnesses and conditions. In spite of the fact that huge financial rewards do not exist for the discovery of low-cost nondrug, nonsurgery treatments, the nation's people and businesses desperately need research in these lower-cost health treatment areas. Because of the lack of big financial rewards, private companies are not likely to invest in such research. Thus, the responsibility falls on governments and universities. A new chiropractic school at a major public graduate research university can make major contributions to reducing the projected spiraling health care costs by researching the lower-cost alternatives to pharmaceutical and surgery treatments.

8.7 Future Availability of Funds for Chiropractic Research

If the nation's pharmaceutical companies, medical research companies, medical equipment companies, and medical schools have no major economic incentives to conduct nondrug, nonsurgical research projects, then what will be the source of research funds for that type of research in the future? The answer lies in the fact that some new players, as well as old players, with their own vested interests, are becoming influential in the allocation of health research dollars.

Perhaps the most influential group is the American consumer, who is now spending an estimated \$30 billion per year on complementary and alternative medicine, including an estimated \$8 billion on chiropractic care. A \$30 billion per year, and growing, market creates an economic incentive for private companies to develop new products and services for that market. As a result, more CAM private companies now have sufficient resources to fund CAM research in their fields of economic interest.

Further, consumers are supporting more national health interest organizations, such as the Center for Science in the Public Interest in Washington, D.C., that are demanding that more public funds be allocated to CAM research.

Additionally, the huge growth in consumer health interests and knowledge is forcing food interest groups (e.g., milk producers, egg producers, beef producers) to conduct research to both defend and promote the effects of their products on health. The U.S. Department of Agriculture has, of course, funded nutrition-related research for years and continues to do so.

The emergence of CAM as an important contributor to the health of the nation, combined with the cessation of the organized campaign by the AMA against chiropractic and other CAM treatments, has led to the creation of the National Center for Complementary and Alternative Medicine by the National Institutes of Health (NIH). The center has received a \$50 million appropriation from Congress for research, of which \$5 million was awarded for the establishment of the Consortial Center for Chiropractic Research at the Palmer Center for Chiropractic Research in Davenport, Iowa. The remaining \$45 million is being allocated to a wide range of CAM research projects, including grants for chiropractic research. Additionally, and perhaps more important, NIH has, for the first time, added a chiropractor to its program staff and has appointed D.C.s to several of its advisory committees. Thus, for the first time in history, chiropractors will be in a position, as allopathic physicians have been for the past century, to influence the allocation of federal research dollars.

Beyond the NIH grant funds for chiropractic research, other current funding sources for chiropractic research include:

- ***The Foundation for the Advancement of Chiropractic Education:*** In 1981, Dr. William Harris, a chiropractor in private practice, established the Foundation for the Advancement of

Chiropractic Education (FACE), a not-for-profit organization that has contributed over \$3 million dollars to chiropractic research. In addition to funding research projects, FACE has provided funds to build research infrastructure at several chiropractic colleges and has contributed large sums to support research through the Foundation for Chiropractic Education and Research and the National Institute of Chiropractic Research.

- **Foundation for Chiropractic Education and Research:** The Foundation for Chiropractic Education and Research (FCER), established in 1967, had become the largest organization funding chiropractic research by 1992 (Keating, 1992). In 1990 the annual budget of FCER was about \$2 million (Keating, 1990). Between 1990 and 1995, FCER has independently or jointly awarded approximately \$3.7 million to more than 25 projects. During this time period, FCER has also awarded educational grants totaling \$227,000 to 34 individuals, fulfilling one part of their mission (Peterson, 1995). The projects funded by FCER include a national study of the use of chiropractic services and evaluations of the effect of chiropractic care on back and neck problems, headaches, idiopathic scoliosis, asthma, dysmenorrhea, hypertension, and colic.
- **National Chiropractic Mutual Insurance Company:** The National Chiropractic Mutual Insurance Company (NCMIC) and FCER have cofunded more than 14 studies of the effect of chiropractic care on clinical problems such as dysmenorrhea, carpal tunnel syndrome, hypertension, and otitis media. Other jointly-funded projects include studies of the role of chiropractors as primary gatekeepers and analysis of referral patterns. They have also funded an effort to develop plans for an infrastructure to support a multidisciplinary practice-based research network. In total, FCER and NCMIC have jointly awarded almost \$2 million in grants. On its own, NCMIC has awarded a grant to study the complications of chiropractic.
- **Lincoln College Education and Research Fund, Inc.:** A nonprofit corporation dedicated to the advancement of chiropractic science, the Lincoln College Education and Research Fund, Inc. (LCERF) was established in 1979. Funding research and educational pursuits, it has donated over \$250,000 toward establishing an eminent scholar chair at Florida State University in the College of Human Sciences. The LCERF has also funded various scholarships.
- **National Institute of Chiropractic Research:** The National Institute of Chiropractic Research (NICR) was established in 1987 as a nonprofit corporation that conducts and supports chiropractic research (CCR, 1995). Founded by Dr. Arlan Fuhr, a chiropractor in private practice, the NICR is the only organization with an ongoing grant mechanism to fund chiropractic historical research. The NICR

has awarded over \$325,000 to projects studying kinematics assessments of vertebral subluxation adjustments and leg length inequalities, cervical function measures, and others. The NICR has also supported research education and has jointly funded three studies with the FACE. Totalling almost \$400,000, these studies have addressed kinematics methods to assess neck injury, biomechanics of the human spine, and outcome measures for cervical spine patients.

- **The Agency for Healthcare Policy and Research:** In 1993, the federal Agency for Healthcare Policy and Research (AHCPR) awarded \$980,000 to Group Health Cooperative of Puget Sound for a randomized trial comparing chiropractic, McKenzie physical therapy, and an educational booklet for low back problems. More recently, the AHCPR awarded UCLA \$1.8 million to compare chiropractic, physical therapy, and usual medical care for low back pain. This project has involved collaboration with the Los Angeles College of Chiropractic. The AHCPR also awarded a grant to the University of North Carolina to compare the costs and outcomes of the care for low back pain provided by primary care physicians, orthopedic surgeons, and chiropractors (Carey, 1995).
- **The Health Resource and Services Agency:** The Health Resource and Services Agency (HRSA) funded three projects studying biomechanics of flexion-distraction therapy, manual therapy in the management of low back pain syndromes with myofascial and articular dysfunction, and low back pain practice activities and patient outcomes. These projects totaled over \$2 million. In addition, HRSA has continued to fund direct projects annually to chiropractic colleges in partnership with medical doctors, and has supplied continuing funding for development of the Research Agenda for Chiropractic workshops. A D.C. was recently hired to serve a consultant and program officer for the agency's chiropractic and alternative medicine programs.
- **The Veterans Administration:** The Veterans Administration (VA) awarded a contract for the study of the biomechanics of cervical diagnostic maneuvers to National College of Chiropractic in the 1980s.

8.8 Research Capacity of Existing Chiropractic Schools

Because of the historical lack of funding of chiropractic research, the research capacity of the existing chiropractic schools is very small. Unfortunately, because of changes in accounting practices, the latest IPEDS data available on the annual research

expenditures by the nation's 16 chiropractic schools is for 1995. The 1995 data shows that the total amount of funds spent on research by the chiropractic schools was only slightly over \$5 million, as shown in Exhibit 8-1. The largest expenditures were, in 1995, at the Los Angeles College of Chiropractic (\$842,230) and Palmer College of Chiropractic at Davenport (\$840,153).

As indicated earlier, current estimates are that the annual expenditures on chiropractic research has increased from about \$5 million in 1995 to \$13 million in 1999. Even at \$13 million per year, the average annual expenditures per chiropractic college is less than \$1 million. Thus, the current research capacity of the nation's chiropractic colleges is severely limited vis-à-vis the capacity for allopathic research in the nation's medical schools.

8.9 Palmer Center for Chiropractic Research

One of the nation's leading chiropractic research programs is located at the Palmer Center for Chiropractic Research in Davenport, Iowa. The center is directed by Dr. William Meeks, a nationally recognized chiropractic researcher. Research projects at Palmer include Chiropractic Practice-Based Research, Technique and Technology Assessment, Clinical Trials and Outcomes, Education Research, Experimental Biomechanics and Neurosciences, and Health Services and Policy Research. In addition, active projects are under way in the Office of Interdisciplinary and Collaborative Programs. Currently, Palmer has an annual budget of about \$3 million.

**EXHIBIT 8-1
RESEARCH EXPENDITURES
U.S. CHIROPRACTIC INSTITUTIONS
1995-96**

INSTITUTION	RESEARCH EXPENDITURES		
	UNRESTRICTED	RESTRICTED	TOTAL
Cleveland Chiropractic College Kansas City, MO	144,613	0	144,613
Cleveland Chiropractic College Los Angeles, CA	51,356	0	51,356
Life Chiropractic College-West San Lorenzo, CA	189,337	49,381	238,718
Life University Marietta, GA	446,891	0	446,891
Logan College of Chiropractic Chesterfield, MO	141,109	35,242	176,351
Los Angeles College of Chiropractic Whittier, CA	449,039	393,191	842,230
National College of Chiropractic Lombard, IL	224,670	287,283	511,953
New York Chiropractic College Seneca Falls, NY	268,584	0	268,584
Northwestern College of Chiropractic Bloomington, MN	386,156	0	386,156
Palmer College of Chiropractic-West San Jose, CA	225,750	57,540	283,290
Palmer College of Chiropractic Davenport, IA	626,739	213,414	840,153
Parker College of Chiropractic Dallas, TX	127,148	0	127,148
Sherman College of Straight Chiropractic Spartanburg, SC	37,998	0	37,998
Texas Chiropractic College Pasadena, TX	118,894	0	118,894
University of Bridgeport Bridgeport, CT	4,465	61,455	65,920
Western States Chiropractic College Portland, OR	201,411	330,415	531,826
Total, Chiropractic Institutions United States	3,644,160	1,427,921	5,072,081

Source: 1995-96 IPEDS Finance Survey.

8.10 Consortial Center for Chiropractic Research

The Palmer Center for Chiropractic Research also houses the Consortial Center for Chiropractic Research established by the National Institutes of Health (NIH). The Center was established and funded, in 1997, by the NIH Office of Alternative Medicine, more recently renamed the National Center for Complementary and Alternative Medicine through a cooperative agreement with the National Institutes of Arthritis, Musculoskeletal, and Skin Diseases. Faculty and staff are from Palmer College of Chiropractic, National College of Chiropractic, Western States Chiropractic College, the University of Iowa, and Kansas State University. The center is under the direction of William C. Meeker, D.C., MPH and investigators are funded to address the following specific aims:

- Establish linkage of academic centers and a network of chiropractic clinicians and investigators.
- Develop a program to provide clinical, scientific, and technical assistance to potential chiropractic investigators.
- Offer research workshops, seminars, and educational materials, including a substantial bibliographic resource on chiropractic topics.
- Act as an institutional focus for formal training in research methodology, bioethics, biostatistics, clinical trial design, epidemiological and health services studies, and basic laboratory methods.
- Link investigators to the technical expertise necessary to achieve research goals.
- Evaluate the feasibility of using data from practicing chiropractors for research projects.
- Develop a review mechanism for scientific and technical merit of research proposals and implement those selected.

8.11 Mostly Isolated University Research Programs

Because of the single focus of the nation's chiropractic schools on chiropractic education, most university chiropractic research is currently being conducted in a single discipline environment. Some notable exceptions exist where chiropractic schools are conducting joint research projects with other universities such as Northwestern Health Sciences University, the University of Minnesota, Southern California Health Sciences University, and the Universities of California at Los Angeles and Irvine. However, none of these institutions have a major concentration in chiropractic research.

The absence of a major chiropractic research program at a major university in a multidisciplinary patient care setting represents a major weakness in the current chiropractic research infrastructure. To date no current chiropractic research program in the nation exists within a large graduate research university with access to significant patient populations and multidisciplinary care options. Thus, existing chiropractic research programs lack both the breadth and depth of expertise available within most university research programs that offer experienced staff, a wide range of comparative treatment options, and extensive clinical infrastructures designed for data collection.

An optimal chiropractic research setting within a large university-based multidisciplinary environment might best include:

- a medical school;
- a nutrition program;
- an engineering school;
- a business school;
- a math department;
- a statistics department;
- a nursing school;
- rehabilitation and human performance programs;
- research ethics and human subjects research review expertise; and
- clinical environments that lend themselves to patient research.

The first U.S. graduate research university to establish such a program will have a fantastic opportunity to develop a meaningful and successful research program that has direct implications for improving the knowledge base and practice of chiropractic, and more important, contributing to improving the nation's health care system.

8.12 Lack of Chiropractic Research Education Programs

The historical lack of funding for chiropractic research has also resulted in the absence of any Ph.D. program in the nation to train chiropractic researchers. In the early years (e.g., prior to 1980), most chiropractic research was conducted by chiropractors trained as practitioners. As a result, some of the early research projects lacked the rigor normally associated with medical research. Today, much of the chiropractic research is being conducted by teams of professionals who have expertise in both chiropractic and other relevant fields.

Greater exposure to research expertise and the scientific/academic culture is needed in order to both stimulate research and evidence-based practice awareness in practitioners and offer opportunities for relevant training for chiropractic researchers in fields such as epidemiology, biostatistics, engineering, and biomechanics, among others. The availability of Masters and Doctoral level dual degree programs for chiropractors, as well as exposure to practical career tracts in science, is needed in order to enhance and build the chiropractic research infrastructure. Programs that offer career tracts in addition to chiropractic practice will provide meaningful amplification of chiropractic research through increased quality and quantity of chiropractic research. The availability of such research expertise directly impacts the development of the research infrastructure within chiropractic, but also improves provider skills, clinical interventions, and ultimately health care.

8.13 Research Dissemination: Chiropractic Research Journals

Adequate channels currently exist to communicate the results of chiropractic research to practitioners, educators, researchers, students, and the media. As shown in Exhibit 8-2, 14 peer-reviewed chiropractic journals are currently published in English. All are indexed in the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and the *Journal of Manipulative and Physiological Therapeutics* is also indexed in the National Library of Medicine's *Index Medicus*. The *Chiropractic Journal of Australia* is indexed in the Australian version of *Index Medicus*. There are also a number of chiropractic publications that are not peer reviewed. These include state and national association journals and various magazines, which emphasize the economic and political aspects of the chiropractic profession.

In addition to publishing the chiropractic journals, chiropractic scholars have published in journals such as the *Annals of Internal Medicine*, *Pain*, *The American Journal of Public Health*, *Spine*, *Clinical Biomechanics*, and *Health Services Research*. However, relatively little work of chiropractic researchers is published in journals read by scientists outside the profession. (Brennan, 1997) This is a recognized area where additional communication efforts are needed and where a chiropractic education program at a national graduate research university could make significant contributions.

8.14 Implications for a New Chiropractic School

The time is opportune for the establishment of a nationally recognized, high-quality chiropractic education and research program at a multidisciplinary graduate research university. The program is needed to:

- conduct chiropractic-related research in a multidisciplinary environment;

**EXHIBIT 8-2
CHIROPRACTIC SCHOLARLY AND RESEARCH JOURNALS**

Journal Name	Editor and Editorial Address	Publisher and Subscription Address
<i>Chiropractic History</i>	Russell W. Gibbons 207 Grand View Dr. So. Pittsburgh, PA 15215	Association for the History of Chiropractic 1000 Brady St. Davenport, IA 52803
<i>Journal of Sports Chiropractic and Rehabilitation</i>	Bart Green, D.C. Claire Johnson D.C. 90 Tasman Dr. San Jose, CA 95134	American Chiropractic Association Sports Council Subscriptions to Editors' Address
<i>Chiropractic Technique</i>	Dana Lawrence, D.C. 200 E. Roosevelt Rd. Lombard, IL 60148	National College of Chiropractic 200 E. Roosevelt Rd. Lombard, IL 60148
<i>European Journal of Chiropractic</i>	Simon M. Leyson, D.C. 16 Uplande Crescent Swansea SA1 0PB United Kingdom	Blackwell Scientific Publication Ltd. Oxford at Osney Mead Oxford OX2 OEL United Kingdom
<i>Journal of Chiropractic Education</i>	Reed B. Phillips, D.C. Los Angeles College of Chiropractic 16200 East Amber Valley Drive Whittier, CA 90609	Association of Chiropractic Colleges Subscriptions to Editor's Address
<i>Chiropractic Journal of Australia</i>	Mary Ann Chance, D.C. Rolf Peters, D.C. P.O. Box 748 Wagga Wagga 2650 NSW	Australian Chiropractor's Assoc. Subscriptions to Editor's Address
<i>Journal of the Canadian Chiropractic Association</i>	Alan Gotlib, D.C. (see publisher address)	Canadian Chiropractic Association 1396 Eglinton Ave. West Toronto, Ontario M6C 2E4
<i>Journal of Manipulative and Physiological Therapeutics</i>	Dana Lawrence, D.C. 200 E Roosevelt Rd. Lombard, IL 60148	Mosby 11830 Westline Industrial Drive St. Louis, MO 63146
<i>Journal of the Neuromusculoskeletal System</i>	William C. Meeker, D.C. Palmer Center for Chiropractic Research 751 Brady Street Davenport, IA 52803	Data Trace Chiropractic Publishers P.O. Box 1239 Baltimore, MD 21022
<i>Topics in Clinical Chiropractic</i>	Robert D. Mootz, D.C. Department of Labor and Industries P.O. Box 44321 Olympia, WA 98504	Aspen Publishers, Inc. 7201 McKinney Circle P.O. Box 990 Frederick, MD 21701
<i>Chiropractic Research Journal</i>	Sarah Webster, D.C. Chiropractic Research Journal 1269 Barclay Circle Marietta, GA 30060	Life Chiropractic College 1269 Barclay Circle Marietta, GA 30060
<i>Journal of Chiropractic Humanities</i>	Dana Lawrence, D.C. 200 E. Roosevelt Rd. Lombard, IL 60148	National College of Chiropractic On-Line Journal
<i>Journal of Vertebral Subjuxation Research</i>	Mathew McCoy, D.C. Life Chiropractic College 1269 Barclay Circle Marietta, GA 30060	World Chiropractic Alliance 2950 N. Dobson Rd., Suite 1 Chandler, AZ 85224
<i>Topics in Diagnostic Radiology and Advanced Imaging</i>	John Stites, D.C	ACA Council on Diagnostic Imaging P.O. Box 25 Palatine, IL 60078

- provide the quantity and quality of research necessary to fully identify the nondrug, nonsurgery health practices that will both prevent and cure illnesses; and
- provide both Doctor of Chiropractic and Chiropractic-related Ph.D. programs that will supply the teachers and researchers needed by the nation's chiropractic schools.

The first public graduate research university in the nation to establish a strong, research-based chiropractic education program will, from the very beginning, have the opportunity to become a national leader in this critically important health care field. The ability to establish programs that both meet the needs for the public good and offer a viable, supportable institutional program that adds to rather than draws from existing university programs makes this aspect particularly attractive.

8.15 References

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**9.0 FLORIDA'S NEED FOR
CHIROPRACTIC EDUCATION**

9.0 FLORIDA'S NEED FOR CHIROPRACTIC EDUCATION

Because of Florida's rapidly growing population, the rapid aging of its population, the increased financial means of its citizens to buy health care services, the explosion in health care technology, the rapidly escalating costs of pharmaceuticals, and rapid growth in access to health care information, the demand for health care services in Florida is exploding. A conservative estimate is that the amount of money spent on health care in Florida will increase from \$40.2 billion in 1996 to \$91.5 billion in 2005, a 130 percent increase (MGT, 1999).

9.1 Florida's Need for Health Care Workers

The high surge in the demand for health care services will require a comparable surge in the number of health care workers, in all professions. The Florida Department of Labor and Employment Security has estimated that 8 of the top 15 fastest growing occupations in Florida between 1996 and 2006 will be health care occupations as shown in Exhibit 9-1. In terms of absolute growth, the Department has estimated that the total number of additional health care workers needed in Florida in selected occupations will grow from 344,899 in 1997 to 463,092 in 2007, as shown in Exhibit 9-2. Unfortunately, the state is not producing anywhere near the number of health care workers needed. Florida is almost totally dependent on other states and nations to educate its allopathic and osteopathic physicians, and because of its rapidly growing and aging population is facing a major shortage in those physicians. Similarly, the state has a major shortage in nurses that is already forcing many of the state's hospitals to reduce the supply of hospital services, and in some cases eliminate services altogether.

**EXHIBIT 9-1
PROJECTED TOP 15 FASTEST GROWING OCCUPATIONS
IN FLORIDA 1996 TO 2006**

OCCUPATION ¹	EMPLOYEES 1996	EMPLOYEES 2006	PERCENT GROWTH
Systems Analyst	20,535	39,591	92.80 %
Computer Support Specialist	4,113	7,731	87.96
Physical, Corrective Therapy Assistant	4,637	8,634	86.20
Computer Engineer	9,237	16,631	80.05
Home Health Aide	28,989	52,171	79.97
Medical Assistant	14,347	25,189	75.57
Physical Therapist	6,823	11,542	69.16
Emergency Medical Technician	7,965	13,398	68.21
Paralegal	6,602	11,081	67.84
Respiratory Therapist	6,441	10,517	63.28
Medical Records Technician	5,949	9,556	60.63
Personal Home Care Aide	4,506	7,151	58.70
Radiologic Technologist	4,693	7,346	56.53
Adjustment Clerk	21,863	33,962	55.34
Amusement and Recreation Attendant	15,882	24,001	51.12

¹ Health-related occupations are shaded.

**EXHIBIT 9-2
PROJECTED EMPLOYMENT IN SELECTED HEALTH CARE OCCUPATIONS
1997 BASE YEAR AND 2007 PROJECTED EMPLOYMENT**

OCCUPATION TITLE	EMPLOYMENT		Increased Number Employers	AVERAGE ANNUAL OPENINGS		
	Base Year 1997	Projected 2007		Due to Growth	Due to Separations	Total
Physician	36,572	46,925	10,353	1,035	571	1,606
Dentist	8,336	8,735	399	40	169	209
Optometrist	834	1,001	167	17	17	34
Podiatrist	950	1,182	232	23	20	43
Chiropractor	3,248	4,401	1,153	115	67	182
Veterinarian, Veterinary Inspector	4,468	6,058	1,590	159	92	251
All Other Health Diagnosing Occupations	405	584	179	18	8	26
Respiratory Therapist	5,071	8,218	3,147	315	76	391
Occupational Therapist	4,375	6,266	1,891	189	66	255
Physical Therapist	7,745	11,277	3,532	353	116	469
Corrective and Manual Arts Therapist	112	148	36	4	2	6
Speech Pathologist, Audiologist	4,526	6,208	1,682	168	68	236
Recreational Therapist	1,896	2,334	438	44	28	72
All Other Therapists 1146	1,146	1,832	686	69	17	86
Registered Nurse	116,027	155,654	39,627	3,963	1,915	5,878
Licensed Practical Nurse	41,106	55,834	14,728	1,473	891	2,364
Emergency Medical Technician	6,801	8,976	2,175	218	168	386
Physician Assistant	4,776	6,920	2,144	214	80	294
Optician, Dispensing and Measuring	2,958	4,040	1,082	108	37	145
Pharmacist	10,369	12,187	1,818	182	284	466
Pharmacy Technician	6,314	7,786	1,472	147	156	303
Dietitian and Nutritionist	2,669	3,394	725	73	54	127
Dietetic Technician	693	918	225	23	14	37
Medical/Clinical Laboratory Technologist	8,954	10,998	2,044	204	114	318
Medical/Clinical Laboratory Technician	7,458	9,797	2,339	234	95	329
Dental Hygienist	7,718	11,021	3,303	330	173	503
Medical Records Technician	6,389	9,032	2,643	264	158	422
Radiation Therapist	836	1,106	270	27	13	40
Nuclear Medicine Technologist	964	1,237	273	27	13	40
Radiologic Technician	8,860	11,954	3,094	309	123	432
EEG Technologist	370	454	84	8	9	17
Cardiology Technologist	1,472	2,369	897	90	36	126
EKG Technician	957	904	-53	-5	24	24
Surgical Technician	3,414	4,968	1,554	155	84	239
Psychiatric Technician	4,478	5,455	977	98	62	160
Veterinary Technician and Technologist	3,172	3,965	793	79	72	151
All Other Health Prof., Paraprof., Tech.	18,460	28,954	10,494	1,049	457	1,506
TOTAL	344,899	463,092	118,193	11,819	6,349	18,173

Source: Florida Department of Labor and Employment Security, Office of Labor Market Statistics (2000). Florida Industry and Occupational Employment Projections to 2007 [W W W document proj.pdf] URL: <http://lmi.floridajobs.org/oes-proj/oes.htm>

9.2 Florida's Need For Chiropractors

The state's need for chiropractors is just as severe as for other health care workers. As shown in Exhibit 9-2, the Florida Department of Labor estimates that Florida will need to add 1,153 new chiropractors between 1997 and 2007. When replacements for those chiropractors leaving active practice each year are included, the Department of Labor estimates that the state will need at least 182 new chiropractors per year. Beyond 2007, the number of new Florida chiropractors needed each year will expand significantly because of the growth in Florida's population as well as the aging of the population.

9.3 Florida's Chiropractors

To ascertain information about Florida's current chiropractors, we sent a mail survey to all active chiropractors in the state with Florida addresses and received 1,458 completed surveys for a response rate of 40 percent. The survey revealed the following information.

- Florida's chiropractic profession is dominated by males, with only 16 percent being females.
- Florida's chiropractic profession is also dominated by white Caucasians (93 percent) with only 1 percent African American, 4 percent Hispanic, 1 percent Asian/Pacific Islander, 1 percent Native American, and 1 percent other;
- Florida's chiropractors are for the most part young with:
 - 21% between 25 and 34 years old
 - 36% between 35 and 44 years old
 - 30% between 45 and 54 years old
 - 10% between 55 and 64 years old
 - 3% between 65 and 74 years old
 - 1% 75 or older.
- Most (59 percent) of Florida's chiropractors currently practice in a solo practice; another 24 percent are self-employed in a group

partnership practice; 9 percent are employed by other D.C.s and the remaining 8 percent are in other settings.

- On the average, Florida's chiropractors treat 117 patients per chiropractor per week.
- The majority (59 percent) of patients are female
- Florida's chiropractors treat people of all ages as follows:

Under Age 16	7%
16-35	22%
36-55	38%
56-65	19%
66-75	12%
76-85	5%
Over Age 85	2%
Total	100%

- In spite of the fact that only 7 percent of Florida's chiropractors are minorities, 25 percent of the chiropractic patients are minorities.
- Chiropractors routinely refer patients to other health care providers, reporting that approximately 22 percent of their patients are referred.
- However, only 11 percent of the patients treated by chiropractors are referred to them by other health care providers.
- The total annual gross revenue (before expenses) per chiropractor ranges from less than \$50,000 (for part-time chiropractors to over \$300,000 as follows:

Gross Annual Revenue	% of Chiropractors
< \$50,000	11%
\$50,000 - \$100,000	14%
\$100,000 - \$150,000	13%
\$150,000 - \$200,000	11%
\$200,000 - \$250,000	10%
\$250,000 - \$300,000	6%
>\$300,000	25%
TOTAL	100%

- A majority (59 percent) of Florida's chiropractors are associated with one or more managed health care plans.
- Most of Florida's chiropractors treat patients in their own offices. Only 2 percent have hospital privileges.

- The dominant institution training Florida's chiropractors is Life University in Atlanta, Georgia. The reported institutions where Florida's chiropractors received their D.C.s are:

Life University	35%
Palmer College	15%
National College	12%
Logan College	9%
New York	8%
Texas	3%
Other	18%
TOTAL	100%

- Most (73 percent) of the responding chiropractors are members of the Florida Chiropractic Association (FCA); another 11 percent are members of the Florida Chiropractic Society; and 13 percent belong to neither.
- Most (79 percent) of the state's chiropractors operate general chiropractic practices. However, 16 percent specialize in the following specialties:

Specialty	% of Florida's Chiropractors
Neurology	3%
Orthopedist	3%
Rehabilitation, Sports	2%

- The allegation that chiropractors keep patients coming back for office visits over prolonged periods of time appears not to be true. Over half of the consumers reported fewer than 10 visits over a period of three years, with almost 36 percent reporting only one to three visits over a three-year period. The mean number of visits reported by consumers was 7.5 times over a three-year period or an average of 2.5 visits per patient per year.

Number of Visits Over Past 3 years	Percent of Respondents N=227	Cumulative Percent
1-3	35.7%	35.7%
4-5	12.9%	48.6%
6-10	6.1%	54.7%
11-20	17.5%	72.2%
21-50	18.2%	90.4%
51-100	7.3%	97.7%
>100	2.3%	100.0%

- The primary reasons that Floridians seek chiropractic care is for back problems (52.4 percent) and head/neck ailments (20.7%).

Reason	% of Respondents N=227
General Checkup	1.8%
Routine Medical Care	2.6%
Improved Wellness	.9%
Back Problems	52.4%
Head/Neck Ailments	20.7%
Headaches	3.5%
Extremities (Arms, Legs, Feet, Hands)	5.3%
Massage Therapy	.4%

- 42 percent of Florida's chiropractors disagreed with the statement, "There are not enough chiropractors in Florida to meet the future health care needs of residents."
- However, only 16 percent disagreed with the statement, "Chiropractic needs of residents living in rural areas of Florida are underserved."
- Further, only 27 percent disagreed with the statement, "Chiropractic needs of the elderly in Florida are undeserved."
- Only 15 percent disagreed with the statement "There is a growing interest among Florida students to pursue a chiropractic degree program."
- Almost 80 percent of the chiropractors agreed with the statement, "A new chiropractic school located in Florida would attract more Floridians into the profession."
- 71 percent of those responding are in favor of the State of Florida's offering the Doctor of Chiropractic (D.C.) degree as part of the State University System's Professional degree programs.

A complete set of survey responses is included in Appendix B.

9.4 Chiropractic Can Contribute to Controlling Health Care Costs

As presented in Chapter 8.0 earlier, Florida and the nation face a spiraling increase in the costs of health care in future years in spite of the fact that the U.S. already spends about 14 percent of its Gross National Product (almost double that of

other developed nations) on health care. Some current projections are that health care cost increases may be as high as 10 to 15 percent per year over the next decade. Already, the cost of health insurance for a family runs as high as \$1,200 per month (almost half of the estimated average household income in the state). Clearly, Florida faces a cost of health care crisis as the cost of health care escalates beyond the means of more and more of the state's families.

The state and its people must attack this problem from all angles. One desperately needed attack is to produce an adequate number of health care workers in all professions to prevent escalating personnel costs caused by personnel shortages.

Another attack is to utilize more cost-effective health maintenance care and disease treatments. To this end, more and more Americans are turning to the less expensive and proven complementary and alternative medicine (CAM) techniques, such as chiropractic care, acupuncture, nutrition, nutrition supplements, exercise, lifestyle changes, and physical therapy. Chiropractic, in its broadest form, embodies almost all of the CAM alternatives, and in so doing offers the state a ready-made avenue for reducing the projected escalation in health care costs. Florida already authorizes chiropractors to practice primary health care in that consumers can enter the state's health care system by first going to a chiropractor (Sections 641.19, 409.908, 409.9122, and 456.056, F. S.). By assuring that consumers have access to a conservative low-cost health care option, many health care concerns can be addressed without high utilization of more expensive diagnostic, pharmaceutical, and surgical options. Resource savings can then be directed to those patients with conditions for which drugs and surgery are more appropriate.

For economic reasons, arguments may be made by allopathic physicians that chiropractors are not adequately trained to diagnose illnesses, and therefore may

damage patients. That allegation is simply not true, except in isolated incidents similar to isolated incidents where a few allopathic physicians do not adequately diagnose and treat illnesses. Chiropractors are fully trained to diagnose patients and make appropriate referrals into the health care system. Further, chiropractors in Florida have been serving as the point of entry for patients since 1993, and no evidence has evolved showing that they have failed to execute that responsibility effectively.

Because of Florida's demographics, the state now faces the health care problems that the rest of the nation will be facing later in this decade. Accordingly, the rest of the nation is looking to Florida for leadership in addressing the issue of how to control spiraling costs of health care and at the same time provide quality health care to its people. The crisis is already present in Florida, and requires that the state tackle the problem head on or suffer the consequences. The state must take those bold actions necessary to control costs or stand by to see health care priced beyond the means of many of its citizens. The actions needed are many. One of those actions, however, is the restructuring of the health care industry to enable patients to obtain lower-cost, complementary and alternative medical services where proven effective, by providing more alternative health care providers, ensuring that those providers are fully capable of delivering quality services, and broadening the care that those lower cost providers can deliver.

Chiropractors already have the required training and skills, along with a proven record of success and the statutory scope of practice to provide the state's citizens with a high-quality, lower-cost point of entry into the state's health care system for relevant illnesses. Thus, an expanded chiropractic delivery system offers a significant part of the solution to controlling the state's spiraling costs of health care.

9.5 Distribution of Chiropractors in Florida

The lower-cost nondrug, nonsurgical care of chiropractors, as a first line attack on relevant illnesses, is not evenly available to Floridians. As can be seen in Exhibit 9-4, the number of chiropractors per 100,000 population ranges from almost 51 in Sarasota County to zero in seven counties. Fifty-one of Florida's counties have fewer than the estimated U.S. average of 23 chiropractors per 100,000 population. Thus, many more chiropractors are needed to fulfill the needs of consumers located in these underserved counties, many of which are rural.

9.6 Chiropractic Educational Opportunities for Florida's Students

The State University System of Florida (SUSOF) provides educational programs for Florida's students in all professional programs requiring graduate training except chiropractic. Thus, the 200 to 300 Florida students choosing a career as a chiropractor each year must go out of state to a private school and pay tuition and fees ranging from \$8,000 to \$15,000 per year, compared to the approximately \$3,800 per year that Florida's public universities charge for other master, Ph.D., and first professional degree programs.

Many of Florida's students enroll in the chiropractic degree program at Life University in Atlanta, where the Life graduates have had difficulty in passing Florida's licensing requirements. (See Exhibit 9-5). The only other close chiropractic school for Florida students is the Sherman College of Straight Chiropractic in South Carolina, which teaches a very narrow chiropractic philosophy inconsistent with the authorized scope of practice of Florida Chiropractors.

**EXHIBIT 9-4
CHIROPRACTIC PER 100,000 POPULATION
BY FLORIDA COUNTY, 2000**

COUNTY	POPULATION ¹	ACTIVE CHIROPRACTORS ²	CHIROPRACTORS PER 100000 POPULATION ³
Sarasota	316,023	160	50.63
Martin	119,370	55	46.08
Palm Beach	1,020,521	451	44.19
Broward	1,460,890	580	39.70
Pinellas	892,178	316	35.42
Lee	405,637	128	31.56
Collier	210,095	62	29.51
Highlands	80,458	22	27.34
St. Lucie	183,222	48	26.20
Indian River	106,690	27	25.31
Volusia	420,431	105	24.97
Brevard	465,825	115	24.69
Monroe	85,646	21	24.52
Marion	242,357	59	24.34
Alachua	211,403	51	24.12
Seminole	345,166	81	23.47
Pasco	321,074	73	22.74
Hillsborough	942,322	205	21.75
Manatee	247,028	53	21.46
St. Johns	109,894	23	20.93
Osceola	148,712	31	20.85
Orange	824,095	165	20.02
Lake	196,073	38	19.38
Citrus	112,424	21	18.68
Franklin	10,739	2	18.62
Hernando	125,008	23	18.40
Nassau	54,538	10	18.34
Bay	147,496	26	17.63
Escambia	296,164	50	16.88
Hendry	30,364	5	16.47
Polk	465,858	75	16.10
Okaloosa	175,568	28	15.95
Dade	2,090,314	333	15.93
Walton	38,304	6	15.66
Clay	134,534	21	15.61
Leon	233,232	36	15.44
Levy	32,416	5	15.42
Gilchrist	13,140	2	15.22
Wakulla	19,828	3	15.13
Charlotte	133,655	20	14.96
Suwannee	33,746	5	14.82
Calhoun	13,572	2	14.74
De Soto	27,927	4	14.32
Okeechobee	35,059	5	14.26
Duval	753,823	107	14.19
Columbia	55,368	7	12.64
Santa Rosa	107,814	13	12.06
Flagler	43,441	5	11.51

estimated U.S.
average of 23.00

**EXHIBIT 9-4 (Continued)
CHIROPRACTIC PER 100,000 POPULATION
BY FLORIDA COUNTY, 2000**

COUNTY	POPULATION ¹	ACTIVE CHIROPRACTORS ²	CHIROPRACTORS PER 100000 POPULATION ³
Taylor	19,527	2	10.24
Baker	21,131	2	9.46
Washington	21,319	2	9.38
Hardee	22,801	2	8.77
Putnam	71,454	6	8.40
Bradford	25,355	2	7.89
Gadsden	50,820	4	7.87
Hamilton	14,120	1	7.08
Sumter	47,907	3	6.26
Jackson	49,670	3	6.04
Holmes	17,949	1	5.57
Madison	19,277	1	5.19
Dixie	13,196	0	0.00
Glades	9,875	0	0.00
Gulf	14,260	0	0.00
Jefferson	14,207	0	0.00
Lafayette	6,998	0	0.00
Liberty	7,708	0	0.00
Union	13,459	0	0.00
TOTAL	15,000,475	3,712	
WEIGHTED AVERAGE			24.75
ARITHMETIC MEAN			16.87

¹ Population estimates for 1999. Source: 1999 Florida Statistical Abstract (1999). Table 1.31. Counties and cities: Census counts, April 1, 1999 in the state, counties, and municipalities of Florida.

² Number of active, licensed resident chiropractors in Florida. Source: License Data Center (August 8, 2000). File on licensed chiropractors in Florida. (File name: 20000210.txt). Florida Department of Health.

³ Calculated as follows: result of dividing "Active Chiropractors" by county population per 100,000 population.

**EXHIBIT 9-5
PASS RATES FOR FIRST-TIME TEST TAKERS ON THE
FLORIDA CHIROPRACTIC LICENSING EXAMINATION ¹**

EXAM DATE	6/97	11/97	5/98	11/98	5/99	11/99
COLLEGE						
Life	61% (123)	78% (81)	76% (132)	21% (32)	33% (39)	57% (96)
Palmer	56% (16)	56% (9)	69% (16)	N.A. ²	N.A.	100% (3)
New York	69% (16)	75% (4)	75% (8)	100% (4)	80% (5)	88% (8)
Parker	63% (8)	60% (5)	82% (17)	33% (3)	33% (3)	64% (11)
National	54% (13)	100% (2)	80% (10)	50% (4)	50% (4)	33% (9)
Logan	62% (13)	67% (9)	70% (10)	50% (2)	50% (2)	73% (11)

¹ Numbers of individuals indicated in parentheses.

² N.A. indicates no test takers from college during that test administration.

Source: A Study for the Need for and Feasibility of a Chiropractic College at Florida State University, February 1, 2000.

Further, neither Life University nor Sherman has any substantive chiropractic or CAM research programs. Although Life publishes the *Chiropractic Research Journal*, it is an irregular publication that offers mostly commentary and case reports. Florida students in those institutions are effectively trained in a nonresearch environment without adequate development of critical appraisal skills.

Florida students not choosing either Life University or Sherman must travel long distances to New York, Texas, Iowa, California, or other far away states to obtain a Doctorate of Chiropractic degree. Again, tuition costs are high, placing Floridians interested in pursuing chiropractic training at a disadvantage compared to those seeking other career options. Further, higher private tuition costs are a disincentive to those students of lesser means. As pointed out earlier, the proportion of D.C.s who are minorities is much lower than both chiropractic patient populations and the community populations where chiropractors live and work. Publicly funded training can help offset this discrepancy.

As pointed out in a separate report, the lack of a Florida chiropractic school in a public university with its lower tuition and fees poses special problems for Florida's minority students who, on the average, have lower family incomes. As a result, only 1 percent of Florida's chiropractors are African American, and only 4 percent are Hispanic, while 25 percent of the state's chiropractic patients are minorities. Thus, the absence of a Florida chiropractic program at a public university is effectively denying this very attractive career to the state's minority students.

9.7 Contributions Go Beyond Providing Educational Opportunities for Florida Students

Although meeting the chiropractic educational needs of Florida's students, especially minority students not now being served in any way, is important, the contributions that a chiropractic school at a major public graduate research university can make go far beyond just educating students.

A new chiropractic school at Florida state university will:

- provide the same in-state opportunity for Florida's chiropractic students as is currently provided to Florida students in all other professions;
- provide the same low tuition and fee levels for chiropractic students as currently provided to Florida students in other professions;
- enable Florida's minority students to enter the chiropractic profession on a more equitable basis;
- establish the first chiropractic education and research program in the nation at a major graduate research university in a multidiscipline environment;
- establish the first chiropractic postgraduate degree program in the nation to train chiropractic researchers;
- contribute significantly to controlling future spiraling health care costs by both researching lower cost nondrug, nonsurgery health care treatments and by producing highly qualified chiropractors who can deliver the lower cost nondrug, nonsurgical health treatments to Florida's citizens;
- contribute significantly to the basic knowledge of health care by researching the effectiveness of a broad range of chiropractic and other CAM health care treatments; and
- contribute significantly to Florida's economy both by being the first in the nation to build a strong chiropractic, and other CAM, research program that will attract millions of research dollars to Florida and by producing highly educated chiropractors to build Florida's health care industry.

9.8 Implications for a New Chiropractic School

A new chiropractic school at Florida State University must concentrate on:

- fully meeting the chiropractic education needs of Florida's students;
- creating special programs to attract and train more minority students;
- fully train students to serve as chiropractic providers with highly competent diagnostic skills, so that the lower cost nondrug, nonsurgical treatments can become the state's first line of attack on relevant illnesses, saving more expensive pharmaceutical and/or surgical treatments for the more severe conditions;
- provide chiropractic students with a full array of nondrug, nonsurgical treatment skills, so that they can more fully meet the needs of patients in Florida;
- develop postgraduate degree programs that will train both chiropractic researchers and teachers for the nation's private chiropractic colleges and research institutes;
- establish a strong CAM research program capable of attracting large research grants from the National Institutes of Health, Agency for Healthcare Research and Quality, the Health Resources Services Administration, National Science Foundation, as well as other foundations and private companies; and
- incorporate other university disciplines (e.g., engineering, biology, physics, chemistry, nutrition, movement sciences, statistics, business, economics, psychology nursing, medicine) into both the chiropractic curriculum and the research program.

A new chiropractic school at Florida State University offers a "once-in-a-lifetime" opportunity for the university to immediately become a worldwide leader in a critically important segment of health care. The entire complementary and alternative medicine (CAM) field, of which chiropractic is the leading profession, has just within the past few years become a major component of the nation's health care system. Consumers now spend an estimated \$21 billion per year (some estimates are as high as \$30 billion per year) on CAM and that amount is growing rapidly as new health prevention and treatment knowledge proves CAM's effectiveness. The State of Florida and FSU have a

unique opportunity to become the world's leader in this field, and in so doing serve both the needs of Florida's students for low-cost, in-state chiropractic education and the needs of Florida's citizens for lower-cost nondrug, nonsurgical health care as the first line of attack on relevant illnesses.

9.9 References

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**10.0 EVALUATION OF
PARTNERING RELATIONSHIPS**

10.0 EVALUATION OF PARTNERING RELATIONSHIPS

The legislation that directed the preparation of an implementation plan for a chiropractic education program at Florida State University also directed that partnering relationships be examined. This chapter examines the possible partnering relationships, with primary attention to possible partnership options with some of the nation's current chiropractic colleges and with Florida's Community Colleges.

10.1 Potential Partnering Relationships

The range of and types of possible partnering relationships are, of course, as broad and as many as one's imagination can derive. Generally, however, the potential relationships fall into five categories

1. Pre-chiropractic
2. Basic Science Education for DCs
3. Clinical education for DCs
4. All education of DCs
5. Research

Pre-chiropractic Education. FSU could partner with both selected Florida community colleges and other Florida universities to provide pre-chiropractic education to prepare students for admission to the FSU doctor of chiropractic program.

Basic Science. FSU could partner with one or more of the nation's chiropractic schools to provide the basic science education (along with appropriate early clinical experiences) for all or part of the school's chiropractic students, similar to the way the University of Florida has partnered with FSU to provide the basic science education for part of their medical students each year through the Program in Medical Sciences (PIMS).

Clinical Education. FSU could partner with one or more of the nation's chiropractic schools to provide the comprehensive clinical training for its chiropractic

students, again similar to the way the University of Florida has provided the clinical training for FSU students in the PIMS program.

All Chiropractic Education. FSU (or the state) could partner with one or more of the nation's chiropractic schools to provide all (basic science and clinical training) chiropractic education, similar to the way the state contracts with Nova University to educate osteopathic, pharmacy, and optometry students.

Research. FSU could partner with one or more of the nation's chiropractic schools to seek research grants and establish joint research programs.

10.2 Potential Institutional Partners

As far as partnering opportunities for the education of chiropractic students are concerned, one current problem is that none of the nation's chiropractic schools are located in Florida. Hence, the state's goal of providing in-state educational opportunities for the state's chiropractic students cannot currently be realized by partnering with existing institutions. However, several of the nation's established chiropractic schools and clinics have offered to partner with FSU, and two schools have indicated intentions to establish educational programs in Florida:

- **Palmer College of Chiropractic** in Davenport, Iowa, has announced intentions to establish a school of chiropractic offering the Doctor of Chiropractic degree in Port Orange, Florida. Additionally, Palmer has announced plans to create a chain of chiropractic clinics around the U.S., including Florida. Palmer has indicated an interest in partnering with FSU through an arrangement whereby Palmer would provide, through its Port Orange school, all of the doctorate of chiropractic education program, with FSU providing pre-chiropractic education (i.e., bachelor's degree) and partnering on research programs.
- **New York Chiropractic College** has formally indicated an interest in partnering with an FSU chiropractic program by providing clinical education in one or more Florida clinics to be established by the College in Florida.

- **Texas Back Institute**, one of the nation's leading multispecialty clinics for treating back related illnesses, has offered to provide clinical training in one or more of their clinics for FSU chiropractic students.
- **Logan College of Chiropractic** in Chesterfield, Missouri, has expressed interest in partnering with the FSU chiropractic school in "the areas of clinical clerkships, internships, research endeavors, collaboration, and continued assistance in curriculum review and/or proposed curricular preparation."
- **Los Angeles College of Chiropractic** has also offered to partner with the FSU chiropractic program in both research and educational programs where appropriate.
- **St. Petersburg Community College and Tallahassee Community College** have both expressed interests in partnering with an FSU chiropractic program by providing a pre-chiropractic education program.
- Another potential partner in providing a pre-chiropractic education program would be Florida A&M University. A partnership program with FAMU could help increase the number of minorities admitted to the DC program.

10.3 Issues in Partnerships to Offer the Doctor of Chiropractic Degree

Unfortunately, the issues involved in partnering with other chiropractic colleges to offer the doctor of chiropractic degree are not simple and quickly become entangled in the chiropractic profession's battle between the "separationists" and the "integrationists." Representatives from the separationists group have clearly stated to our project team their preference that the education of chiropractors remain the domain of private chiropractic schools. Their concern seems to be that a chiropractic education in a large, graduate research public university might expand the education program beyond the strict spinal adjustment scope of practice favored by the separationists chiropractors.

A chiropractic school at Florida State University must remain totally free to establish its own admission standards, graduation requirements, curricula, and research program. Further, the chiropractic program at FSU will need to receive its own

accreditation, and any partnering institution in granting the doctor of chiropractic degree would have to meet FSU's accreditation requirements. For both of these reasons, any other institutions partnering with the FSU chiropractic school would have to meet FSU's program and curricula requirements. This could cause significant problems for some of the potential partnering schools, which already have well-established programs consistent with their approach to education and their philosophy on the scope of practice for chiropractors. The seriousness of the educational program issue is highlighted by the fact that the partnering relationship proposed by Palmer College of Chiropractic has the curriculum being totally controlled by Palmer. Further, Palmer officials expressed a reluctance to partner with the FSU chiropractic school to provide clinical training only, partially because of anticipated issues in consistency of philosophy.

Thus, the first issue that would have to be overcome is one of the partnering institutions' ability and willingness to conform to FSU's chiropractic program educational requirements. This same problem had to be overcome when the Program in Medical Science (PIMS) was established at FSU to teach the first year for medical students who then transferred to the University of Florida Medical School for the remaining parts of their educational program. The FSU PIMS program is designed to meet the University of Florida's educational requirements and is accredited as a part of the University of Florida Medical School.

The second issue involved in partnering to offer the doctor of chiropractic degree is one of the partitioning of the education program so that neither the quality of the program nor the efficiency of operations is affected negatively. The PIMS program at FSU has been very effective by having FSU teach the basic sciences part of the curriculum (along with limited clinical experience) and then having the students transfer to the University of Florida Medical School for the comprehensive clinical education part

of the program. A similar partnering relationship for chiropractic education could be established with other educational institutions provided that the partnering institutions would be willing to meet FSU's program requirements.

Perhaps the most attractive potential partnering relationship with other institutions would be one where FSU would contract with existing chiropractic colleges to provide some or all of the comprehensive clinical training part of the program, similar to the way that some medical schools contract with hospitals and medical practices to provide clinical training for allopathic students. Again, however, the partnering institution(s) would have to agree to meet FSU's educational requirements.

10.4 Partnering for Pre-Chiropractic Education

The idea proposed by both St. Pete Community College and Tallahassee Community College to partner with FSU to offer the first two years of a pre-chiropractic education program is very attractive. Such programs would:

- provide a clear track for those students interested in a chiropractic degree to prepare for and be admitted to (provided that all requirements are met) the FSU doctor of chiropractic program;
- provide highly prepared students for the FSU program, thereby enabling the chiropractic school to teach more advanced courses and produce more qualified graduates; and
- significantly improve the quality of medical care in the state by producing chiropractors with more advanced education.

The community college partners would, of course, have to design their program to meet the requirements of the FSU pre-chiropractic program.

10.5 Research Partnering Opportunities

Beyond the FSU/community college partnerships, the next most advantageous partnering opportunity is in the area of research. By being a part of a large

multidiscipline institution, the FSU chiropractic program will have a significant advantage in attracting research grants for chiropractic and other complementary and alternative medicine (CAM) projects. This advantage can be enhanced significantly by partnering with some of the nation's chiropractic colleges.

A particularly attractive research partner is the Palmer Center for Chiropractic Research in Davenport, Iowa, which has one of the strongest chiropractic research programs in the nation. The only drawback to Palmer's research program is that the Center has, to date, limited its research to those projects consistent with its chiropractic philosophy. This has prevented the Center from building a research capability in other Complementary and Alternative Medicine areas, which the chiropractic program at FSU will almost certainly pursue because of its multidiscipline capabilities. Nevertheless, where applicable, joint research projects with the Palmer Center for Chiropractic Research could be very successful in attracting funding and in producing quality research. Similar joint research projects with other chiropractic schools with strong research programs should also be explored as soon as the school has its research leadership in place.

10.6 Timing of Partnership Arrangements

Because of the need for a new chiropractic program at FSU to establish a program totally independent of the profession's internal debate about the scope of chiropractic practice, we recommend that the FSU chiropractic school be fully established before any partnering relationship in the offering of the doctor of chiropractic degree is considered. This will enable the university to fully establish its educational requirements and options without any outside philosophical influences. After the school is fully established,

partnering relationships that meet the school's educational requirements can be considered.

APPENDICES

APPENDIX A:

**WHERE DO YOU SEE THE FUTURE
OF CHIROPRACTIC GOING AND
WHAT IS BEING DONE TO
GET US THERE?**

APPENDIX A

WHERE DO YOU SEE THE FUTURE OF CHIROPRACTIC GOING AND WHAT IS BEING DONE TO GET US THERE?*

Response by President of the International Chiropractors Association, Dr. Bob Hoffman, D.C.



Many in the chiropractic profession today are going through a period of intense searching and profound examination of their professional values and beliefs. Over the past few years, various combinations of ideas and new directions have been offered by, what I consider to be, the fringes of chiropractic, such as chiropractic “medicine”, the “medipractor” notion, and various schemes and plans to move chiropractic into the medical model, so we will be more “acceptable” to the health care establishment.

I believe that, by all objective measures, these attempts to re-define chiropractic into a medical subsidiary have stimulated a great resurgence of enthusiasm, confidence and focus on chiropractic’s founding principles.

To say that the pendulum has swung away from medical dalliance and experimentation, back to the basics of our profession, the adjustment of subluxations, is an understatement. Take a look at the marketplace and you cannot escape noticing that those practices that focus on the adjustment and the unique principles of chiropractic are the most successful in the profession. The subluxation-based schools are the ones drawing the strongest student populations and, by the way, graduating the most confident, motivated and focused students. The seminars that are drawing the largest crowds are those programs that reinforce and strengthen knowledge, information and clinical application of basic chiropractic principles. There has never been a better time to be a chiropractor. This does not mean, however, that those who want to move chiropractic toward the medical model are no longer dangerous. Quite the contrary.

* Reprinted with permission from *The American Chiropractic Magazine* (Vol. 22, Issue 4, 2000).

The International Chiropractors Association has not been a passive factor in this resurgence of chiropractic's basic ideas and values, or in the defense of those values in the face of the medicalization challenge. ICA is entering its 75th year of service to the chiropractic profession and the public; and, ever since it was founded by Dr. B. J. Palmer in 1926, as the worldwide voice for chiropractic, ICA has stood strong and proud for those ideas that define and distinguish chiropractic as a separate philosophy, art, science and practice. The ICA doctor applies the basics of chiropractic everyday, detecting and adjusting subluxations. We do so with pride, dignity, clinical competence and a clear understanding of what we do and why. These are assets that not all DCs have the advantage of; and, that is, perhaps, the greatest tragedy in contemporary chiropractic. To not know what you are supposed to do, and why, must be an empty, frightening situation to be in; and one can see why some in chiropractic have sought to leave their uncertainties behind and pursue a transition into medicine. Such a transition would, however, be the death of chiropractic.

ICA clearly understands the stakes in these efforts to change the direction of chiropractic. In today's competitive and increasingly complex health care marketplace, success depends on your ability to distinguish and differentiate yourself, to offer something of unique value and importance. To place the chiropractic profession under the medical model, to strip the adjustment of its uniqueness and to relegate it to "manipulation" status as just another "treatment modality" would be the end of chiropractic. The tragedy would be two-fold: the elimination of chiropractic as an independent science and practice, and the consignment of tens of millions of innocent patients around the globe to a system of medicine that ignores the uniqueness of every individual and denies the dignity of the body's self-healing ability. Who in chiropractic with any sense of himself/herself, or concern for humanity, would even contemplate such a trade?

Regrettably, too many in chiropractic would make that trade. From the recent campaign to change the name of chiropractic in Rhode Island to "chiropractic medicine", to yellow page advertisements where practitioners never mention that they are, indeed, chiropractors, a few on the fringes are knowingly damaging the core of chiropractic.

ICA will be calling on all organizations in the profession to unite behind a clear statement of independence, uniqueness, and definition, making certain that the world understands that those who are pushing a merger with medicine are acting contrary to the vision and beliefs of the vast majority in chiropractic, and are not acting in the public's best interests.

The issue of chiropractic's basic definitions will be extended to ICA's activities related to the National Board of Chiropractic Examiners (NBCE) and the Council on Chiropractic Education (CCE). ICA will not hesitate to join with other organizations in seeking alternatives to both the CCE and the NBCE, if their activities continue in the medical direction. I have no doubt, based on the thousands of individual DCs and students who have shared their grave concerns with ICA over the past few months about both the CCE and NBCE, that ICA would have the enthusiastic support of the majority in chiropractic, in order to preserve the integrity and independence of chiropractic.

Along with strong defensive plans and programs, ICA also has a strong and innovative campaign of positive, proactive programs and initiatives underway, the most significant of which is, undoubtedly, ICA's new *Recommended Clinical Protocols and Guidelines for the Practice of Chiropractic*, now being published and readied for worldwide distribution. This exciting new guidelines document was nearly three years in the making, and involved input from hundreds of practicing DCs, educators, attorneys and members of the public.

The new practice protocols offer a detailed and comprehensive narrative that seeks to explain and validate chiropractic procedures, with a focus on the subluxation and its neurological implications. The unique aspects of the specific chiropractic adjustment are dealt with in great detail in an effort to define, clarify and validate this uniquely chiropractic procedure. This historic undertaking has produced a strong, defensible, practical advocacy document that marshals and arrays a well-researched, accurately referenced and substantive explanation for chiropractic procedures from the ICA perspective. I do not believe that a more complete, accurate and well-defined practice protocols document has ever been produced for the chiropractic profession.

ICA's *Recommended Clinical Protocols and Guidelines* are now available on ICA's Internet website at www.chiropractic.org. A copy will soon be provided to every ICA member and available to the profession in both a printed edition and on CD-ROM. ICA also plans an unprecedented distribution campaign to provide the guidelines and protocols to the insurance industry, health care policymakers and other professions, in an effort to build a greater understanding of the unique and powerful nature of chiropractic science.

ICA's international growth has also been the focus of serious planning and developmental discussion in recent months. ICA now has members in 43 nations, as well as in all 50 of the United States, and every province in Canada. ICA is working hard to determine and implement appropriate ways and means to promote the growth and development of chiropractic worldwide and to support the profession's pioneers, as they work to establish chiropractic around the globe.

ICA also plans to expand and enhance its international activities, including applying for formal recognition as a NGO (non-governmental organization) by the World Health Organization, more international members services, and a renewed effort to make the ICA and FACTS' Lisbon 2000 Symposium, scheduled for November 2000, in Lisbon, Portugal, the most significant international chiropractic event in history. I want to extend a personal invitation to every one of you to attend the Lisbon Symposium. This is a historic event you will not want to miss.

I have, personally, participated in the activities of the WHO and the Pan American Health Organization, representing ICA and chiropractic at important international meetings. I have spoken on behalf of ICA in Europe, and personally attest to the growing support worldwide for ICA's vision for chiropractic.

ICA is a dynamic community of the most successful chiropractors on earth. ICA's vision, as articulated by Dr. B.J. Palmer, has proven timeless. ICA's key has been our ability and recognition of the need to adapt to the changing times, without abandoning the principles that got us this far. Herein lies the secret. ICA wants all who value the founding principles of chiropractic to be a part of our current efforts to build and develop chiropractic, worldwide, according to our unique and proven values. Call us. You are welcome, wanted and will enjoy being part of a winning team.

WHERE DO YOU SEE THE FUTURE OF CHIROPRACTIC GOING AND WHAT IS BEING DONE TO GET US THERE?*

*Response By Chairman Of The Board For The American Chiropractic Association
Dr. J. Michael Flynn, D.C.*



Thank you for the opportunity to respond to a question that every D.C. should be answering. The vision that I have, and I believe is shared by many in our profession, is that chiropractic will continue to develop to become among the most respected of health care disciplines, and the doctor of chiropractic, the time-honored advocate of wellness and prevention in health care. Each of us in chiropractic should appreciate that the philosophy, science, and art of chiropractic is special and deserves to be embraced by an unenlightened and unhealthy society. The chiropractic message and what chiropractic offers humankind needs to be made known and our place in the health care delivery system made to be secure and enduring.

Getting us there is the issue that deserves some work.

My question to every man and women, who has chosen chiropractic as a career, is, "Do you feel that this profession deserves an organized, resourceful and influential national association to champion chiropractic issues?" There are national issues being debated in Congress that have a direct and immediate impact on how we practice today and tomorrow. Are we going to define our profession's place in the health care marketplace, or are we going to let the "powers that be" create our destiny for us?

Are you among the estimated 70% of the chiropractic profession who do not support one of the two national associations? If you are among the 3 of 10 D.C.'s who do invest in our profession's future through national association membership, you are to be

* Reprinted with permission from *The American Chiropractic Magazine* (Vol. 22, Issue 4, 2000).

congratulated and encouraged to remind your colleagues that their support, or lack of it, makes a difference.

This holds true for state associations, as well. Every state that has a 50%-or-better number of doctors supporting its state association is among those states with better margins of fair and equal access to chiropractic care. States with less than an organized/supported association will have an increasingly difficult time establishing chiropractic as an integral part of the health care system.

The key word is UNITY. The chiropractic profession must unify in order to have a credible voice that succinctly, and with strength of conviction, presents the chiropractic message to health care consumers and those who make the decisions for them.

Our chiropractic history is rich and telling. In the Wilk, *et al*, case, a document dating back only thirty-eight years, reveals an activity of the Iowa State Medical Society (a society of the AMA), which proposed a plan that included, "What medicine should do about the chiropractic menace." Under section F of that plan, were these challenging words: "Encourage chiropractic disunity." Sadly, today, this disunity continues to be encouraged, and it weakens what should be a strong united voice for access to quality chiropractic care.

The Congress of Chiropractic State Associations understand this, and is encouraging open and honest discussions about the great need for unity in our profession. They are to be commended and should not waiver in this worthy goal.

In the months leading up to the Presidential election in November, we will hear a media campaign from both parties about American's Promise. I believe in American's Promise. Part of that promise must be a concept of wellness that is available to every American and, especially, the children of America. The chiropractic model of health inspires hope for generations to experience health and vitality through the correction of subluxations. Improving structural function, along with the advice and training of doctors of chiropractic on health related issues is what is needed in America and around the globe. The chiropractic message should be inclusive to an over medicated, under nourished and highly stressed society.

Leaders from every organized group in chiropractic must support efforts to unite us under an umbrella of commonality. Every doctor of chiropractic, who truly cares about this profession and appreciates the significant struggles that require organized effort, must examine his/her level of support. The apathetic, indifferent, and those with selfish motives must come to the realization that they are encouraging disunity by their actions or inaction.

There are differences in the chiropractic profession, as in all professions. Some are perceived and some are real, but none are insurmountable. The core principles of chiropractic are enduring and give us a solid foundation on which to unite.

This is the best of times for chiropractic, and those who are fortunate to have chosen the career path dedicated to a model of health care that has arrived. The pioneers of chiropractic could only dream of the success we are now experiencing: Dreams that required great sacrifices and a steadfast determination to succeed, despite obstacles

imposed by established medicine. It is only through organized effort that we have achieved our place in the health care delivery system; and, it will be only through organized effort that we will continue to make progress.

I have been a member of the ACA since beginning my practice. My dad, who practiced twenty years without a license in Louisiana, was often heard saying to non-members of the state and national associations, "Why should patients be willing to support your practice, if you are not willing to support your profession." He taught me early one of the most important laws of the universe: "The more you give, the more you receive." Doctors of chiropractic have to be willing to give back to their profession.

The future of chiropractic is being shaped now, and every chiropractor should be paying attention to its form and fashion. Every doctor of chiropractic should be a member of one of the two national associations, and they should be demanding that their association achieve unity for the profession. The mission and by-laws of each association are very similar; conflicts, however, should be addressed, debated, discussed and resolved in a spirit of respect for our lasting principles and practice. Since the policies of the ACA and ICA are essentially identical, it is time for this profession to stop wasting its limited resources and unite.

I am honored to have the opportunity to serve as Chairman of the Board of the ACA, and could not be more proud of the efforts and accomplishments of this organization. Initiatives to defend the correction of the subluxation by chiropractors, rather than by other providers, are the basis of our lawsuit against HCFA. Other decisions by managed care companies to limit chiropractic care are on our radar screen, like the recent decision by one company to deny chiropractic to children under the age of twelve.

It is only with an organized effort that we will breakdown the barriers of injustice and bias that seek to exclude chiropractic contributions to health care. The ACA was influential in the passing of a law removing the x-ray mandate in Medicare as of January 2000, and has introduced legislation to Congress which would broaden our scope of service to the senior citizens of America. The ACA, in a joint effort with the Association of Chiropractic Colleges, has secured access to chiropractic care for the veterans and active military men and women of America. The ACA proposed the amendment to the Campbell bill, and, then, helped support its passage in the House—an amendment prohibiting the possibility of a medical boycott against this profession in the future.

The list of ACA accomplishments and current actions can be received upon request. Be assured that the forty full-time staff members of the world's largest organization of chiropractors are working with a committed effort to protect this profession and insure access to our care. Ask the ICA for its current list of initiatives and accomplishments; compare the two, and make a decision to join either the ACA or ICA.

I see the future of chiropractic as very bright; the glow of endless possibilities for a better and healthier world made brighter by organized effort; and the candlelight of our profession blazing by a united effort. Too many patients have been denied access to chiropractic care due to the folly of our disunity. There are two primary choices in life: to accept conditions as they exist, or accept the responsibility for changing them. Let us be willing to unite and accept the responsibility to change things for the better!

The ACA celebrates 70 years as a national association this year. The ACA record is one of action in promoting, preserving and protecting chiropractic. You will find the ACA ready to meet the challenges to our profession and make some challenges of our own. By the time this article is printed, the ACA will have announced a major lawsuit against a large national insurance company, citing violations to the antitrust laws of the United States. Until some form of unity is achieved, doctors of chiropractic will be able to count on the ACA to champion this profession, with a commitment to leveling the playing field of access to our care. It is a mission that every DC should be supporting, with a willingness to resolve differences in a spirit of cooperation and with great purpose for a healthier world. I hope to one day soon see us united as a profession and believe it will happen—the sooner the better!

APPENDIX B:

***INTERNATIONAL CHIROPRACTORS
ASSOCIATION PRESS RELEASES***

APPENDIX B

INTERNATIONAL CHIROPRACTORS ASSOCIATION *Leading the World of Chiropractic*

ICA Chiropractic News Service
CNS Release Date 7-14-00

ICA CAMPAIGNS FOR VETO OF RHODE ISLAND CHIROPRACTIC MEDICINE BILL

ICA has mounted an aggressive campaign to convince the Governor of Rhode Island, The Hon. Lincoln Almond, that legislation passed late on the night of June 30th, in the closing hours of that state's legislative session changing the name of chiropractic to "chiropractic medicine" should be vetoed. ICA representatives in Rhode Island had provided testimony on the proposal on two previous occasions and ICA had corresponded with every member of that state's legislature on this matter. Pushed in an aggressive campaign led by Dr. Robert Mastronardi, the ACA Delegate for Rhode Island and the Chiropractic Society of Rhode Island, this legislation represents a fundamental change in the way the chiropractic profession is to be defined in that state. ICA, along with over a dozen other organizations and institutions -- including Palmer College and Life University -- made emphatic appeals to the Governor, arguing that the public can only be confused by this re-definition of chiropractic and that his state's action was grossly out of step with how chiropractic is defined in the rest of the nation. This controversial legislation remains on the Governor's desk, and ICA will continue to campaign for its veto.

APPLYING THE POWER OF CHIROPRACTIC'S TIMELESS PRINCIPLES *By Robert Hoffman, D.C., F.I.C.A.*

I believe that principles are like the muscles in the human body. If you do not exercise and put them to work on a regular basis, they atrophy and become weak. From the weakness that starts with inactivity, all sorts of other structural and functional problems follow. Beliefs that compel no action lose their relevance very quickly. This is why ICA has never hesitated to speak up when the fundamental principles on which ICA was founded are challenged or attacked. ICA has led the profession via the courageous and outspoken projection of its organizational values, a leadership trait that continues to this day. We remain the conscience of the chiropractic profession.

In today's environment, the foundations of chiropractic are regularly undermined by critics and competitors in the medical establishment. We see in the news and in the policy process where organized medicine and the drug industry take every shot they can at chiropractic, cheap and otherwise. The external challenges are part of our heritage, but the fundamental power and sense of chiropractic's approach to health is more than enough to overcome these self-serving attacks. What stings much more, and where the damage can be dangerous, is the erosion that seems to be taking place within our profession. Here is where ICA's strength in principle is making a critical difference.

Let's start with the idea of chiropractic medicine. There are a few within the chiropractic profession who believe that the profession should mutate itself to absorb a considerable new medical element and thus offer consumers chiropractic and a little medical care under the same roof. ICA resoundingly rejects this notion as being contrary to the best interests of the profession and the public. Many years ago, ICA's Board of Directors adopted an official policy statement on this matter and we have not hesitated to make our views and concerns known wherever and whenever this idea pops up. ICA believes that chiropractic's greatest strength is in its uniqueness. Indeed, nearly every state statute establishing chiropractic as a licensed profession contains a statement that expressly says that "the practice of chiropractic is not the practice of medicine." ICA is watching the educational process and the accreditation process very carefully and will speak with force and conviction if any attempt is made to allow the recognition of chiropractic medicine as a component of chiropractic accreditation.

In the public policy process, in the media, and within the chiropractic profession, ICA is working to educate and inform others about the fundamental principles of chiropractic and of the incompatibility, incongruity, and inconsistency inherent in seeking to merge medicine and chiropractic into a new profession that performs neither function well. We see this as an issue on which there can be no compromise and invite every ICA member to be alert to any mention of chiropractic medicine in the press, or any proposed changes in their state, province, or nation that seeks to intrude a medical component into the practice of chiropractic.

We believe that every chiropractic leader, organization, and practitioner must embrace the validity of chiropractic as a separate and distinct philosophy, art, science and practice in order to keep the profession strong and focused. There is every reason to make this commitment with pride and confidence, both because of the essential validity of the chiropractic approach to health and because of the overwhelming validation consumers have given to chiropractic through our success in the marketplace. ICA is concerned to see a number of chiropractic colleges undergoing name changes, dropping the emphasis on chiropractic and focusing on "allied health" or other terms that imply a reduction in the status of the chiropractic program. We are who we say we are. If we say we are chiropractors, there is clarity in our own minds and in the minds of patients and potential patients. If we say we are something else, can we also be committed, enthusiastic, and effective doctors of chiropractic? I don't think so. ICA will be watching the educational process and doing all within its power to maintain the focus on chiropractic as the key component in our professional education. We will not hesitate to question the route some of these educational institutions may be taking and we will demand that the accreditation process and the process of chiropractic licensure maintain a truly chiropractic focus. This will take energy, courage and resources, but I know that ICA's leadership has the vision and the dedication to fight these fights.

Perhaps the most immediate and controversial stand the ICA has taken in recent days has been our "Open Letter to the National Board of Chiropractic Examiners". ICA has issued a strong, clear and ringing call for immediate reforms within the National Board, and I am pleased to report that ICA's message has been received with a resounding enthusiasm that could hardly have been foreseen. Individual DCs, and students by the hundreds have written and called to thank ICA for taking a stand on the current policies and abuses that characterize the NBCE today. I urge every ICA member to read this statement and to add your voice directly to the call for reform by writing the NBCE with

your thoughts. Every voice must be mobilized, both to correct the problems and abuses facing the NBCE, and as a warning to other similar organizations that they will be held accountable for the actions they take in the name of the profession at large.

Finally, ICA is redoubling its vigilant watch of state chiropractic boards in an effort to insure that those powerful public bodies do the job they are supposed to be doing. ICA, through its Legal Affairs Committee, has instituted a new "State Board Watch Program," that is designed to monitor board actions for fairness and behavior that stays within the rules. This is vital because of the historic pattern of arbitrary, capricious and unfair activities that have been conducted by some state chiropractic boards. These important public bodies were created by the various state legislatures and other jurisdictions to test the competence of candidates for professional licensure and to serve as disciplinary bodies to address violations of the law and public trust by doctors of chiropractic. ICA encourages the vigorous pursuit of these functions and is standing by to assist and serve in such efforts. Some boards, however, have crossed the line, seeking to use their authority to limit competition by keeping otherwise qualified candidates for licensure out of the pool of licensed providers. Other boards seek to force changes in the nature of the profession by new regulations that are beyond the authority granted to them by the legislatures and that represent personal prejudices and priorities. This is not doing the people's business. This is abuse of office and ICA is on watch to challenge any board or board member who acts contrary to the rules or threatens the best interests of the profession and the public by seeking to force changes on a profession that is doing a fine job under the existing rules.

These are daunting and serious challenges, ICA, however, will never shrink from doing battle on behalf of our vision and our values. That is why we are different from other organizations, because we value the uniqueness of chiropractic principles and understand that these values might be applied with dignity, integrity and consistency if we are going to survive and prosper in an increasingly competitive and confusing marketplace. The healthcare marketplace is an exchange of dollars, to be sure. Our strength, however, comes from the value of our ideas. If we separate ourselves from our values, who can expect success in any other element of this competition.

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APPENDIX C:
RESULTS OF SURVEY OF FLORIDA
CHIROPRACTORS

APPENDIX C

RESULTS OF SURVEY OF FLORIDA CHIROPRACTORS

SURVEY OF FLORIDA CHIROPRACTORS

EDUCATION & PRACTICE ISSUES IN FLORIDA

This survey is part of a planning effort requested by the 2000 Florida Legislature and directed by the Florida State University.

September/October 2000

INTRODUCTION:

Please complete the following questions by either checking the applicable box [✓] or filling in the blank _____ with your written answer. If a question does not apply to your situation, please leave it blank. All responses will be confidential. Only aggregate response summaries will be reported. Please return your completed questionnaire in the enclosed postage-paid envelope directly to *MGT of America, Inc.* on or before **October 16, 2000**.

PART A: INDIVIDUAL CHARACTERISTICS

A1. What is your gender?

- ₁ Female 15.9% ₂ Male 84.1%

A2. What is your race/ethnicity?

- ₁ Black or African American 0.5% ₃ Hispanic 3.8% ₅ Caucasian 92.8%
₂ Asian/Pacific Islander 0.8% ₄ Native American 0.9% ₆ Other 1.2%

A3. How old were you on your last birthday?

- ₁ Under 25 No responses ₄ 45-54 Years of Age 29.5% ₆ 65-74 Years 3.1%
₂ 25-34 Years of Age 20.8% ₅ 55-64 Years of Age 10.0% ₇ 75 or Older 1.1%
₃ 35-44 Years of Age 35.5%

A4. How long have you been in practice?

- ₁ Less than 5 years 20.0% ₃ 11-15 Years 17.8% ₅ 21-30 Years 16.4%
₂ 6-10 Years 16.3% ₄ 16-20 Years 21.0% ₆ Over 30 Years 8.5%

A5. How long have you been practicing in Florida?

- ₁ Less than 5 years 24.5% ₃ 11-15 Years 18.9% ₅ 21-30 Years 13.1%
₂ 6-10 Years 17.2% ₄ 16-20 Years 20.2% ₆ Over 30 Years 6.1%

A6. In which Florida county is your practice located?

(If you practice in more than one county, in which do you have the largest volume of patients?)

TOP FIVE RESPONSES

- 1) Broward 14.2%
- 2) Pinellas 9.6%
- 3) Palm Beach 9.6%
- 4) Dade 8.3%
- 5) Hillsborough 5.2%

LOCAL COUNTIES

- Leon 1.5%
Gadsden 0.1%
Liberty No responses
Wakulla 0.1%
Jackson 0.1%

RESULTS OF SURVEY OF FLORIDA CHIROPRACTORS

PART B: PRACTICE CHARACTERISTICS

B1. What is your principal form of employment?

(Check only one)

- ₁ Employed by another DC 9.4%
 ₃ Solo Practice/Only DC in office/self-employed 58.6%
₂ Group/Partnership/self-employed 24.4%
 ₄ Other _____ 7.6%

B2. On average, how many hours per week do you practice chiropractic? ⁺

- ₁ 20 hours or less 9.4%
 ₃ 31-40 hours 49.9%
 ₅ 51-60 hours 2.3%
₂ 21-30 hours 19.3%
 ₄ 41-50 hours 17.7%
 ₆ over 60 hours 1.4%

B3. On average, how many patient visits do you have per week? ^{*+}

_____ Average # of patient visits per week 117.3

B4. Approximately what percent of your patients are? ^{*+}

- a. Male 41.6 %
 b. Female 58.4 %
 100 %

B5. Approximately what percent of your patients are within each of the following age groups? ^{*+}

- | | |
|---------------------------------------|-------------------------------------|
| a. Under 16 years of age <u>6.0</u> % | e. 66-75 years of age <u>11.2</u> % |
| b. 16-35 years of age <u>21.3</u> % | f. 76-85 years of age <u>4.4</u> % |
| c. 36-55 years of age <u>37.3</u> % | g. Older than 85 <u>1.0</u> % |
| d. 56-65 years of age <u>18.8</u> % | 100 % |

B6. Approximately what percent of your patients are racial/ethnic minorities? ^{*+}

24.9 % Minorities

B7. Approximately what percent of your patients do you refer to other health care providers? ^{*+}

21.8 %

B8. Approximately what percent of your patients are referred to you from other health care providers? ^{*+}

10.7 %

B9. What was your total gross revenue from your chiropractic practice last year? ⁺

- | | | |
|--|--|---|
| <input type="checkbox"/> ₁ Under \$50,000 <u>11.7%</u> | <input type="checkbox"/> ₄ \$150,000 – \$200,000 <u>12.5%</u> | <input type="checkbox"/> ₆ \$250,000 - \$300,000 <u>7.3%</u> |
| <input type="checkbox"/> ₂ \$50,000 - \$100,000 <u>15.6%</u> | <input type="checkbox"/> ₅ \$200,000 - \$250,000 <u>10.9%</u> | <input type="checkbox"/> ₇ Over \$300,000 <u>27.7%</u> |
| <input type="checkbox"/> ₃ \$100,000 - \$150,000 <u>14.3%</u> | | |

B10. Approximately what percent of your gross revenue last year came from the following? ^{*+}

- | | |
|---------------------------------------|------------------------------------|
| a. Personal Injury <u>29.5</u> % | e. Private Insurance <u>28.4</u> % |
| b. Worker's Compensation <u>3.9</u> % | f. Private Pay/Cash <u>23.3</u> % |
| c. Medicare <u>11.1</u> % | g. Other <u>1.8</u> % |
| d. Medicaid <u>2.0</u> % | 100 % |

* Value reported indicates arithmetic mean

⁺ Value reported includes only active respondents

Note: Percentages may not total 100% due to rounding.

RESULTS OF SURVEY OF FLORIDA CHIROPRACTORS

B11. Is your practice associated with one or more managed care program?

₁ Yes 61.0% ₂ No 39.0%

B12. Do you have staff privileges at a local hospital?

₁ Yes 1.9% ₂ No 98.1%

PART C: EDUCATION AND TRAINING INFORMATION

C1. At which chiropractic college did you earn your Doctor of Chiropractic degree?
(Please list name, location and year of graduation)

Name of College: (Top responses)

- | | |
|--|--|
| 1) Life University <u>35.6%</u> | 4) Logan College of Chiropractic <u>8.7%</u> |
| 2) Palmer College of Chiropractic <u>15.4%</u> | 5) New York Chiropractic College <u>8.5%</u> |
| 3) National College of Chiropractic <u>12.5%</u> | 6) Texas Chiropractic College <u>3.2%</u> |

C2. Do you hold any other degrees in the health care or medical profession?

₁ Yes 22.3% ₂ No 77.7%

C2a. If yes, please list them. (n=317)

- | | | |
|--|--------------------------------|--------------------|
| Doctorate/Professional level <u>1.9%</u> | Bachelor's level <u>35.7%</u> | M.D. <u>5.0%</u> |
| Master's Level <u>7.3%</u> | Certificate level <u>29.0%</u> | Other <u>21.1%</u> |

C3. Are you currently a member of the Florida Chiropractic Association (FCA) or the Florida Chiropractic Society (FCS)?

₁ FCA 76.1% ₂ FSA 19.0% ₃ Neither 13.4% (Both 8.5%)

C4. What other professional affiliations do you currently hold? (Up to three responses accepted)

	First Response n=681	Second Response n=185	Third Response n=21
Local	9.9%	23.2%	9.5%
Regional	12.3	17.8	28.6
National/Int'l	53.6	20.6	9.5
Special Interest	8.2	16.2	23.8
Other	16	22.2	28.6

C5. From which colleges have you earned Continuing Education Credits (CPEs) in the last 3 years? (Up to three responses accepted)

	First Response n=874	Second Response n=451	Third Response n=158
Life	27.6%	14.2%	10.8%
National	22.5	19.1	15.2
Parker	14.4	15.3	15.8
Logan	9.8	14.9	8.2
Palmer	6.6	9.8	16.5
NYCC	5.7	5.5	7.0

C6. Do you hold diplomate status?

₁ Yes 16.8% ₂ No 83.2%

Note: Percentages may not total 100% due to rounding.

RESULTS OF SURVEY OF FLORIDA CHIROPRACTORS

C6a. If yes, in what specialty? (Top responses, n=250)

- 1) Neurology **18.4%**
- 2) Orthopedist **18.4%**
- 3) Rehabilitation, Sports, or other Therapy **8.8%**

PART D:	PERCEPTIONS AND OPINIONS
----------------	---------------------------------

Please indicate if you *Strongly Agree, Agree, Disagree* or *Strongly Disagree* with the following statements.

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
D1. There are not enough chiropractors in Florida to meet the future health care needs of residents. (n=1429)	11.5%	27.1%	18.8%	24.7%	17.9%
D2. Chiropractic needs of residents living in rural areas of Florida are underserved. (n=1423)	16.4	46.5	20.7	11.1	5.3
D3. Chiropractic needs of the elderly in Florida are underserved. (n=1429)	21.8	39.3	11.6	18.7	8.6
D4. Chiropractic needs of low income Floridians are underserved. (n=1433)	25.5	45.9	12.8	9.8	6.0
D5. Chiropractic needs of Floridians living in urban areas are underserved. (n=1425)	9.5	24.3	23.6	28.8	13.8
D6. There is a growing interest among Florida students to pursue a chiropractic degree program. (n=1419)	12.3	41.8	34.9	7.7	3.3
D7. A new chiropractic school located in Florida would attract more Floridians into the profession. (n=1435)	30.0	51.0	10.2	5.4	3.4

D8. Which Chiropractic Colleges do you consider to be model programs for preparing chiropractors for practice in Florida? Why? (First responses, n=1039)

	Life	National	Palmer	Logan	NYCC	Parker	Texas	Sherman	LACC	% of TOTAL, Curricular
Applied experience	2.7%	0.4%	1.5%	1.2%	0.0%	2.4%	8.1%	0.0%	0.0%	1.5%
Business management	0.4	0.0	0.0	1.2	1.6	24.4	0.0	0.0	0.0	1.3
Curriculum	6.7	22.7	4.4	12.6	21.9	2.4	10.8	0.0	17.6	13.1
Diagnostic skills	1.3	8.3	1.5	3.5	0.0	0.0	8.1	0.0	5.9	3.4
Interdisciplinary	0.3	9.8	0.7	3.5	3.1	2.4	13.5	0.0	17.6	4.2
Interpersonal skills	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Pers. affiliation/exp.	6.4	1.1	7.4	2.3	9.4	0.0	10.8	3.6	0.0	4.7
Philosophy	35.6	11.0	21.3	6.9	6.2	14.6	0.0	71.4	11.8	19.9
Reputation	23.8	38.0	47.8	58.6	50.0	29.3	46.0	14.3	47.1	36.8
Research	0.3	1.5	0.0	1.1	1.6	0.0	0.0	0.0	0.0	1.0
Resources	3.4	1.9	4.4	3.4	0.0	9.8	0.0	0.0	0.0	3.1
Technique/Treatment	15.1	3.4	7.4	3.4	3.1	9.8	0.0	10.7	0.0	7.7
Cost	0.3	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Geriatrics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	2.7	1.5	2.9	2.3	3.1	4.9	2.7	0.0	0.0	2.6
% of TOTAL, College	27.7	24.8	14.3	8.2	6.2	4.5	3.3	2.6	2.0	100.0

Note: Percentages may not total 100% due to rounding.

RESULTS OF SURVEY OF FLORIDA CHIROPRACTORS

D9. What components of the D.C. curriculum do you consider to be critical for preparing chiropractors for practice in Florida in the future?

	First Response n=1285	Second Response n=777	Third Response n=344
Applied experience	4.40%	4.40%	7.00%
Business management	14.7	9.9	17.1
Cost	0.1	0.0	0.0
Curriculum	14.3	6.8	7.5
Diagnostic skills	18.7	17.0	9.6
Geriatrics	3.0	3.4	0.9
Interdisciplinary	6.0	11.3	10.5
Interpersonal skills	0.9	1.7	1.4
Other	5.5	5.1	23.5
Personal affiliation/experience	0.1	0.0	0.3
Philosophy	12.8	11.3	6.1
Reputation	2.0	0.8	1.5
Research	0.9	1.9	0.9
Resources	0.2	0.0	0.0
Technique/Treatment	16.4	26.4	13.7

Please indicate if you *Strongly Favor, Favor, Oppose, Strongly Oppose, or have no opinion* about the following issue.

D10. The State of Florida should offer the Doctor of Chiropractic (D.C.) degree as part of the State University System's professional degree programs?

	Strongly Favor	Favor	Neither	Oppose	Strongly Oppose
All Respondents (n=1435)	49.9%	21.9%	12.8%	5.0%	10.4%
Life Graduates (n=502)	47.2	22.9	12.2	4.8	12.9
Palmer Graduates (n=215)	52.1	19.5	12.6	5.1	10.7

Note: Percentages may not total 100% due to rounding.