

# The Future of Chiropractic Revisited: 2005 to 2015

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**Institute for Alternative Futures**  
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In terms of content of this report, our thanks go out to our panel of experts (listed in Appendix A) for their insights and forecasts. Special thanks go out to our Advisory Board (also listed in Appendix A) who provided comments on the first draft of this report as well as providing interviews.

While we received significant insights from the experts we interviewed IAF takes responsibility for the content of this report.

The IAF team that produced this report was led by Clement Bezold PhD, IAF President, and included IAF Senior Futurist William R. Rowley MD, and IAF Researcher Craig Bettles. Special thanks go to Sandra Tinkham for her logistical and production assistance.

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# EXECUTIVE SUMMARY

## INTRODUCTION

In 1998 the Institute for Alternative Futures (IAF) issued a major report on the future of chiropractic care in the US. IAF was asked to revisit our analysis and forecasts focusing on issues and trends in the chiropractic field. Thus, as futurists, we took another look at the chiropractic field. We reviewed the trends and forecasts we made in our 1998 report, and did extensive literature research and expert interviews for this update.

The future is uncertain and remains so – this report seeks to provide boundaries to that uncertainty in order to provide alternative views of how the future might unfold. The data or factual base from which we start is, in many cases, not firm. We have chosen what we think of as appropriate starting places, identify our sources and assumptions.

We also write this report with IAF’s brand of aspirational futures. We believe that futures work should combine a fact based consideration of trends, an understanding of the systems underlying the topic being explored, and a creative and imaginative consideration of future prospects. Specifically we believe that futures work should 1) make users of the futures work smarter by knowing what might happen, and 2) enable users to better create their preferred future.

IAF encourages readers to use the forecasts and scenarios here, and to develop your own scenarios and forecasts. Any questions or requests by those interested in developing their own scenarios and forecasts for chiropractic should contact us by email at [futurist@altfutures.com](mailto:futurist@altfutures.com).

## ISSUES & TRENDS

**Chiropractic in the Healthcare Marketplace:** A recent trend toward more consumer directed healthcare could be beneficial to chiropractors, but there will be more competitors looking to expand into the back care market. The biggest competitive threat will come from physical therapists. Physical therapists will expand their direct patient access and restructure their educational programs so most are Doctor of Physical Therapy programs.

**Chiropractic Education:** Chiropractic colleges have seen a major drop in enrollment in the latter 1990s due to a demographic drop in eligible students, rising tuition costs, the increasing burden of student loans, managed care's affect on the chiropractic profession, and a reduction in referrals, recruiting, and encouragement from practicing chiropractors. Chiropractic colleges have taken proactive steps to improve chiropractic education, for example raising entrance requirements to 90 credit hours, but there are still many areas in need of improvement.

**The Philosophy of Chiropractic:** Understanding the different philosophies of chiropractic, how they relate to the profession's unity and vision, and what effect they have on chiropractic practice is one of the most difficult tasks for an outsider observing the profession. IAF attempted to understand the different philosophies of the myriad of national and state associations and how they affected chiropractic's unity, vision, and relationships. We also attempted to understand the philosophies of the different chiropractic colleges through an informal survey of the presidents, vice-presidents, and deans of the chiropractic colleges. Our assessment was that some parts of the leadership of chiropractic remains bitterly divided over issues of philosophy. This is a serious hindrance to the field. However, there may be more common ground among practicing practitioners.

**Cultural Legitimacy and Integration into Healthcare:** Integration into healthcare will require more cultural legitimacy both to public and to medical community. Since the Wilk case, chiropractic has come a long way, but is still hampered by a lack of internal consensus and vision. The inclusion of chiropractic benefits in the Department of Defense's health plan and the Department of Veteran's Affairs new pilot program are large steps forward for increasing the legitimacy of chiropractic in the health care, insurance and policy communities. Better public outreach is needed to raise the profile of chiropractic to the public.

**The Practice of Chiropractic:** High patient satisfaction remains the chief strength of chiropractic and back pain the profession's principle market. Our assessment of chiropractor's role in primary care remains similar to 1998. Chiropractors could play a larger role in primary care, but would have to devote considerable effort to expand their scope of practice, improve their clinical skills, and improve their cultural legitimacy.

**Managed Care:** Managed care has lowered reimbursement rates for many healthcare professions, including chiropractic. In the future, managed care will continue to pressure healthcare providers to reduce costs, especially for treatments where cost effectiveness and efficacy are not well established. Managed care itself will face competition from consumer directed health care and both will be guided by evidence based medicine.

**User Demographics:** As the U.S. population ages there will be increasing demand for therapies that improve a patient's quality of life. This includes treatment for back and neck pain, but also many health and wellness activities.

**Technology:** Changes in technology could transform chiropractic. Electronic medical records will make it easier for trusted intermediaries to pool patient records to produce report cards on individual providers and perform research on large patient populations. Many technical and privacy related issues still need to be worked out, but it seems clear that healthcare providers will be subject to greater transparency in the future. Advances in imaging, biomarker identification, and biomonitoring could make prevention more cost effective; opening up new business models for healthcare providers. Many chiropractors will need to increase their knowledge in order to take advantage of these technological advances.

**Research on Chiropractic Care:** Since 1998, the chiropractic community has come a long way in developing institutions for developing research with minimal outside help. The research on spinal manipulation therapy has shown it to be a safe and effective means of natural healing for back and neck pain. Still, many studies show it to be only marginally more effective than other treatments or a placebo. More research is needed to prove that spinal manipulation therapy is efficacious and cost effective for neuromusculoskeletal (NMS) and other conditions.



# SCENARIOS

Applying IAF’s futures approach to these issues and trends, four scenarios were developed for the future of chiropractic. Our scenarios include one we think is a “most likely” extrapolation of the present. Another scenario takes some of the many challenges faced by the field into consideration, and two related scenarios consider significant changes leading to a visionary outcome. Visionary in this context means the “best that could be” as the community considers its values and the future they want and will commit to creating.

## **Scenario 1—Slow, Steady Growth**

Chiropractic continues its slow, steady growth in the numbers of chiropractors. The evidence for manipulation for back pain and neck pain is positive and cost competitive with other approaches. Wellness care for geriatric patients is also proven to improve health and mobility.

Chiropractic is somewhat better integrated into the medical community though rotations during college, and because of successful integration into large delivery systems. The Department of Veterans Affairs (VA) and the Department of Defense (DoD) make chiropractic a popular covered option. Other health care delivery systems include chiropractic care as an elective option. Each year leading to 2015, chiropractic college graduates have more opportunities to practice with other types of healthcare providers than the previous class.

Doctors of physical therapy (DPTs), massage therapists, and osteopathic physicians are all competitors. This competition has slowed the growth of fees and reduced the average number of visits to chiropractors. Wellness or maintenance visits are less common in most chiropractic practices, as neither the evidence nor managed care plans support them for most patients. The exception is geriatric chiropractic, where the research shows that regular chiropractic care including nutrition and exercise help keep patients healthy and mobile.

## **Scenario 2—Downward Spiral**

The cost squeeze in healthcare pushes many chiropractors to the brink. Consumer demand falls and managed care removes even more chiropractic coverage from their plans. Standards of care fall, insurance fraud is

common, and many chiropractors turn to unethical behavior to sustain their practices. Simultaneously, serious malpractice cases involving missed and ignored diagnosis of serious illnesses by super straight chiropractors become major media stories.

By 2015, the evidence base for chiropractic effectiveness advances little over the limited indications where chiropractors had been proven effective in 2005. Other providers offer spinal manipulation for lower back, neck, and chronic pain. DPTs and massage therapists take over a large percentage of the cash market for back pain. The remaining chiropractors fight over the declining number of “true believer” patients who have had positive previous experiences with chiropractic and can afford to pay out-of-pocket.

### **Scenario 3—Evidence Based Collaboration**

Manipulation is found to be both efficacious and cost effective for a variety of NMS conditions including back and neck pain, headache and some types of chronic pain. Chiropractors expand their education and training to include more NMS conditions and they push for limited prescription rights. This allows them to fill a broader role as NMS specialists. Clinical experience for chiropractors in integrated settings becomes a standard part of chiropractic education and recertification. This, combined with new authoritative studies showing the benefits of chiropractic for NMS conditions, increases the rates of referrals from medical doctors to chiropractors.

Consumer-directed healthcare grows dramatically. Patients who manage their own care favor those chiropractors who score well on “report cards” which compare health care providers in their area. By 2015, the few large managed care plans that remain require patients to undergo a course of manipulation for back or neck pain before considering authorization of expensive surgery or medicines. Chiropractors have very sophisticated office information systems which include electronic patient records, the ability to link genomic information, and “patient coaching” with different chiropractic techniques.

### **Scenario 4—Healthy Life Doctors**

A mindshift takes place in the US, particularly among individuals and health care systems. Chronic diseases can be forecast years in advance, and lifestyle approaches are often the most effective way to prevent disease or to reverse it in its early stages. A “healthy life” is viewed as powerful medicine and many types of providers, such as chiropractors, medical doctors,

naturopathic doctors, and doctors of physical therapy, commit to build practices as “healthy life doctors”.

There is increasing evidence that spinal manipulation is effective for many types of neuromuscular problems. But lifestyle or wellness approaches are effective for many of the same conditions, as well as for most viscerosomatic conditions. Many chiropractors argue that they have always included a lifestyle component in their practice -- yet only a small fraction actually did so. As the mindshift takes place in the larger society, thousands of DCs shift their practices to become “healthy life doctors”.

By 2015, advances in prospective medicine allow accurate predictions of very specific risk factors for disease. Health information systems forecast health conditions by analyzing a person’s genes and sophisticated biomonitoring on all patients. Healthy life doctors specialize in providing targeted health management plans for their patients to avoid the onset of disease.

Consumer-directed health plans give individuals significant choice and proactive consumers who are willing to pay for wellness/preventative care drive changes in the healthcare system. Managed care follows when it becomes apparent that preventing disease is more cost effective than treating it.

## **INSIGHTS & RECOMMENDATIONS**

Chiropractic is a series of enigmas.

- It is the largest and most well established complementary and alternative medicine (CAM) in the United States, but in practice many chiropractors are barely holistic or integrative.
- Chiropractic is still well positioned to take advantage of newfound interest in complementary and alternative care by providing more integrative care themselves, developing better interdisciplinary teams, and doing more consistent referrals. But since we made that recommendation in 1998 DCs have done relatively little to make this integration more real.
- Patient satisfaction with chiropractic care is generally high. But it is not clear if this is from spinal manipulation or the broader aspects of

chiropractic care as it is delivered, including the personal attention of the chiropractor.

- The acceptance of chiropractic in the Department of Veterans Affairs (VA) and Department of Defense (DoD) represent major advances. Yet wide parts of the health care provider establishment are still neutral or hostile to chiropractors and major insurers are further cutting coverage.

IAF identified a number of opportunities for chiropractic profession. The inclusion of chiropractors in the VA and DoD will generate more demand and it will create better relations between conventional medical providers and chiropractors. Consumer driven healthcare with Health Savings Accounts will give consumers more choice.

However, chiropractic still faces significant challenges. Healthcare cost controls, especially in managed care plans, will continue. Although patient satisfaction with chiropractic is high, the broader public has an indifferent or negative attitude to chiropractic. The efforts of chiropractors to integrate with the medical community have been hampered by the lack of internal unity in the chiropractic field.

Also, the evidence for spinal manipulation is promising, but is far from conclusive. Chiropractors will face more competition, especially from the growing numbers of physical therapists who are pursuing direct patient access in all 50 states and are upgrading their educational programs to graduate Doctors of Physical Therapy.

IAF's recommendations for the most important activities the chiropractic field should pursue include:

**1. Accelerate Research:** Chiropractic needs more research demonstrating the efficacy and cost-effectiveness of chiropractic for NMS conditions. Beyond NMS conditions, research on the efficacy and cost-effectiveness of chiropractic care on somatovisceral conditions is needed. The chiropractic community should aggressively promote data collection by chiropractors in their practices. The data could then be used for well-designed scientific studies

**2. Continue to Strive for High Standards of Practice:** In the years ahead empowered consumers and managed care plans will demand better information on their health care providers. They will look for healthcare

providers who generate good outcomes for their patients, and provide good value. The chiropractic profession should define and ensure the use of high standards of practice.

**3. Develop Greater Integration with Mainstream Healthcare:**

Greater integration with mainstream healthcare will create many opportunities for the profession. DCs in practice need to enhance their ability to network with doctors and other health care providers, and make appropriate referrals to them. The clinical experience of chiropractic students should be improved and graduating students should have some clinical experience in settings with healthcare providers other than chiropractors.

**4. Anticipate and Engage Consumer Directed Care:** Consumer Directed Healthcare will be an important force shaping the future of healthcare. Chiropractic's high patient satisfaction rates are important, but not sufficient for becoming the treatment of choice for patients. Chiropractic will also have to improve outcome measures and communicate the benefits of chiropractic care to the public through the media and consumer advocacy groups.

**5. Create Greater Unity within the Profession:** Creating greater unity within the profession remains a major challenge. Since we made this recommendation in 1998 there have been significant efforts towards unity, although with mixed success, and they should continue. One way to enhance unity is a shared chiropractic vision of health, health care and chiropractic. Part of this effort was made in 2000. It should be continued.

**6. Enhance Individual DC's Contribution to Public Health:**

Public and community health objectives are often not addressed by individual chiropractors (just as they are usually not addressed by MDs and other treatment focused health care providers). We recommend that each DC understand what contribution they can make to public/community health and do this. We recognize that many already are doing this, but most chiropractors do not.

**7. Prepare for the Future of Prevention & Wellness:** Scenario 4 forecasts a "healthy life doctor". No aspect of health care has invented the business model for prevention and wellness. Chiropractors argue that they are closer to prevention and wellness than MDs and other providers. Some, but only

some, chiropractors do practice prevention. But the chiropractic field will need to be inventive in defining the economics of success in this realm.

**8. Develop Geriatric Chiropractic:** One of the largest growth areas in healthcare will be geriatrics. The retiring Baby Boomers will look for alternative medicine that can help them to remain active and healthy. Developing better evidence for geriatric chiropractic and more in-depth post-graduate programs in geriatric chiropractic will help chiropractic expand. There is much overlap between prevention and wellness approaches for the general population and what elders need.

# CHAPTER 1

## INTRODUCTION

In 1998, the Institute for Alternative Futures (IAF), a nonprofit futures institute that helps organizations discover and create their preferred future, released **The Future of Chiropractic: Optimizing Health Gains** and a parallel report **The Future of Complementary and Alternative Health Approaches (CAAs)**. The Future of Chiropractic Report looked at healthcare trends and the state of the profession to develop ideas of where the profession would be in the year 2010.

The 1998 reports were funded by a grant from NCMIC. NCMIC wanted to develop leadership tools for their own strategic planning and to help the chiropractic community develop a shared vision for the profession. The Report and its four scenarios were widely read in the profession. David Chapman-Smith used the scenarios to focus on the profession's future in his major work **The Chiropractic Profession**, published in 2000. The scenarios were also used internally as the profession considered developing a shared vision. Yet as Lou Sportelli, said when the 1998 report was released, it was only the first step in a process that continues to this day.

To help continue the process of exploring the alternative futures of the field, NCMIC asked IAF to update our 1998 report. In this update, we focus on trends in the chiropractic field, rather the larger health care environment or other aspects of complementary or alternative approaches. We examine how the trends have evolved since 1998, summarize these, revise and extend our scenarios, along the way identifying what we were correct in anticipating, what has not happened and the major things we missed in our 1998 report.

Thus as futurists, with significant experience considering the future of health care, we committed to applying IAF's futures approach a second time to the chiropractic field. We considered lessons learned from our ongoing trend monitoring beyond chiropractic to check what we were learning about the chiropractic field itself. For the chiropractic field, and its major competitors, we reviewed the trends and forecasts we made in our 1998 report, and did extensive literature research and expert interviews. With the help of NCMIC, IAF developed a significant list of leaders in the chiropractic field to interview about the current state of the profession and their vision for the future of chiropractic. In addition to the experts in the field and observers of

chiropractic, we also worked to interview as many of the deans or presidents of the chiropractic colleges in North America as we could. We attended the Florida Chiropractic Association's annual meeting in Orlando in August of 2004 and were able to interview several of the college deans in person, meet other experts, and view the products and talk with vendors who supply products and services to the chiropractic field. One of the many useful results of this process is the survey of deans, presidents, and vice-presidents, described in Chapter 2. The survey attempts to locate the chiropractic colleges along a spectrum roughly representing their approach to the philosophy and practice of chiropractic (one approach to the inadequately labeled straight/mixer divide in the profession).

We developed an initial draft of this report and received additional, very useful, and sometimes very critical input from our advisory committee. The result is this report: **The Future of Chiropractic Revisited**.

The second chapter reviews trends in chiropractic. The third chapter presents IAF's scenarios for chiropractic in 2015. Chapter 4 provides insights and recommendations developed by IAF futurists for the field. Our recommendations are made as IAF futurists with a wide range of experience in health care and with health professions, both conventional and alternative.

Appendix A identifies our advisory committee and the experts we interviewed for this report. Appendix B provides some explicit comments on how our 1998 scenarios held up as the future arrived. Appendix C provides our assumptions for the scenarios in greater detail. Any questions or requests by anyone interested in developing their own scenarios should contact us by email at [futurist@altfutures.com](mailto:futurist@altfutures.com).

### **Caveats and IAF's Orientation:**

The future is uncertain and remains so – this report seeks to provide boundaries to that uncertainty in order to provide alternative views of how the future might unfold. The data or factual base from which we start is, in many cases, not firm. The number of practicing chiropractors is a prime example. We have chosen what we think of as appropriate starting places, identify our sources and assumptions.

We also write this report with IAF's brand of aspirational futures. We believe that futures work should combine a fact based consideration of trends, an understanding of the systems underlying the topic being explored,



and a creative and imaginative consideration of future prospects. Specifically we believe that futures work should 1) make users of the futures work smarter about what might happen, and 2) enable users to better create their preferred future. Thus our scenarios include one we think is a “most likely” extrapolation of the present, one that takes some of the many challenges faced by the particular field being considered in the scenarios, one or more that consider significant changes leading to a visionary outcome. Visionary in this context means the “best that could be” as the community considers its values and the future they want and will commit to creating.

In scenario 3 and 4 we put IAF’s sense of the “best that could” be for the field, in the context of evolving US healthcare and chiropractic’s competition. Our vision assumes that chiropractic continues to be the patient oriented practice that most DC’s exhibit combined with a growing commitment to evidence based practice and with greater integration into health care.

We entitled our 1998 report *The Future of Chiropractic: Optimizing Health Gains*. We felt strongly then that chiropractic has much to offer, even as it still has much evidence to develop, and its own evolution to pursue. We still feel that there is significant benefit from spinal manipulation and from the broader approaches of chiropractic care, including its patient centered nature. Yet evidence will be needed (see our recommendations), and competition will be strong.

This is a report on the future of chiropractic in the US. Chiropractic, which is now a global health profession, is a uniquely American invention. Chiropractic has expanded to include more than 85 countries. The innovation that prompted D.D. Palmer in the 19<sup>th</sup> century and B.J. Palmer in the early 20<sup>th</sup> century will be necessary in the 21<sup>st</sup> Century.

**Editor’s Note:**

On January 27, 2005 Florida’s Board of Governors voted 10 to 3 to kill the chiropractic college at Florida State University (FSU). The vote looks like the end for the program even though the Florida Legislature had authorized its creation in a state law and guaranteed FSU \$9 million annually to operate it. The vote occurred after the completion of this report, but only a few days before the official release. The FSU program is mentioned throughout this report.

The chiropractic college at FSU would have been the first state supported chiropractic program at a public university. It could have opened up new opportunities for research, increased the cultural legitimacy of the profession, allowed a more diverse range of students to become chiropractors, and opened the door for similar programs in the future. Unfortunately, this opportunity looks as if it will not come to pass.

The FSU decision does highlight some of the challenges identified in this report. First, it shows that the support of the entire profession, including other chiropractic colleges, is needed. Second, it shows that the profession must do more to improve its legitimacy to the public and to the medical elites. Third, the field will need to argue the need for more chiropractors in specific locations (in addition to the argument that if the state is supporting the education and training of other health professions, chiropractic deserves the same support).

IAF hopes that the chiropractic profession assesses the enhanced aspirations for research, training, and expanded career possibilities that accompanied the development of the FSU Program. Other venues for those aspirations should be sought. Finally the cancellation of the FSU program should serve as a wake-up call for the profession to pursue its unity, coherent communication and enhanced research.

### **Brief Overview of Healthcare Trends:**

While the focus of this report is to look at trends in the chiropractic community, there are some major macro trends occurring in healthcare that are mentioned throughout the text. These trends also affected how we developed the scenarios. This brief overview is intended to help orient the reader to those trends. We acknowledge there are many more trends and key forces shaping health care, many of which have been summarized in IAF's previous work and in important works by others.

### **Aging**

The population of the United States, and the rest of the developed world, is aging rapidly. This places a huge demand on the healthcare system for geriatric care. Baby Boomers, the largest segment of the U.S. population, will begin to turn 65 over the next few years. The baby boomer generation will demand more options, better value from their healthcare system, and will look for ways to stay active in their old age.

## **Technology**

Technology is one of the most dynamic forces of change in healthcare and one of the least predictable. Information technology will make coordinating healthcare and gathering outcomes data easier. Better imaging and diagnostic technology will make it easier to expand our knowledge of disease and treat “pre-disease” states through prevention. Biomonitoring will also make it easier to develop treatment plans.

## **Evidence/Outcomes Based Medicine**

Evidence based and outcomes based medicine is slowly transforming healthcare. Evidence based medicine is helping to improve patient care and control costs. Outcomes based medicine, through provider report cards and other methods, is increasing quality and competition in medicine.

## **Cost Squeeze in Healthcare**

Across the board, the costs of healthcare keep rising and with the population aging, it looks set to continue rising into the future. Increasingly, healthcare providers, whether they are physicians, pharmaceutical companies, or chiropractors, will be fighting for a smaller share. Providers will have to have more than high patient satisfaction rates; they will also have to prove that they are efficacious and cost effective.

## **Consumer Directed Health Care**

Consumer directed health care, operationalized through tax-free accounts such as Health Savings Accounts (HSA) reflects the growing momentum to inject more competition and consumer choice into the healthcare system. Yet shifting more responsibility for health spending choices onto the patient will work to drive down costs and increase quality only if patients have access to understandable outcomes research to help them choose providers and treatments and to determine when and how to invest in prevention.

## CHAPTER 2

# ISSUES & TRENDS IN CHIROPRACTIC

### KEY OBSERVATIONS

- According to the 2002 National Health Interview Survey, nearly 20% of the U.S. population has used chiropractic at some point and 7.5% of the adult population of the US uses chiropractic each year.
- Patient satisfaction with chiropractic care is very high. Combined with effective political skills, this has contributed to chiropractic's greater inclusion into the healthcare system, including new opportunities in the Department of Defense and the Department of Veterans Affairs.
- Key challenges to the profession, discussed in more detail below, include:
  - In general, a relative lack of awareness on the part of the broader public of the value of chiropractors' services;
  - Focus-of-practice questions (whether and how far chiropractic should extend beyond back problems);
  - Lack of professional solidarity;
  - Reimbursement restrictions;
  - Potential rise in competition from other types of practitioners.
- Chiropractic's future could be very bright given certain developments:
  - Continued growth in the evidence confirming manipulation's efficacy and cost-effectiveness;
  - Continued high support among patients;
  - Better integration into the wider healthcare system, including more referrals both to and from medical doctors.

## BACKGROUND ON CHIROPRACTIC

While musculoskeletal manipulation dates back as far as 2700 BC in China, modern chiropractic is thought to have been founded by D.D. Palmer in 1895. D.D. and his son, B.J. Palmer, went on to establish a flourishing practice and school, centered on achieving health through manipulation of the spine. Chiropractic was focused on improving a patient's vital energy and overall health through chiropractic adjustments. Unlike many doctors of their era, the Palmers believed that resistance to disease had more to do with a person's vital energy and overall health than agents external to the body.

The chiropractic profession today enjoys widespread recognition and use. In 2002, in the United States, around 7.5% of adults have visited a Doctor of Chiropractic (DC) in the last year.<sup>1</sup> All fifty states license chiropractors, while laws and regulations regarding chiropractic's licensure and scope of practice continue to broaden, to include massage therapy, acupuncture, adjunctive physical therapy procedures, ergonomic advice, rehabilitative exercises, and nutritional aids.<sup>2</sup> Chiropractic care is covered through the Department of Veterans Affairs, the Department of Defense, and approximately three fourths of employer sponsored health plans.<sup>3</sup>

What does chiropractic do? Chiropractic doctors receive training similar in many respects to that of primary care physicians – chiropractic colleges are required to provide training in primary care, including nutrition. The ability and willingness or unwillingness of chiropractors to fulfill this primary care role is discussed in more detail below. However the prime component of chiropractic training and care is spinal manipulation. Essentially, manipulation involves palpation of the joint and adjusting the components of the spine to achieve a therapeutic effect.

Chiropractors achieve their therapeutic benefit by manipulating the joints (commonly of the spine) beyond what an individual could do alone. *Figure 1-1* below illustrates the range of motion, where the therapeutic effects are

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<sup>1</sup> Barnes PM, Powell-Griner E, McFann K, Nahin RL. (2004). Complementary and Alternative Medicine Use Among Adults: United States, 2002. Advance data from vital and health statistics; no 343. Hyattsville, Maryland: National Center for Health Statistics.

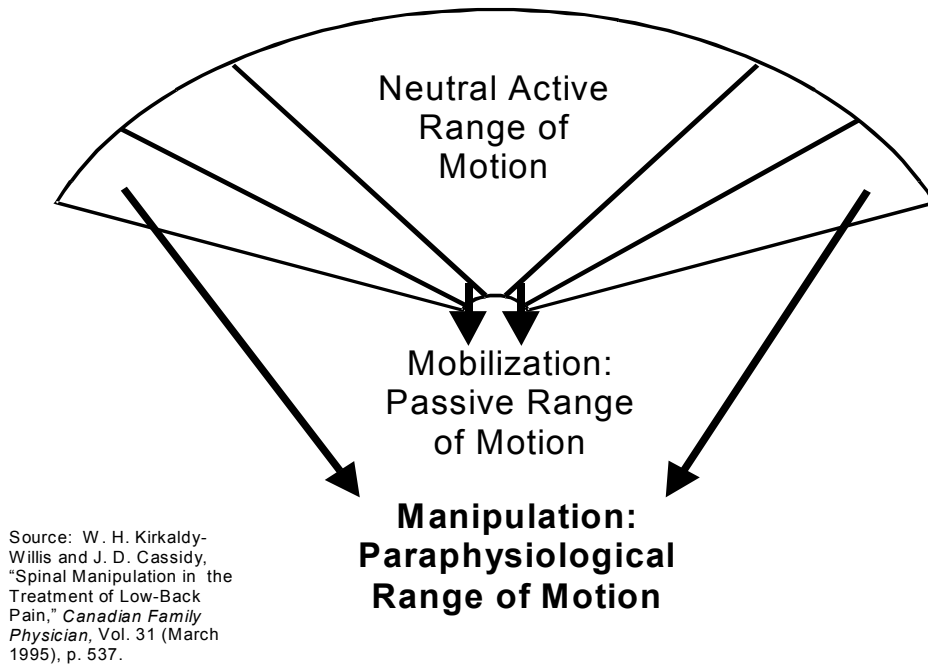
<sup>2</sup> Cooper, Richard A & Heather J. McKee. (2003). Chiropractic in the United States: Trends & Issues. *The Milbank Quarterly*, Vol. 81, No. 1.

<sup>3</sup> Passero, Marino and Daniel Redwood (2003) Managed Care published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. St. Louis: Mosby, Inc.

thought to occur.<sup>4</sup> In normal activity, the spine has an “active” range of motion as we move through the day. Beyond this is a range of “passive motion”. However, the greatest therapeutic effect is believed to come from manipulation beyond this passive range—hence, parapsychological. Manipulation in the parapsychological range of motion is thought to improve joint function, decrease pain and immobility, and promote better health.

**Figure 1-1**

**JOINT MOBILIZATION and MANIPULATION**



Chiropractors are the dominant source of spinal manipulation in the US. Estimates published in the early 1990s indicated that chiropractors provide 94% of manipulation, with osteopaths providing most of the remaining 6%.<sup>5</sup> Interviews for this report suggest that the share of manipulation provided by other providers might have risen to 10% since the early 1990s. As outcomes research confirms spinal manipulation’s value, competition from other health care providers is likely to grow. Physical therapists, osteopaths, massage therapists, physicians and nurses trained in manipulation will compete with chiropractors for patients seeking spinal manipulation.

<sup>4</sup> W. H. Kirkaldy-Willis and J. D. Cassidy. (1995, March). Spinal Manipulation in the Treatment of Low-Back Pain. *Canadian Family Physician*, Vol. 31, pp. 535-540.

<sup>5</sup> P. G. Shekelle and A. H. Adams et al. (1991) *The Appropriateness of Spinal Manipulation for Lower-back Pain: Project Overview and Literature Review* Santa Monica, CA: RAND, 1991.

# CHIROPRACTIC IN THE HEALTH CARE MARKETPLACE

## DEMAND FOR SERVICES AND EFFICACY

Consumers seek chiropractic care for a variety of complaints. The majority of chiropractic visits are for back pain. Other common complaints are neck pain, extremity pain/injury, and headache or facial pain.<sup>6</sup> These common complaints along with some other less common complaints are commonly referred to as neuromusculoskeletal (NMS) conditions in the chiropractic literature. A 1997 survey conducted by the American Chiropractic Association (ACA) indicated that NMS conditions made up 94% of the conditions treated by the average chiropractor.<sup>7</sup>

Some chiropractors build practices which include regular patient visits independent of specific complaints. These “wellness” or preventive visits represent freely chosen care beyond the typical medical services model, somewhat akin to decisions to use a fitness club, take vitamins or engage in lifestyle choices which will affect their overall health. Many chiropractors who provide “wellness” or “maintenance” visits provide only manipulation to relieve subluxation without additional advice on prevention. A smaller number of chiropractors provide a more complete visit that combines health coaching and other preventative care with manipulation.

These “wellness” or “maintenance” visits were not compared directly to treatment focused visits in the National Board of Chiropractic Examiners (NBCE) survey, but it did ask individual chiropractors to make a judgment concerning the primary etiology for their patient’s chief complaints and included wellness/preventive care as one of eleven options. Responses for wellness/preventive care averaged 9.3%.<sup>8</sup> Using this number as a baseline and input from interviews both for this 2005 report and the original 1998 report, IAF is using 10% as a rough estimate of the percentage of visits to the average chiropractor that are wellness/preventative visits.<sup>9</sup> Our

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<sup>6</sup> Mark G. Christensen, ed., (2000) *Job Analysis of Chiropractic*, pg. 79. Greeley, CO: National Board of Chiropractic Examiners.

<sup>7</sup> American Chiropractic Foundation (1999). *The Official ACA Statistical Survey Package*, pg 10. Arlington, VA: American Chiropractic Foundation.

<sup>8</sup> Mark G. Christensen, ed., op cit.

<sup>9</sup> The estimate for wellness/preventative visits is probably lower for younger chiropractors and chiropractors who either follow a more “liberal” or evidence based model of chiropractic and/or new patients are less willing to pay for wellness/preventative visits out of pocket.

interviews for this 2005 report suggest that this percentage of visits may be declining as it becomes harder for patients to come in routinely and managed care and insurers continue to remove reimbursement for these visits.

The prevalence of back pain and back problems create a vital role for chiropractors. Back pain is the most prevalent chronic medical problem<sup>10</sup> and accounts for more an estimated \$50 to \$100 billion in annual US healthcare costs.<sup>11</sup> This cost is likely to rise as the percentage of the elderly population in the U.S. continues to grow.

Overall, as outlined in the scenarios below, there could be growth in demand for manipulation services, driven largely by back problems. Some possible drivers include: back problems (including for the aging population) and increased demand for prevention/wellness visits. However, chiropractic will have to compete for this rise in demand with other healthcare providers. How well they can compete is affected by several factors including: managed care; the supply of chiropractors and their role in primary care; the results of research on efficacy; competition from other health professionals doing spinal manipulation; and policy and reimbursement issues—all discussed in the following sections.

## **SUPPLY OF CHIROPRACTIC SERVICES**

Estimating the number of licensed chiropractors and practicing chiropractors is a challenge. In this report we are using numbers from 2002 as this is the most recent year for complete data for most topics. In 2001 there were 78,664 active chiropractic licenses in the US States. Since many chiropractors are licensed to practice in more than one state (Florida is especially popular), licenses in different states to the same chiropractor need to be removed. Cheryl Hawk did this for 2001 and found there were 66,670 non redundant chiropractic license holders. However, there is some percentage of licensed chiropractors who do not practice. One estimate is 15%. Using this that would mean there were an estimated 57,000 practicing DCs in the US in 2001. In 2002, there were 84,836 licenses. Using the same

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<sup>10</sup> Wolsko, PM and DM Eisenberg, RB Davis, SL Ettner, and RS Phillips. (2002) Insurance coverage, medical conditions, and visits to alternative medicine providers: results of a national survey. *Archives of Internal Medicine*, 162:281-287.

<sup>11</sup> Pelletier KR, and JA Astin. (2002) Integration and reimbursement of complementary and alternative medicine by managed care and insurance providers: 2000 update and cohort analysis. *Alternative Therapies in Health and Medicine*, 8:38-9, 42, 44.



percentage of redundant licenses leads to an estimated 72,000 non-redundant licensed chiropractors. We then removed 15% as an estimate of non-practicing chiropractors which leaves 61,000 as actively practicing chiropractors in 2002.<sup>12</sup>

Another estimate is provided by the U.S. Bureau of Labor Statistics (BLS). The BLS, based on a national sample survey, estimated that there were 49,000 active chiropractors in 2002. Most experts interviewed thought this number was too low.<sup>13</sup>

Estimating the number of chiropractors actually practicing is important as a base for developing forecasts for 2015. Table 1-1, shows the base forecast of growth to 2015, supported by the growing number of chiropractic colleges and the estimates of the number of their graduates each year. These are rough estimates and we encourage readers to develop alternative assumptions and forecasts.

**Table 1-1: Forecasted Supply of Chiropractors in the United States through 2015**

	2000	2005	2010	2015
number of chiropractic colleges	16	17	18	20
Graduates per year	3,800	3,400	3,700	4,000
Estimate of Licensed Chiropractors	69,000	74,000	80,000	87,000
Estimate of Practicing Chiropractors	59,000	63,000	68,000	74,000

Source: All numbers after 2000 are estimated projections (see Appendix C). Chiropractic graduates are based on the IPEDS-NES database.<sup>14</sup> Estimates of licensed practicing chiropractors based on active non-redundant licenses as described above. For forecasting purposes, IAF also assumes the opening of the first chiropractic program at Florida State University, the accreditation of D'Youville College, and the opening of one other small program by 2015.

For this update report the forecast is significant. In IAF's 1998 report, an oversupply of primary-care physicians, including chiropractors, was forecast, based heavily on the work of Richard Cooper, MD, of the Health Policy Institute at the Medical College of Wisconsin. Cooper had forecasted an oversupply of primary-care providers as the number of non-physician

<sup>12</sup>The number of non-redundant active licenses held in the U.S. totaled 66,790 in 2001 based on a data set supplied to the Health Resources and Services Administration (HRSA) for their Area Resource File and supplied to us by Dr. William Meeker.

HRSA, Area Resource File, available online: <http://www.arfsys.com/>  
 2004-2005 Official Directory of the Federation of Chiropractic Licensing Boards, Retrieved Online 1/4/2005: <http://www.fclb.org/directory/index.htm>

<sup>13</sup> Hecker, Daniel E. (2004, February). Occupational Employment Projections to 2012. *Monthly Labor Review*, p. 86. Retrieved 11/23/2004 at <http://www.bls.gov/opub/mlr/2004/02/art5full.pdf>

<sup>14</sup> National Center for Education Statistics, *Integrated Postsecondary Education Data System*, Retrieved online 8/15/2004 at <http://nces.ed.gov/ipeds/pas/>

clinicians increased. In our 1998 report IAF used Cooper's forecast for 2010 of 103,000 chiropractors.<sup>15</sup>

As noted below, around that time there was a dramatic decline in enrollments in chiropractic colleges. While this decline has been largely overcome, significant growth in the number of chiropractors in the US is more doubtful. Cooper has more recently estimated that, unless the output of chiropractic colleges shrinks substantially more, there will be almost 100,000 chiropractors in 2015.<sup>16</sup>

This discussion of supply reinforces the uncertainty about key aspects of the profession and its environment. The oversupply which Cooper forecasts could result from changes in the supply side (producing too many DCs) or the demand side (a decrease in total demand or an increase in competition for manipulation from non-chiropractors). Demand for back care is likely to grow. The threat to chiropractors will be from growth in other providers of back care.

## **COMPETITION IN SPINAL MANIPULATION AND BACK PROBLEMS**

As the body of research substantiating spinal manipulation's effectiveness grows, a wider range of health care providers is likely to provide musculoskeletal manipulation services, despite varying degrees of training and expertise. Training of non-chiropractors in spinal manipulation ranges from full professional courses to weekend seminars. Complications during cervical adjustment/manipulation can be severe and proper training is important to avoid injury.<sup>17</sup> Thankfully, as discussed below in the section on safety research, the risks of serious complications during cervical adjustment/manipulations are very low.

The possibility of physicians and other providers with abbreviated training in manipulation remains a competitive threat to chiropractic. Perhaps more threatening to chiropractic is the similar outcomes by other modalities used

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<sup>15</sup> Cooper, Richard A. and S. Stoflet (1996, Fall). Trends in the Education and Practice of Alternative Medicine Clinicians. *Health Affairs*, p. 229.

<sup>16</sup> Cooper, Richard A. and H. J. McKee (2003, No. 1) Chiropractic in the United States: Trends and Issues, *The Milbank Quarterly*, p. 119.

<sup>17</sup> See Triano, John. (2004, March 4) Procedural skills in spinal manipulation: do prerequisites matter? *Spine-health.com*. Retrieved Online 8/15/2004 at <http://www.spine-health.com/topics/conserv/mani/manipulation01.html>

to treat acute and sub-acute low back pain. Cooper and McGee note that a series of large, overlapping trials for the treatment of acute and sub-acute low back pain showed very similar outcomes for SMT (spinal manipulation therapy), massage therapy, physical therapy, standard medical care, or self-care by patients aided by instructional booklets or back school.<sup>18</sup>

Competition for the back care market is likely to increase as more physical therapists, massage therapists, and acupuncturists enter the market. *Table 1-2* below, uses IAF’s estimates on the number of practicing chiropractors, Bureau of Labor Statistics estimates and those from Cooper, to compare chiropractors to PTs, massage therapists and acupuncturists. As we noted there is great uncertainty in these estimates, but their directions are significant.

**Table 1-2: Forecasted Supply of Selected Chiropractic Competitors**

	2002	2012	Percent Change
Doctors of Chiropractic	61,000	70,000	15%
Physical Therapists	137,000	185,000	35%
Massage Therapists	92,000	117,000	27%
Acupuncturists	15,000	27,000	77%

Sources: Physical massage therapist numbers from the Bureau of Labor Statistics: Occupational Employment Projections to 2012. DC numbers and projects based on active non-redundant licenses. For further reference, BLS projections for chiropractors are 49,000 in 2002 and 60,000 in 2012.<sup>19</sup> Projections for Acupuncturists are derived from Richard Cooper’s projections for acupuncturists from 2002 to 2015.<sup>20</sup>

Probably the most serious competitive threat on the horizon is from physical therapists. PT’s training in and capacity to do mobilization puts them in a position to treat many of the back problems seen by chiropractors.

There are twice as many physical therapists as chiropractors, and that ratio is likely to shift only slightly. Also, physical therapists are making a major shift to become Doctors of Physical Therapy, DPTs, and are seeking direct patient access.

The American Physical Therapy Association’s (APTA) Vision 2020 goals envision that “by 2020, physical therapy will be provided by physical therapists who are doctors of physical therapy, recognized by consumers and

<sup>18</sup> Cooper, Richard A. and H. J. McKee (2003, No. 1) Chiropractic in the United States: Trends and Issues, *The Milbank Quarterly*, p. 119.

<sup>19</sup> Hecker, Daniel E. (2004, February). Occupational Employment Projections to 2012. *Monthly Labor Review*, p. 86. Retrieved 11/23/2004 at <http://www.bls.gov/opub/mlr/2004/02/art5full.pdf>

<sup>20</sup> Cooper, Richard A. and Heather J. McKee, op. cit.

other health care professionals as practitioners of choice to whom consumers have direct access for the diagnosis of, interventions for, and prevention of impairments, functional limitations, and disabilities related to movement, function, and health.”<sup>21</sup> Approximately 35 states grant physical therapists “direct access” to patients in some form, up from 6 states in 1984.<sup>22</sup> The APTA has recently proposed a multi-site demonstration project to the Medicare Payment Advisory Committee (MedPAC) on providing direct access to physical therapists for Medicare beneficiaries.<sup>23</sup> Physical therapy is organized and dedicated to pursuing the twin goals of obtaining direct patient access in all states and converting present day Masters of Physical Therapy (MPT) programs to DPT programs.

Many physical therapy programs have switched to a DPT program and more are planning to switch in the near future. There are 111 DPT programs out of a total 209 physical therapy programs. More than half of the physical therapy programs are located at public institutions. By 2012 another 80 programs are planned or projected to offer a DPT degree.<sup>24</sup>

Chiropractors also face competition from massage therapists and acupuncturists. According to Cooper the number of massage therapists has more than tripled in the last seven years<sup>25</sup> and the American Massage Therapy Association reports that their market share of patients with neck, shoulder, and back pain exceeds 20 percent.<sup>26</sup> A heightened interest in acupuncture has led to dramatic increase in its training capacity to 50 accredited programs. Cooper forecasts that the number of acupuncturists could double from 15,000 now to 30,000 in 2015.<sup>27</sup>

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<sup>21</sup> American Physical Therapy Association. APTA Vision Sentence and Vision Statement for Physical Therapy 2020. Retrieved 10/2004 at <http://www.apta.org/About/aptamissiongoals/visionstatement>

<sup>22</sup> Estimate provided by Dr. Karl Kranz.

<sup>23</sup> American Physical Therapy Association. Physical Therapists Urge Further Study On Direct Access. Retrieved Online 11/22/2004 at [http://www.apta.org/news/news\\_releases/new](http://www.apta.org/news/news_releases/new)

<sup>24</sup> American Physical Therapy Association (2004, Sept.), 2004 Fact Sheet: Physical Therapist Education Programs. Accessed Online 11/2004: [http://www.apta.org/education/accreditation/fact\\_sheets](http://www.apta.org/education/accreditation/fact_sheets)

<sup>25</sup> According to Richard Cooper, the number of massage therapists rose from approximately 75,000 in 1995 to more than 250,000 in 2002.

<sup>26</sup> Richard A. Cooper and Heather J. McKee, Chiropractic in the United States: Trends and Issues, *The Milbank Quarterly*, Vol. 81, No. 1, 2003, page 120.

<sup>27</sup> Cooper, Richard A. and Heather J. McKee, op. cit.

## CHIROPRACTIC EDUCATION

There are currently 17 accredited U.S. chiropractic colleges.<sup>28</sup> This number will rise to 18 when D'Youville College's chiropractic program receives its accreditation. In 2007, this number could grow to 19 with the addition of the first state funded chiropractic program at Florida State University. It should be noted, however, that there is still institutional opposition in Florida to the chiropractic program and its opening is being challenged. To develop forecasts for the field we are assuming the addition of one more small chiropractic college by 2015. Alternately, there is the possibility that some existing chiropractic colleges might become associated with a state university or receive state funding, either of which could positively influence enrollment.

Studies in the U.S. and abroad have concluded that chiropractic education is the equivalent of medical education in all of the basic sciences.<sup>29</sup> However, there are differences between medical education and chiropractic education in the clinical sciences and clinical practice. The amount of clinical sciences offered is similar although the type of clinical sciences offered differs.<sup>30</sup> Chiropractic colleges, however, offer much less clinical practice, especially when a medical residency is factored in. There are also differences between the two in entrance requirements. One study in the 1990s found that while

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<sup>28</sup> This number is based on the Council on Chiropractic Education's directory of accredited chiropractic programs (<http://www.cce-usa.org/>). The colleges include: Cleveland Chiropractic-Kansas City, Cleveland Chiropractic-Los Angeles, Life Chiropractic College West, Life College, Logan College of Chiropractic, National University of Health Sciences, New York Chiropractic College, Northwestern Health Sciences University, Palmer College of Chiropractic, Palmer West, Palmer Florida, Parker College of Chiropractic, Sherman College of Straight Chiropractic, Los Angeles College of Chiropractic, Texas Chiropractic College, University of Bridgeport Chiropractic College, and Western States Chiropractic College. D'Youville College in Buffalo, NY has recently opened a chiropractic program. D'Youville College in Buffalo, NY has recently opened a chiropractic program. In our forecasts later in the report we estimated that another small chiropractic program, possibly state sponsored, will open before 2015.

The Council on Chiropractic Education. *Directory of Chiropractic Degree Programs and Solitary Purpose Chiropractic Institutions Holding Accredited Status*. Retrieved online 11/15/2004 at <http://www.cce-usa.org/CCE%20Publication%20of%20Accredited%20Programs.pdf>

<sup>29</sup> Dvorak, J. (1983). "Manual medicine in the United States and Europe in the year 1982. *Manual Medicine*, p. 3-9. Curtis, P and G. Bove. (1992) Family physicians, chiropractors and back pain. *Journal of Family Practice*; 35 (5): 551-5. Commission on Alternative Medicine, Social Department (1987) Legitimization for Vissa Kiropraktorer. Stockholm, SOU (English Summary).

<sup>30</sup> Typical chiropractic courses include: anatomy; biochemistry; physiology; microbiology, pathology; public health; physical, clinical and laboratory diagnosis; gynecology; obstetrics; pediatrics; geriatrics; dermatology; otolaryngology; diagnostic imaging procedures; psychology; nutrition/dietetics; biomechanics; orthopedics; neurology; first aid and emergency procedures; spinal analysis; principles and practice of chiropractic; clinical decision making; adjustive techniques; research methods and procedures; and professional practice ethics. The Council on Chiropractic Education. *Frequently Asked Question.*, Retrieved Online 11/15/2004 at <http://www.cce-usa.org/Frequently%20Asked%20Questions.pdf>

ninety-nine percent of applicants to medical school had a bachelor's degree compared to 42% of applicants to chiropractic school.<sup>31</sup> However, since that report, chiropractic colleges have raised their entrance requirements to 90 credit hours (roughly three years of college).<sup>32</sup>

A common theme mentioned by the college presidents IAF interviewed, is an increase in internships and rotations integrated with other health professions, both allopathic and complementary and alternative medicine (CAM). Some of the college presidents indicated they were in negotiations with local hospitals to begin or expand educational rotations. Texas Chiropractic College, for example, offers full rotations in neurosurgery, orthopedic surgery, family medicine, rheumatology and other medical fields to its chiropractic students.<sup>33</sup> Satisfaction among the hospital staff and chiropractic students has been high.

Some chiropractic experts we interviewed felt that there are major differences among chiropractors and among chiropractic students in their ability (if they were willing and had the opportunity) to integrate into the mainstream of healthcare. Many are not conversant in the terminology or processes commonly used in the medical fields, which can cause problems. For many chiropractors, integrating into mainstream healthcare will require new sets of skills and terminology.

Postgraduate chiropractic training is available for a variety of specialties. Full-time, three year residency programs, mostly in radiology, are available at many chiropractic colleges. Part-time non-residency programs are offered by many colleges and professional bodies, but can vary widely in quality.<sup>34</sup> Postgraduate degrees, fellowships and diplomates are available in Chiropractic Sciences, Neurology, Nutrition, Occupational Health, Orthopedics, Pediatrics, Radiology, and Rehabilitation. The most developed

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<sup>31</sup> Coulter, Ian, Alan Adams, Peter Coggan, Michael Wilkes, and Meredith Gonyea (1998, Sept.) A Comparative Study of Chiropractic and Medical Education. *Alternative Therapies*, vol. 4, no. 5, p. 64-75.

<sup>32</sup> Council on Chiropractic Education (2004, January) Standards for Doctor of Chiropractic Programs and Requirements for Institutional Status, p. 19-22.

<sup>33</sup> Texas Chiropractic College. *Hospital Rotations Program*. Retrieved Online 11/22/2004 at <http://www.txchiro.edu/>

<sup>34</sup> Some experts interviewed noted that shorter term chiropractic postgraduate training does not have the same depth and breadth as medical specializations. A 300 hour or 350 hour diplomate course does not offer the same amount of depth in terms of education, training, and clinical experience as a two or three year medical residency program.

postgraduate specialty is radiology and the fastest growing specialties are rehabilitation and sports chiropractic.<sup>35</sup>

Beyond their initial training, the vast majority of chiropractors pursue continuing education, and this is often required by their state licensing board. In a 2003 study, 96.2% of chiropractors continued their professional education through conferences and seminars, and a little over a third (34.6%) attended diplomate courses.<sup>36</sup>

The most important story about chiropractic education, and one not foreseen in our 1998 report, has been the dramatic decline in chiropractic enrollments. According to data published by the National Center for Education Statistics, fall enrollments for sixteen U.S. chiropractic programs fell 39.9% from 16,500 in 1996 to 9,921 in 2002.<sup>37</sup>

Possible causes for the decline, identified during our recent interviews with chiropractic experts, include raising admission standards to 90 semester credit hours,<sup>38</sup> a demographic drop in eligible students, rising tuition costs, the increasing burden of student loans, managed care's affect on the chiropractic profession, and a reduction in referrals, recruiting, and encouragement from practicing chiropractors. In all likelihood, the drop in enrollments is due to a combination of factors mentioned. It was also noted that virtually all health professions saw a drop in applications during this period. In medical schools, where applications vastly exceeded openings, there was not a drop in enrollments.

Our interviews with the presidents of chiropractic colleges confirm a rise in enrollment levels since 2002. Some of the college presidents also noted that this increase will be supported by the demographic bulge as more of the millennial generation graduate from undergraduate programs and pursue graduate degrees.

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<sup>35</sup> Chapman-Smith, David. (2000). *The Chiropractic Profession*. p. 51-2. Des Moines, Iowa: NCMIC Group, Inc.

<sup>36</sup> M. Christensen, op. cit., p. 73.

<sup>37</sup> National Center for Education Statistics, *Integrated Postsecondary Education Data System*, Retrieved online 8/15/2004 at <http://nces.ed.gov/ipeds/pas/>

<sup>38</sup> All chiropractic colleges, for accreditation, must require 90 credit hours. This has raised the minimum admission requirement to a point between a two year associates degree and a four year baccalaureate degree. According to our interviewees this has made recruiting more difficult. Community college graduates still need additional courses and many four year colleges don't want chiropractic recruiters on campus since students could leave for a chiropractic program before completing their Bachelors degrees.

The opening of a chiropractic program at Florida State University could be a huge step forward for chiropractic.<sup>39</sup> Large state universities have a well established support infrastructure to help their researchers apply for federal grants. They have strong collaborations with other healthcare disciplines both inside the university and with local community hospitals. Large state universities also have well established networks with philanthropic organizations, community groups, local and state governments.

The FSU chiropractic program is set to open with 40 students in 2007 who will graduate with a DC degree and a master's degree in another field, such as public health.<sup>40</sup> It is a five year program, so its first graduating class would be in 2012. The program could grow from 40 in the initial class to as high as 100. The costs have not been set, but the initial estimates are \$11,000 yearly for tuition, or \$55,000 for the five years and two degrees. This compares to as much as \$71,000 for the 4 years for the DC degree in a private chiropractic college.

In 2004 the opening of the program ran into opposition from FSU faculty, complaining that it would not be a science based program. Outside groups that had worked to prevent the establishment of a government funded chiropractic school in Canada are working with this group of faculty. A faculty committee has been created to explore the complaints. There is also a crucial vote by Florida's Board of Governors scheduled for the end of the month.

An important theme in chiropractic education, often mentioned in our interviews, is the changing profile of the chiropractic student. Most chiropractic students have typically been referred by a friend or family member who is a chiropractor or has had previous positive experience with chiropractic care. According to many chiropractic experts and college presidents interviewed for this revised report, more students are deciding to enroll without previous experience with chiropractic or being referred by a friend or family member. This trend, combined with the opening of the first public chiropractic program, could bring more diversity into the profession and help the profession to reach beyond its traditional patient base.

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<sup>39</sup> The FSU program has encountered significant opposition from both inside the chiropractic community and outside the chiropractic community.

<sup>40</sup> Editor's Note: The Florida Board of Governors voted to kill the FSU chiropractic program on January 27, 2005. This occurred between the completion of this report and the official release. IAF hopes that the cancellation of the FSU program serves as a wake-up call to the profession.



## PRACTITIONER EXPERIENCE

Chiropractic doctors, like allopathic physicians for most of the 20th century, have predominantly been solo practitioners. In our previous report, IAF forecast a decline in solo practitioners and there has been a small decline in solo practices, from 76% in 1995 to 70% in 1997 based on the ACA's annual survey.<sup>41</sup> Given recent trends in most healthcare professions that are reducing the number of solo practices, it is likely that chiropractic solo practices will continue to decline slowly in the years ahead.

This shift away from solo practice includes partnering with other providers. *Chiropractic Economics* annual surveys of its readers show that more chiropractors are offering more integrated care options with other complementary and alternative medicines. Three quarters of chiropractors in their survey offer exercise programs while more than half offer nutritional counseling, physical therapy, and/or massage.<sup>42</sup>

The Defense Authorization Act of 2001 has designated chiropractic as an official benefit for active duty military personal. In a short time, chiropractic care has expanded from a pilot project of 10 military bases to 42 bases nationwide in 2004.<sup>43</sup> In September of 2004, the first chiropractor was hired for the Department of Veteran's Affairs (VA) new pilot program for chiropractic in 26 VA facilities.<sup>44</sup> In 2002 the Health Resources and Services Administration (HRSA) included DCs in the National Health Service Corps student loan program. This provides loan repayment awards to qualified chiropractors who agree to practice in Primary Care Health Professional Shortage Areas (HPSAs).<sup>45</sup> All of these opportunities increase the contact between the chiropractic profession, the allopathic community, and the general public. This is especially true for the VA, where many medical students do their rotations and medical doctors do their residencies.

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<sup>41</sup> Segall, Linda, op. cit. p. 34-36.

<sup>42</sup> Segall, Linda, op. cit. p. 36

<sup>43</sup> Lowe, Duane T. (2004, Sept. 13). The Military and Chiropractic: Answers to FAQ. *Dynamic Chiropractic*, Vol. 22, Issue 19. Retrieved online at [www.chiroweb.com](http://www.chiroweb.com).

<sup>44</sup> (2004, Nov. 4). A DC in the VA! *Dynamic Chiropractic*, Vol. 22, Issue 23. Retrieved online at [www.chiroweb.com](http://www.chiroweb.com)

<sup>45</sup> (2003, July 14<sup>th</sup>) National Health Service Corps Loan Repayment Program Underway! *Dynamic Chiropractic*, Volume 21, Issue 15. Retrieved online at [www.chiroweb.com](http://www.chiroweb.com).

On average, the typical chiropractor makes and receives two referrals per month.<sup>46</sup> Referrals between chiropractors and allopathic physicians may grow if research continues to show the value of manipulation. Chiropractors will increasingly come into contact with physicians through student internships, residencies, and chiropractic programs such as those at the VA and the military.

Some experts interviewed for this report felt that chiropractors, as the largest and most accessible group of CAM providers, are effectively positioned to play the role of primary care provider and gatekeeper to other CAMs. We noted this possibility in IAF's 1998 report, but relatively few DC's have taken up this role.

Another intriguing possibility, supported by recent data, would have chiropractors, practicing as gatekeepers in an integrated setting. A 2002 study published in the *Journal of Manipulative and Physiological Therapeutics* found that chiropractors, acting as gatekeepers in a managed care network, provided quality healthcare at substantial cost savings. An independent provider association (IPA), Alternative Medicine, Inc. (AMI), was tasked by a large health maintenance organization (HMO) to build an integrative health care system using primary care physicians specializing in non-pharmaceutical and non-surgical approaches. The AMI model showed better patient outcomes, lower costs, and higher satisfaction rates than traditional HMOs.<sup>47</sup> Many of our experts felt that this study could be a turning point for chiropractors in their efforts to become primary-care providers.<sup>48</sup>

## **THE PHILOSOPHY OF CHIROPRACTIC**

Chiropractors vary widely in how they practice and can be generally viewed on a spectrum from conservative chiropractors who believe in continuing the traditions of chiropractic to liberal chiropractors who are more interested in mixing elements of modern and alternative therapies into the practice of

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<sup>46</sup> M. Christensen, op. cit., p. 58.

<sup>47</sup> Sarnat Richard L., Winterstein James. (2004) Clinical and cost outcomes of an integrative medicine IPA. *Journal of Manipulative and Physiological Therapeutics*, 27(5): 336-347.

<sup>48</sup> Other experts we interviewed were more skeptical of the AMI study believing that it would be hard to reproduce in the larger chiropractic community. Also, an open letter to the profession was mailed by some disaffected chiropractors involved in the study claiming that they were dissatisfied with the reimbursement levels and the poor handling by AMI of their relationships after the study.

chiropractic. This divide remains one of the major components of the chiropractic field yet it is a mystery to those outside the field.

This divide is embodied in chiropractic professional associations. At the most conservative end of the spectrum are chiropractors affiliated with the Federation of Straight Chiropractors and Organizations (FSCO) that believe in a narrow scope of practice based exclusively on the correction of vertebral subluxation. At the most liberal end of the spectrum are the chiropractors of the American Academy of Chiropractic Physicians (AACP). They believe in broad scope, outcomes based, primary care chiropractic medicine, which utilizes a wide variety of treatment measures, including but not limited to, spinal manipulation.

There is greater variation among chiropractic ideas and purposes than can be captured on a simple linear diagram. Often the labels “straight” and “mixer” are used to distinguish between different types of chiropractors.<sup>49</sup>

Historically, “straights” were followers of the Palmer’s vision of vitalism and traditional hands only adjustment of the spine while “mixers” sought to incorporate chiropractic as an independent technique into other treatment therapies. This simple dichotomy has become less useful over time. It has been suggested that there may be as many as 864 possible versions of “straight chiropractic.”<sup>50</sup> Self designated “straights” do seem to vary in terms of epistemologies, adherence to vitalism, rejection of the traditional disease model of illness, and methods of intervention.<sup>51</sup> A common denominator of “straight” chiropractic is the usage of subluxation.<sup>52</sup>

At the risk of oversimplification, chiropractors can be viewed as falling into three groups based on their usage of evidence, diagnosis, and philosophy: evidence based chiropractors, traditional straight chiropractors, and super

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<sup>49</sup> The straight/mixer disunity within the profession, for all of its significance, is not something that most consumers either perceive or understand. In this context, one of the experts we interviewed told us a story about a fellow chiropractor. At a dinner party a woman who was a chiropractic patient asked the only chiropractor at the party whether he was a straight or a mixer. The other guests were not sure whether the woman was asking about the doctor’s sexual preference or the way he preferred his whiskey.

<sup>50</sup> Keating JC (1992, Mar/Apr) Shades of straight: diversity among the purists. *Journal of Manipulative and Physiological Therapeutics*, 15(3): 203-9

<sup>51</sup> Keating JC (1993, Dec.) Scientific epistemology and the status of chiropractic: we are what we do. *European Journal of Chiropractic*, 41(3): 81-8

<sup>52</sup> “A subluxation is a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health.”

Association of Chiropractic Colleges (ACC), *Chiropractic Paradigm*. Retrieved online 1/22/2004 at [http://www.chirocolleges.org/paradigm\\_scopet.html](http://www.chirocolleges.org/paradigm_scopet.html)

straight chiropractors. Evidence based chiropractors make use of the best available scientific literature and accumulated clinical knowledge to establish diagnosis, refer or co-manage when necessary, devise and revise treatment plans.<sup>53</sup> The evidence based chiropractor would most closely align with the AACP.<sup>54</sup> A traditional straight chiropractor, the largest and most varied group, views subluxation as an important component of most disease and believes the correction of subluxation restores and maintains health,<sup>55</sup> but is sufficiently trained in diagnosis to recognize when referral or co-management is needed. The traditional straight would most likely align with either of the more middle of the road national organizations, the American Chiropractic Association (ACA) or the International Chiropractic Association (ICA). The super straight chiropractor is focused completely on subluxation. They believe chiropractic is non-therapeutic and that it is not appropriate to refer to other health care providers since the chiropractor makes no diagnosis.<sup>56</sup>

To gauge how the educations of different chiropractic colleges fall in this philosophical range, IAF did an informal survey asking each of the college presidents, vice-presidents, and deans that we interviewed to place both their college and the other colleges on a horizontal axis with some of the different chiropractic associations as representative of the different philosophical underpinnings of the profession.<sup>57</sup> The responses of the representatives, shown in *Figure 1-2*, include the judgment on the philosophical underpinnings of both their college and the other colleges listed. The placement of the letter represents the average position of the response for that school and the dotted line represents the range of responses. In parenthesis in *Figure 1-2* are the number of graduates in 2002 from each college.

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<sup>53</sup> Depending on their training and the scope of practice in the state they practice in.

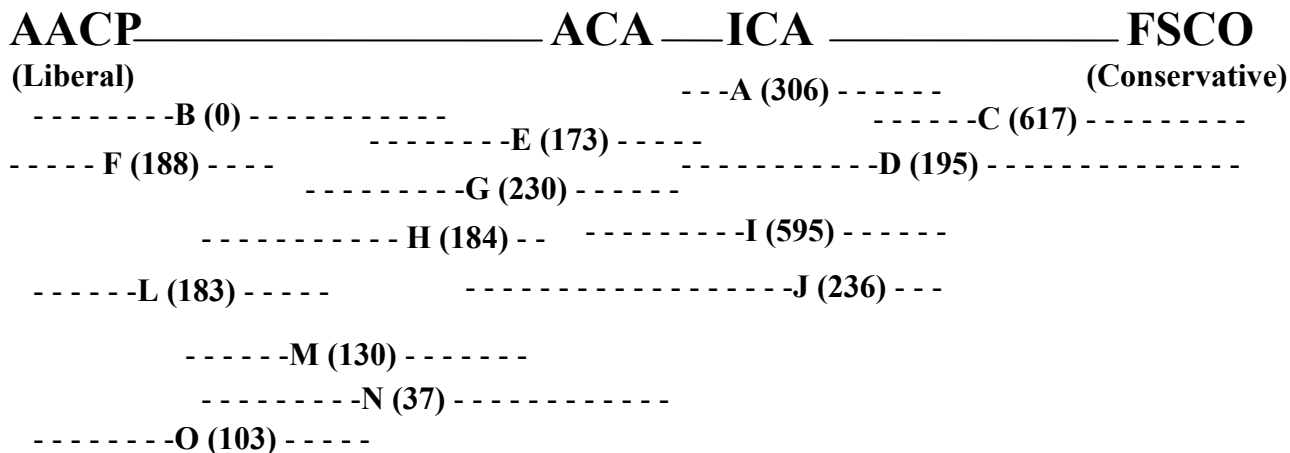
<sup>54</sup> Another subgroup represented by the National Association for Chiropractic Medicine (NACM) takes a more narrow view. Whereas the AACP believes in a wide variety of treatment measures, the NACM restricts members to NMS conditions and manipulation by hand only.

<sup>55</sup> A traditional straight chiropractor may or may not use ancillary methods depending on their philosophy, training, and scope of practice.

<sup>56</sup> Keating, Joseph C. (2004) Scopes of Purpose, Scopes of Practice: Distinguishing Among Evidence-Based Practice, Traditional Straight Chiropractic, and “Super-Straight” Ideologies. A Presentation to the Canadian Memorial Chiropractic College February 2004.

<sup>57</sup> IAF would like to acknowledge the source for this survey, Dr. Carl Cleveland III’s presentation, “Chiropractic Identity, From the Profession’s Perspective”, a presentation to The World Federation of Chiropractic Identity Conference, February 2004. In IAF’s interview with Dr. Cleveland we asked him to place the schools on the spectrum. He had hoped to survey his colleagues at the Identity Conference, but time did not allow it. He suggested that IAF do the survey as part of this report, hence its use here.

**Figure 1-2  
Locating Chiropractic Education**



- |                             |  |
|-----------------------------|--|
| A) Cleveland KC/LA          | I) Palmer, Palmer-West, Palmer-Florida |
| B) Florida State University | J) Parker                              |
| C) Life                     | K) Sherman                             |
| D) Life West                | L) Southern California                 |
| E) Logan                    | M) Texas                               |
| F) National                 | N) University of Bridgeport            |
| G) New York                 | O) Western States                      |
| H) Northwestern             |  |

Thirteen out of fifteen of the colleges responded. Graduation numbers from 2002 are in parenthesis and are compiled from the IPED-NES database.<sup>58</sup>

As shown in *Figure 1-2*, there are more chiropractic colleges that fall to the liberal end of the trend line. However, these colleges produce fewer graduates than the colleges on the more conservative end of the trend line. Colleges falling on the conservative end of the trend line had 2,056 graduates in 2002 while colleges falling on the liberal end of the trend line had 1,228 graduates. Even assuming the addition of 35 new graduates from Florida State University in 2010 and an increase of up to 100 new graduates in succeeding years, there will be more graduates from conservative chiropractic colleges.

Among practicing chiropractors, however, there may be a larger middle ground. A survey of 687 chiropractors, published in 1993, indicates that the profession is more unified on scope of practice issues than is apparent from outside observation. A survey, published by the Institute for Social Research at Ohio Northern University, show most chiropractors practice in similar

<sup>58</sup> National Center for Education Statistics, op. cit.

ways: 98% of chiropractors recommend exercise to their patients; 94% offer wellness care; 93% make differential diagnosis; 93% offer ergonomic recommendations; 88% provide general nutritional advice; 86% give recommendations on stress-reduction; and 77% teach a relationship between spinal subluxations and internal health.<sup>59</sup>

In the same survey 88.6% opposed giving chiropractors broad based prescription rights for all medicines. Only a minority felt that minor surgery (23.5%) was “appropriate for the chiropractic profession’s scope of practice”. Interestingly, only a slight majority (51.2%) opposed writing prescriptions for musculoskeletal medicines.<sup>60</sup>

This is just a brief overview of the variety of philosophies and of historical differences within the chiropractic profession. To truly capture the diversity of the profession would require a much deeper analysis. Suffice to say, the diversity of chiropractic has made pursuing a common vision for the profession and integrating into the healthcare system difficult. Evidence based chiropractors have many of the skills and philosophical grounding that makes integration into the medical system easier. More liberal traditional straight chiropractors can integrate into the medical system if they are inclined to do so. However, the terminology of subluxation and the subluxation complex is often off-putting to medical practitioners and policy-makers, partly due to a lack of scientific evidence and partly due to its philosophical foundations. The unwillingness of super straight chiropractors, a minority of the profession, to perform a diagnosis and co-manage patients is a significant stumbling block to those within the profession who desire closer integration with the medical community.

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<sup>59</sup>Some interviewees felt the McDonald survey was biased toward the “conservative” or “straight” side of the spectrum due to the wording of the questions. It should be noted that the survey was not published in a peer reviewed journal.

(2003, June 2) New Study Finds Unity in Chiropractic. *Dynamic Chiropractic*. Volume 21, Issue 12. Retrieved online 8/24/2004: <http://www.chiroweb.com/archives/21/12/19.html>.

<sup>60</sup> (2003, June 2) New Study Finds Unity in Chiropractic. *Dynamic Chiropractic*. Volume 21, Issue 12. Retrieved online 8/24/2004: <http://www.chiroweb.com/archives/21/12/19.html>.

## CULTURAL LEGITIMACY & INTEGRATION IN HEALTHCARE

Closer integration into the medical community will depend to a large extent on chiropractic's cultural authority.<sup>61</sup> The key challenges to building more cultural authority for the profession and pursuing integration with the medical community can be categorized as relating to 1) internal consensus and 2) legitimacy (especially from powerful healthcare elites such as policy makers, managed care plans, etc.). As mentioned above, there are multiple organizations at both the state and national level representing different philosophical differences within the profession. The smaller groups are reluctant to incorporate into the larger groups fearing that under the principle of one person, one vote, their unique vision of chiropractic will be lost. As a consequence, chiropractic will have difficulties achieving internal consensus in the near future.

Over the last fifty years the chiropractic profession has been labeled by sociologists and other outsiders studying the profession as deviant,<sup>62</sup> non-professional,<sup>63</sup> and unconventional.<sup>64</sup> More recently, chiropractic has been placed under the rubric of Complementary and Alternative Medicine (CAM). Since the 1981 Wilk Supreme Court Decision, which found the American Medical Association (AMA) guilty of trying to illegally boycott the chiropractic profession through "restraint of trade," chiropractic has come a long way toward integrating with the larger healthcare system and moving away from a marginal position outside the mainstream.

As a larger trend, CAM is moving away from the fringe of healthcare and toward mainstream medicine. As part of that trend there has been more focus on developing comprehensive evidence for CAM. As noted elsewhere in this report, chiropractic will also need to embrace evidence based medicine and develop better outcome measures if it is to continue to build its cultural authority.

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<sup>61</sup> Much of this discussion on legitimacy was provided by Dr. Karl Kranz.

<sup>62</sup> McCorkle T. (1961). Chiropractic: a deviant theory of disease and treatment in contemporary western culture. *Human Organization*, 10:20-23.

<sup>63</sup> Coburn, D, and CL Biggs (1986). Limits to medical dominance: the case of chiropractic. *Social Science and Medicine*, 22(10): 1035-1046.

<sup>64</sup> Eisenberg, DM, RC Kessler, C Foster, FE Norlock, DR Calkins, TL Delbanco. (1993) Unconventional Medicine in the United States: Prevalence, Costs, and Patterns of Use. *New England Journal of Medicine*, 328(4):246-52.

## THE PRACTICE OF CHIROPRACTIC

A large portion of the American public regards chiropractic as the first line of defense and treatment for back problems. A number of studies have indicated that chiropractic patients have been very satisfied with their care.<sup>65</sup> The reasons for higher satisfaction, and possibly superior outcomes associated with CAM care for back pain, including chiropractic, seem to include:

“provision by the practitioner of a credible physical examination (which requires touching the patient), patiently listening to the patient’s major concerns (even though they may not initially seem relevant to the back pain), providing the patient with an adequate explanation of the cause of their problem (even if it is not known with certainty), legitimizing the patient’s problem, providing a variety of therapeutic options in a positive and constructive manner, communicating to the patient a sense of hope and partnership in resolving the problem no matter how long it may take and scheduling follow up contact to ensure that progress is being made.”<sup>66</sup>

These skills are important not only for a pleasant patient experience, but also for creating an effective environment for patient healing.

From a legal perspective, state laws define the scope of practice. Some states limit chiropractors to the adjustment/manipulation of the spine, although most allow chiropractors access to a range of treatment modalities. Twenty-six states allow chiropractors to practice needle acupuncture. Nutritional counseling has been another area of contention with substantial grey area in the law between providing dietary advice and prescribing over the counter treatments for a particular ailment.<sup>67</sup>

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<sup>65</sup> Oldendick, Robert, Ann L. Coker, Darryl Wieland, James I. Raymond, Janice C. Probst, Bruce J. Schell, and Carleen H. Stoskopf. (2000, April) Population-Based Survey of Complementary and Alternative Medicine Usage, Patient Satisfaction, and Physician Involvement. *Southern Medical Journal*. Vol. 93, No. 4. Retrieved online 11/22/2004 at <http://www.sma.org/smj2000/aprsmj00/oldendick.pdf>  
Sawyer CE, and Kassak K. (1993, January). Patient Satisfaction with Chiropractic Care, *Journal of Manipulative and Physiological Therapeutics*, (16)1: 25-32. Abstract accessed online 11/22/2004 at <http://www.ncbi.nlm.nih.gov/>

<sup>66</sup> Cherkin, Dan, and Karen J. Sherman (2004) Conceptualization and Evaluation of an Optimal Healing Environment for Chronic Low-back pain in Primary Care. *The Journal of Alternative and Complementary Medicine*, volume 10, supplement 1, p. S-171-S-178.

<sup>67</sup> Dumoff, Alan. (2003). Chiropractic and the Law published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. St. Louis: Mosby, Inc.



While the legal scope of practice in some states can be narrow, chiropractors are trained for a broader scope of practice. The Association of Chiropractic Colleges understands chiropractic to involve a range of diagnostic, case management, and health promotion activities that complement medical care.<sup>68</sup>

## PRIMARY CARE

Does chiropractic's scope of practice include primary care? Licensure can play a role depending on how a primary care provider is defined. For example, if the patient expects his or her chiropractor to prescribe medications, then that is outside a DC's scope of practice. Outside of such restrictions, the ability of chiropractors to fill a primary care role depends on a combination of 1) what insurers and managed care allow; 2) how DCs provide care; 3) whether consumers think of DCs as primary care providers and utilize them as such; and 4) how DCs have been reimbursed in the past, which affects their current practice focus.

Exploring this topic is made more difficult since the definition of primary care is a moving target, encompassing not only ongoing care management for the individual but also a concern for the person's family and community. The Institute of Medicine has defined primary care as the "provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community."<sup>69</sup> A large and growing part of primary healthcare is related to prevention services.

According to a 1993 national survey, 90% of chiropractors considered themselves primary care providers.<sup>70</sup> A more recent survey of chiropractic students, faculty, and practitioners found that a substantial proportion have a

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<sup>68</sup> Association of Chiropractic Colleges (ACC), *Chiropractic Paradigm*. Retrieved online 1/22/2004 at [http://www.chirocolleges.org/paradigm\\_scopet.html](http://www.chirocolleges.org/paradigm_scopet.html)

<sup>69</sup> The Institute of Medicine (1996). *Primary Care: America's Health in a New Era*, National Academies Press, p. 31. Retrieved online 11/22/2004 at <http://books.nap.edu/books/>

<sup>70</sup> C. Hawk and M. Dusio (1995, March-April). Chiropractors' Attitudes toward Training in Prevention: Results of a Survey of 492 US Chiropractors. *Journal of Manipulative and Physiological Therapeutics*, pp. 135-40.

positive attitude toward providing clinical preventive services, particularly those related to physical activity and diet.<sup>71</sup>

Many of the chiropractors interviewed for this report believed that chiropractic education is adequate to the task of primary care. They felt that chiropractic was particularly strong in sustaining partnerships with patients and practicing in the context of family and community. There was some disagreement among our interviewees about what constitutes “a large majority of personal health care needs.” A number of our interviewees felt that effective primary care did not include the use of vaccines or prescription drugs, while a minority felt that primary care should focus on freeing the patient from subluxations rather than curing or diagnosing illness. Many of the interviewees noted that referrals to medical doctors for prescriptions would fill any gaps in providing primary care services to patients.

Other interviewees felt that chiropractic was not able to provide primary care since many staples of primary care, including vaccines and prescriptions, were outside chiropractic’s scope of practice. In this view, chiropractic is unable to provide the “large majority of personal healthcare needs” without significant changes in chiropractic education and state laws.

The distinction can be made between providing primary *medical* care and primary *health* care. Chiropractic, due to scope of practice and educational focus, is not medically comprehensive in the array of services it can offer patients, and therefore is currently unsuited to providing primary medical care. Primary health care, on the other hand, focuses less on triage and intervention, and more on community and public health. Chiropractic, by training and philosophy, can play a larger role in primary health care, particularly in common primary health care problems such as low back pain and headache.<sup>72</sup> However, in assuming a primary health care role, chiropractors need to be able to ensure their patients receive medical care when needed. This requires the ability to diagnose and refer problems.

Thus there are a number of obstacles that hinder chiropractors from routinely providing primary health care, rather than specialized musculoskeletal focused care:

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<sup>71</sup> Hawk C, CR Long, M. Perillo, KT Boulanger (2004, June) A survey of US chiropractors on clinical preventive services. *Journal of Manipulative and Physiological Therapeutics*, 27(5):287-98.

<sup>72</sup> Bowers LJ, and RD. Mootz RD (1995) The nature of primary care: the chiropractic role. *Topics in Clinical Chiropractic*, 2(1): 66-8

- **Public perception:** Many consumers and health care administrators regard chiropractors as back doctors, not as primary care providers;<sup>73</sup>
- **Negative image among non-users:** Those who do not use chiropractors tend to have a negative image of them. Many characterize chiropractors as “quacks.” In some cases they know people who have had a bad experience with a chiropractor;
- **Philosophic differences within the profession:** A vocal minority of conservative or “straight” chiropractors think the profession should remain focused on its chief strength, spinal adjustment, not focused on medical conditions. An even smaller and more vocal minority of “super straight” chiropractors, whose unwillingness to perform a diagnosis or co-manage patients, make it even more difficult for the chiropractic profession to be viewed as primary health care doctors by the healthcare community;
- **Managed care:** Managed care programs typically restrict chiropractors to treating only indications for which they have been proven to be cost-effective— primarily back problems. The AMI study suggests that chiropractors may be a cost-effective primary care option for managed care plans, but the chiropractic profession will face an uphill battle in disseminating that message to large managed care programs;<sup>74</sup>
- **The rise in non-physician providers:** Some years ago it was pointed out that “since 50-80% of primary care practice is based on 8-12 chief complaints, it is possible to construct a dozen or less protocols that could be used by nurses for the majority of instances of primary care.”<sup>75</sup> Today, many managed care organizations use nurses as primary care providers. Nurse practitioners are allowed to work independently of physician supervision in almost half of all states and two thirds of states allow physician assistants to prescribe drugs without direct physician involvement as long as it is in the context of

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<sup>73</sup> S. Haldeman, D. Chapman-Smith and D. Petersen, Jr. (1993) *Guidelines for Chiropractic Quality Assurance and Practice Parameters*. Gaithersburg, MD: Aspen Publications, 1993.

<sup>74</sup> Sarnat Richard L. and James Winterstein, op. cit.

<sup>75</sup> L. B. Andrews (1986, January-February). Health Care Providers: The Future Marketplace and Regulations. *Journal of Professional Nursing*, p. 55.

overall physician direction.<sup>76</sup> To the extent that this trend grows, nurse practitioners will add to the competition for those DCs interested in providing primary care;

- **Restrictions on prescriptions:** The limited scope of chiropractic licensure restricts chiropractors from prescribing many routine medications, such as antibiotics. In some states the ability of chiropractor to recommend over the counter drugs is limited. Furthermore, as mentioned above, the majority of the profession is against broad based prescription rights. However, referrals to medical doctors can fill this gap;
- **Anti-vaccination position:** The majority of the chiropractic community fully informs parents of the risks and benefits of childhood vaccinations. However, some chiropractors are opposed to mandatory childhood vaccinations-a staple of primary care;
- **Success in manipulation focus** – Many chiropractors find that the business model of their practice favors a focus on manipulation. Manipulation can be delivered time-efficiently. The broader tasks of primary care take more time and don't necessarily improve reimbursements for a specific visit.

Still, for many patients, chiropractors do fill a primary care role for many underserved populations, even if it is limited in scope, in Health Profession Shortage Areas (HPSAs).<sup>77</sup>

In this ambivalent environment, and despite the obstacles listed above, we believe that chiropractors who choose to take the appropriate steps can be successful providers of primary care. They will have to demonstrate their own efficacy in providing a broader range of treatments and/or in managing referrals to other providers when necessary.

A major factor in chiropractors' favor is that patients, in most cases, have direct access to them without referrals and thus can make chiropractors their first choice. Since chiropractors typically surpass other types of providers in earning consumer satisfaction and loyalty, they may choose to leverage this

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<sup>76</sup> Cooper, Richard A., op. cit.

<sup>77</sup> Smith M, L. Carber L (2002, Dec.) Chiropractic healthcare in Health Professional Shortage Areas (HPSAs) of the U.S. *American Journal of Public Health*, 92(12):2001-2009

first-choice advantage into ongoing relationships as primary health care providers. In the managed care context, chiropractors may be able to become primary care providers for patients who come to them with back-related complaints.

## **WELLNESS OR MAINTENANCE CARE**

Most scope-of-practice discussions focus on medically determined needs in health care. Consumers seek and buy health services in a variety of ways; including ways that fall outside the medical model of reimbursed services to treat specific conditions. Many consumers purchase wellness or preventive services out-of-pocket. Wellness represents a significant direction for chiropractic, one many practitioners have already taken. In many cases, patients, satisfied with their treatment experiences, elect to visit chiropractors routinely for maintenance or wellness visits not prompted by any current problem.

As noted above, based on the NBCE survey, IAF estimates that wellness visits represented roughly 10% of demand for chiropractic services. In our 1998 report we pointed out that established chiropractors may have a much higher percentage, perhaps as high as 25 to 35 percent. This number is probably much smaller for newer chiropractors. Increasingly, the wellness/maintenance care business model is outside the mainstream of the managed care system, and relies on an established patient group willing to pay out-of-pocket.

The wellness/maintenance care business model and business enhancement activities based on wellness/maintenance care need to be focused on improving patient outcomes. Creating a new business model of wellness/maintenance care founded on outcomes and integrating preventative care is possible, but will require extensive patient monitoring. This will be important both for a future based on the extended influence of managed care or for a future based on consumer directed care.

Chiropractors will need to monitor the outcomes of their care – whether for treatment or wellness visits. Technical advances in electronic medical records, biomarkers, biomonitoring, and diagnostics could make creating targeted wellness/prevention plans commonplace and monitoring outcomes easier. Chiropractic's training in nutrition and relatively high satisfaction rates suggest an opportunity for wellness/prevention. We pointed out this

opportunity in our 1998 report. However, it is not clear that a significant percentage of chiropractors have moved very far beyond a core focus on manipulation based care.

## MANAGED CARE

In our 1998 study, we forecasted that managed care would have a growing impact on chiropractic and healthcare in general. Interviews with our experts have largely borne that forecast out. Roughly 70% of chiropractors are involved in managed care programs.<sup>78</sup> Seventy-two percent of Health Management Organizations (HMO), 85% of Preferred Provider Organizations (PPO), and 76% of Point of Service (POS) plans cover chiropractic care.<sup>79</sup> This is less meaningful in practice since access to chiropractic care is often controlled by primary medical care providers, who know little about chiropractic. Managed care worries many chiropractors for a variety of reasons:

- **Reduced scope of practice:** Managed care organizations may choose not to reimburse for all chiropractic services or visits;
- **Ascendance of groups:** Chiropractic practitioner groups will acquire more clout than solo practitioners;
- **Decrease in fee-for-service or private-pay clients:** Some patients will lose their unlimited access to chiropractors and will use only those practitioners who are listed with a managed care organization.
- **Squeeze on Reimbursement:** Managed care will continue to squeeze healthcare providers to reduce costs, especially for treatments where cost effectiveness and efficacy are not well established.

However, others in the profession see managed care as an opportunity—if chiropractors modify their practices to fit this evolving health care approach. Rising to the occasion will require fundamental changes in the framework and day-to-day treatment practices of individual practitioners.

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<sup>78</sup> M. Christensen, op. cit., p. 66.

<sup>79</sup> Passero, Marino and Daniel Redwood (2003) Managed Care published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. St. Louis: Mosby, Inc. 2003.

Benefits of participation in managed care could be:

**Access to more patients:** If chiropractors can become more integrated into provider groups, then managed care can become an effective way to reach more patients;

**Better outcome measurements of care:** Working with managed care organizations to understand what kinds of care is appropriate and effective and creating greater uniformity of practice could improve the health of patients and the stature of chiropractic;

**Involvement with other health care providers:** Provider groups could provide chiropractic with a greater opportunity to form interdisciplinary teams;

**Greater access to resources:** Managed care could be leveraged to allow chiropractic greater access to sophisticated information and monitoring systems and research funding;

**Opportunities to provide expanded services:** Convincing managed care of the effectiveness of chiropractic care, such as nutrition or stress reduction coaching, in reducing costs could open up new opportunities for chiropractic to expand its market.

Moving into a primary health care role and making connections with primary medical care providers are the two key strategies for individual chiropractors to work within the managed cares system. Both require significant effort on the part of individual chiropractors, but can be achieved.

As a profession, chiropractic needs to engage with elites in managed care systems and policy makers to ensure access to chiropractic. This is vital as health care costs are squeezed and states come under pressure to repeal or rollback coverage mandates. Since 2001, six states have enacted legislation and 11 states have introduced legislation or carried over legislation to authorize insurers to sell “bare bones” policies that do not cover all the state required mandated health benefits.<sup>80</sup> Under such pricing pressure, all health

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<sup>80</sup> National Conference of State Legislatures, Health Policy Tracking Service. (2004) State Healthcare Policy: First Quarter of 2004 (April), 5(1):4.

professions will be under increasing pressure to demonstrate efficacy and cost-effectiveness to elites within the system to justify coverage.

The AMI study cited earlier shows that managed care can be an opportunity for the profession to expand their patient base and provide quality care. Leveraging the advantages of chiropractic care to managed care providers should be a top priority of the profession.

## USER DEMOGRAPHICS

The average chiropractic patient is middle-aged, white and employed, with at least a high school education. Caucasians make up 60.4% of the chiropractic patient base with Hispanics (13.6%) and African Americans (12.7%) comprising the next largest ethnic groups.<sup>81</sup> Those with annual incomes over \$25,000 were more likely to report using chiropractic care.<sup>82</sup> Chiropractors have been gradually expanding to reach different consumer groups, though there is plenty of room for growth in minority populations, especially as they will constitute a larger percentage of the U.S. population in the future.

The aging population is providing a stream of new chiropractic patients, as displayed in Table 1-3 below. As the US population ages, the opportunities will grow. In a pilot study, published in 1996, of older patients who sought chiropractic care, investigators found these users were generally healthier, less likely to be hospitalized and less likely to have used a nursing home than their peers who did not use chiropractic.<sup>83</sup> A more recent study of chiropractic patients age 65 years and over who have had a long-term regimen of chiropractic health promotion and preventive care showed considerable health benefits and cost savings. The total annual cost was conservatively estimated at only one third the expenses required by patients of the same age who did not receive maintenance care. Lastly, when asked, 95.8% of patients believed that maintenance care was either considerably or extremely valuable to their health.<sup>84</sup>

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<sup>81</sup> M. Christensen, op. cit., p. 78.

<sup>82</sup> Mackenzie, Elizabeth R., Lynne Taylor, Bernard S. Bloom, David J. Hufford, and Jerry C. Johnson (2003, July/August) Ethnic Minority Use of Complementary and Alternative Medicine (CAM): A National Probability Survey of CAM Utilizers. *Alternative Therapies*, Vol. 9, No. 4, p. 50-6.

<sup>83</sup> I. Coulter et al. (1996) Chiropractic Approaches to Wellness and Healing in *Advances in Chiropractic*, Vol. 3 Mosby Year Book, Inc., 1996.

<sup>84</sup> Gleberzon, Brian J. (2001) Chiropractic care of the older person: developing an evidence-based approach, *Journal of the Canadian Chiropractic Association*, 45(3): 156-171. Retrieved Online 12/7/2004:



**Table 1-3: Age of Chiropractic Patients**

Age Group	% of US population 1999	% of all chiropractic patients 1998 <sup>85</sup>	% of US population 2015 <sup>86</sup>
17 & Under	25.7%	16.3%	23.7%
18 <sup>to</sup> 50	48.3%	49.7%	43.1%
51 <sup>to</sup> 64	13.3%	21.1%	18.4%
Over 65	12.7%	12.8%	14.8%

Source: US Census Bureau population projections<sup>87</sup>

Elderly patients require increased emphasis on mobility and the quality-of-life issues associated with chronic pain. Demonstration of chiropractic efficacy and cost-effectiveness will be vital for serving this population. Quality-of-life studies will be important for all the areas where chronic pain creates demand for chiropractic care.

## TECHNOLOGY

The main technology for most chiropractors is a highly sophisticated and specialized chiropractic table designed to facilitate treatment. Diagnostic equipment, including radiography and occasionally thermography are used in chiropractors' offices. Chiropractors also use a variety of ancillary equipment, such as spine massaging tables, exercise equipment, traction tables, mechanical aides, electro-stimulation and heat equipment, to enhance their treatment regime. In the next decade each of these areas might see advances.

All of these technologies are not created equal. Many technologies available for use in chiropractic offices have little evidence of efficacy and some are based on questionable scientific theories. While some of these technologies may be effective in increasing revenue, they are detrimental to chiropractic's legitimacy in the healthcare community. Trends in evidence based healthcare will affect the chiropractic technology market and smart chiropractors will look for validation papers in the literature before making investments in new technology.

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<http://www.jcca-online.org/client/cca/JCCA.nsf>. Rupert, R.L., D. Manello, and R. Sandefur (2000 Jan) Maintenance care: health promotion services administered to US chiropractic patients aged 65 and older, part II, *Journal of Manipulative and Physiological Therapeutics*, 23(1):10-9.

<sup>85</sup> M. Christensen, op. cit., p. 77.

<sup>86</sup> Population Projections Program, Population Division, US Census Bureau, Online: [www.census.gov](http://www.census.gov).

<sup>87</sup> US Census Bureau, op. cit.

Advances in genetics and biomonitoring could radically change how chiropractors practice. Genetics could help identify sub-populations that are likely to suffer from back and neck problems and those most likely to benefit from treatment. Biomonitoring will help to better create prevention strategies and alert chiropractors to pre-disease states. Both will be large parts of primary health care in the future.

In 1998 we had considered the prospects for robotic manipulation. While there are tools developed by some chiropractors, there is not yet the clear prospect of robotic manipulation. However a major contender in this race was the robotic massage chair. The good news for those who are interested is that prices have come down since 1998.<sup>88</sup> However, by 2015 hands-on spinal manipulation will still remain a central core of chiropractic care.

By 2015 information systems in health care and small business operations will have led to significant improvements. Technology for running a chiropractors office, for supporting their role in health promotion, and for enabling contact management that support the chiropractor's role as lifestyle coach, will all be common by 2015. Information systems, particularly those incorporating genomic information, will allow us to forecast likely diseases and treatment side effects and enable better prevention strategies. This ability could lead to lower demand for chiropractic, if prevention efforts are successful.

It is likely that most individuals will have an electronic medical record in the next five to ten years, whether in a managed care setting, or in a consumer directed health care setting. In the former setting, managed care will have the ability to collect efficacy data on individual chiropractors and direct patients to the best treatments and clinics. In the latter, the individual will have his or her own health record, along with sophisticated tools for determining his or her most effective options for expenditures on their health.

By 2015, the data from these personal records will be pooled by trusted intermediaries to produce report cards on healthcare providers of all types in most communities. Large database monitoring of personal records, modified to meet the Health Insurance Portability and Accountability Act (HIPPA)

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<sup>88</sup> The iJoy Robotic Massage Chair, which features Human Touch Technology (HTT7®) normally listed for \$1500, was only \$359.97 at the end of 2004. The makers of the chair claim that "four "Human Touch" rollers accurately replicate the techniques used by therapists and chiropractic professionals.

requirements, will allow outcomes data on individual providers to be aggregated to create comprehensive report cards on healthcare providers.

These databases could also revolutionize evidence based medicine. Treatments or medications that cannot provide evidence of comparative efficacy for an individual's unique needs and choices will lose out to those that do.

## RESEARCH ON CHIROPRACTIC CARE

### EFFICACY

A major focus for research on chiropractic involves showing efficacy for treating various conditions. Various experts argue that manipulation has some degree of favorable evidence for a range of indications including back pain, migraine headaches, and work-related injuries.

Over the past 15 years, many studies and reports have shown chiropractic to be a safe, effective means of natural healing, cost-effective and inspiring high levels of patient satisfaction. Other studies have indicated that chiropractic care may be no better than other treatment options or a placebo.

<sup>89</sup> Key research includes:

- **Back pain:** The UK BEAM randomized clinical trial of physical treatment of back pain in primary care showed that relative to “best care” in general practice that manipulation followed by exercise showed a moderate benefit after three months and a small benefit after twelve months. Manipulation alone showed a small to moderate benefit after three months and a small benefit after twelve months.<sup>90</sup>

A pilot study comparing acupuncture, a non-steroidal anti-inflammatory drug, and spinal manipulation showed that spinal

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<sup>89</sup> Cherkin DC, Deyo RA, Battie M, Street J, Barlow W. (1998) “A Comparison of Physical Therapy, Chiropractic Manipulation, and Provision of an Educational Booklet for the Treatment of Patients with Low Back Pain.” *New England Journal of Medicine*, 339:1021-9.

Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. (1993) Unconventional medicine in the United States: Prevalence, Costs, and Patterns of Use. *New England Journal of Medicine*, 32: 246-52.

<sup>90</sup> UK BEAM Trial Team (2004, December 11) United Kingdom back pain exercise and manipulation (UK BEAM) randomised trial: effectiveness of physical treatments for back pain in primary care, *British Medical Journal*, 329:1377. Retrieved Online 1/3/2005: <http://bmj.bmjournals.com>.

manipulation was the only treatment that showed statistically significant improvement in chronic pain of the lower back, upper back, and neck.<sup>91</sup>

The UCLA low-back pain study, a randomized clinical trial, showed similar improvements in pain severity and disability among four patient groups over a six month period in a managed care setting. The groups were: patients treated with chiropractic care only, patients treated with medical care only, patients treated with both chiropractic care and physical modalities, and patients treated with medical care and physical therapy.<sup>92</sup>

A recent meta-analysis of 39 Randomized Controlled Trials (RCT) on SMT found no evidence that SMT is superior to other standard treatments (including analgesics, exercises, physical therapy, and back schools) for patients with acute or chronic low-back pain.<sup>93</sup>

Another recent meta-analysis of 69 national and international RCTs found moderate evidence that SMT has an effect similar to an efficacious prescription nonsteroidal anti-inflammatory drug and that SMT and mobilization is effective in the short term when compared to a placebo and general practitioner care, and in the long term compared to physical therapy for chronic low back pain. There is limited to moderate evidence that SMT is better than physical therapy and home back exercise in both the short and long term for chronic back pain. There is moderate evidence that SMT provides more short term pain relief than mobilization for acute low back pain and limited evidence of faster recovery than physical therapy. Little evidence is available to distinguish between subgroups of patients and to determine the optimal number of treatment visits.<sup>94</sup>

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<sup>91</sup> Giles, LG and R. Muller (1999) Chronic spinal pain syndromes: a clinical pilot trial comparing acupuncture, a nonsteroidal anti-inflammatory drug, and spinal manipulation, *Journal of Manipulative and Physiological Therapeutics*, 22(6): 376. Retrieved Online 12/6/2004:  
<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Pmc>

<sup>92</sup> Hurwitz, Eric L., Hal Morgenstern, Philip Harber, Gerald F. Kominski, Thomas R. Belin, Fei Ye, and Alan Adams (2002 Oct. 15) A Randomized Trial of Medical Care With and Without Physical Modalities for Patients with Low Back Pain: 6-Month Follow-Up Outcomes From the UCLA Low Back Pain Study, *Spine*, 27(20): 2193-2204. Retrieved Online 8/2004: Ovid.

<sup>93</sup> Assendelft, WJJ, SC Morton, EL Yu, MJ Suttorp, PG Shekelle (2004) Spinal Manipulative Therapy for Low-back Pain. *The Cochrane Library*, 2:1-35. Updated Sept. 2003.

<sup>94</sup> Bronfort, Gert, Mitchell Haas, Roni L. Evans, Lex M. Bouter. (2004) Efficacy of spinal manipulation and mobilization for low back pain and neck pain: a systematic review and best evidence synthesis, *The Spine Journal* 4, 335-356.

- **Neck pain:** In 2003, researchers in the Netherlands found that spinal mobilization was more effective and less costly for treating neck pain than physiotherapy or care provided by a general practitioner.<sup>95</sup>

A meta-analysis found manipulation and/or mobilization plus exercise to be effective for the treatment of neck disorders. When done alone, however, manipulation or mobilization was not beneficial, and when compared to one another, neither was superior.<sup>96</sup> Another meta-analysis found moderate evidence that SMT and mobilization is superior to general practitioner management for short term pain relief for chronic neck pain, but it offers only similar relief to high technology rehabilitative exercise in the short and long term. The analysis found the evidence for acute neck pain to be inconclusive.<sup>97</sup>

- **Headaches:** A study comparing manipulation versus amitriptyline for the treatment of muscle tension-type headaches showed statistically significant improvements for those treated with manipulation four weeks after treatment.<sup>98</sup> Other recent studies, including literature reviews, have shown the benefit of chiropractic for chronic cervicogenic headaches and migraines.<sup>99 100</sup> On the other hand,

<sup>95</sup> Korthals-de Bos, Ingeborg, Jan L. Hoving, Maurits W. van Tulder, Maureen P.M. H. Rutten-van Molken, Herman J. Ader, Henrica C.W. de Vet, Bart W. Koes, Hindrik Vondeling, and Lex M. Bouter (2003). Cost Effectiveness of Physiotherapy, Manual Therapy, and General Practitioner Care for Neck Pain: Economic Evaluation Alongside a Randomised Controlled Trial. *British Medical Journal* 326: 911.

<sup>96</sup> Gross, Anita R., Jan L. Hoving, Ted A. Haines, Charles H. Goldsmith, T. Kay, Peter Aker, and Gert Bronfort, and the Cochrane Cervical Review Group (2004, July 15) A Cochrane review of manipulation and mobilization for mechanical neck disorders, *Spine* 29(14):1541-1548. Retrieved Online 8/2004: Ovid.

<sup>97</sup> Bronfort, Gert, et. al., op. cit.

<sup>98</sup> P.D. Boline, K. Kassak, C. Nelson, et al., Spinal manipulation vs. amitriptyline for the treatment of chronic tension-type headaches: a randomized clinical trial, *Journal of Manipulative and Physiological Therapeutics*, Vol. 18 (1995), pp. 148-54.

<sup>99</sup> Published studies have tended classify headaches in three broad groups: tension, cervicogenic, and migraines as unclassified headaches. The evidence for chiropractic treatment of tension headaches is very compelling. Early studies of chiropractic treatment for cervicogenic headaches and migraines are very promising, but could use more development.

Rosner, Anthony L. (2003) Musculoskeletal Disorders Research published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. pg. 482-7 St. Louis: Mosby, Inc. 2003.

<sup>100</sup> Whittingham, W. (2001) Randomized placebo controlled clinical trial of efficacy of chiropractic treatment for chronic cervicogenic headaches," Symposium Proceedings, 6<sup>th</sup> Biennial Congress, World Federation of Chiropractic, Paris, May 21-26, 2001 as cited in Musculoskeletal Disorders Research published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. pg. 482-7 St. Louis: Mosby, Inc. 2003.

Tuchin, PJ, H. Pollard, and R. Bonello (2000, Feb.) A randomized controlled trial of chiropractic spinal manipulative therapy for migraine, *Journal of Manipulative and Physiological Therapeutics*, 23 (2): 91. Retrieved Online 12/6/2004: <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Pmc>

Cooper and McKee cite a recent review of clinical trials of SMT in patients with tension, cervicogenic, and migraine headaches that “found ‘moderate evidence’ of a short-term effect, but these result were not any greater than could be achieved with massage alone, and massage also has been shown to decrease the frequency with which tension headaches occur.”<sup>101</sup>

- **Work-related injuries and Cost Effectiveness:** The Florida Study, published in 2002, found that chiropractic care was more cost-effective than standard medical care in the management of work-related back injuries.<sup>102</sup> A comparative analysis comparing health plan members with additional chiropractic coverage to those without showed that health plan members with chiropractic coverage had lower annual healthcare costs.<sup>103</sup> An actuarial review of one private carrier’s workers compensation claims experience in California suggests that that chiropractors and physicians were equally effective in terms of claim duration and had similar total claims costs and concluded that medical and chiropractic care can substitute for each other in non-surgical low back claims.<sup>104</sup>
- **Compared to conventional hospital outpatient care:** The Meade Study demonstrated that chiropractic treatment is more effective than

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Vernon, H, CS McDermaid, and C. Hagino (1999) Systematic review of randomized clinical trials of complementary/alternative therapies in the treatment of tension-type and cervicogenic headache, *Complementary Therapies in Medicine*, 7:142. Retrieved Online 12/6/2004:

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Pmc>

Bronfort, G., WJ Assendelft, R. Evans, M. Haas, and L. Bouter (2001, Sept.) Efficacy of spinal manipulation for chronic headaches: a systematic review, *Journal of Manipulative and Physiological Therapeutics*, 24(7):457. Retrieved Online 12/6/2004:

<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Pmc>

<sup>101</sup> Cooper, R.A. and Heather McKee, op. cit.

<sup>102</sup> It should be noted that Florida had a capped chiropractic benefit during the study period.

Folsom, Byron L. and Robert W. Holloway. (2002) Chiropractic care of Florida’s workers’ compensation claimants: Access, costs, and administrative outcome trends from 1994 to 1999. *Topics in Clinical Chiropractic*, 9(4): 33-53.

<sup>103</sup> The estimated cost savings for NMS patients more than offset the amount spent to cover the chiropractic benefit. Also, most patients in the study used chiropractic care in place of usual medical care. This results in lower expenses, but also makes it hard to determine the potential role of chiropractic in integrated care in the treatment of complex cases.

Legoretta Antonio P., R. Douglas Metz, Craig F. Nelson, Saurabh Ray, Helen Oster Chernicoff, and Nicholas A. DiNublie (2004, Oct. 11) Comparative analysis of individuals with and without chiropractic coverage. *Archives of Internal Medicine*, 164, 1985-1992.

<sup>104</sup> Johnson WG, ML Baldwin, and RJ Butler (1999) The costs and outcomes of chiropractic and physician care for workers’ compensation back claims. *Journal of Risk Insurance*, 66(2):185-205.

conventional hospital outpatient treatment for patients with chronic or severe back pain.<sup>105</sup>

- **Overall therapeutic benefits:** The Virginia Study, published in 1992, found that “by every test of cost and effectiveness, the general weight of evidence shows chiropractic to provide important therapeutic benefits, at economical costs.”<sup>106</sup>
- **Patient satisfaction:** A Gallup Poll survey published in 1991 found nine out of ten chiropractic patients felt that their treatment was effective and met or exceeded their expectations.<sup>107</sup>

One common finding in the trials less favorable to chiropractic is that chiropractic is only marginally more effective than a sham treatment. This may stem from a placebo effect or the natural tendency of the body to heal over time. Both of which would indicate at least part of chiropractic’s benefits stems from a psychosomatic response that could be replicated by other treatments.

Another important consideration in viewing clinical trials across different time periods is the recent improvement in medical care for back pain over the last two decades. Medicine has improved its standards of care so that the most outrageous examples of unnecessary surgery and overmedication have been reduced. Chiropractic has the opportunity to create similar improvements in standards by creating best practice databases and identifying those patients who are most likely to benefit from spinal manipulation therapy.

Richard Cooper and Heather McKee summarize the use of spinal manipulative therapy (SMT) to relieve chronic back pain as follows:

*The strongest evidence favors exercise therapy, back schools, and behavioral therapy, whereas the evidence favoring manipulation is*

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<sup>105</sup> T. W. Meade et al., (1990, June 2). Lower-back Pain of Mechanical Origin: Randomized Comparison of Chiropractic and Hospital Outpatient Treatment. *British Medical Journal*, pp. 1431-37.

<sup>106</sup> L. G. Schifrin. (1992, January) Mandated Health Insurance Coverage for Chiropractic Treatment: An Economic Assessment, with Implications for the Commonwealth of Virginia. The College of William and Mary, Williamsburg, VA, and Medical College of Virginia, Richmond, VA.

<sup>107</sup> The Gallup Organization. (1991) *Demographic Characteristics of Users of Chiropractic Services* (Princeton, NJ: The Gallup Organization, 1991). Note—although chiropractic patients report high levels of satisfaction, many non-chiropractic patients continue to hold very negative views about the profession.

*“moderate”, and it is more persuasive for passive manipulation than for chiropractic SMT...These conclusions are consistent with AHCPR’s 1994 guideline, which characterized the evidence for SMT in chronic low back pain as “inconclusive”, and the Veterans Administration’s (VA) 1999 guideline, which state that the use of SMT for chronic back pain is probably safe but that its efficacy is still being researched. While these guidelines do not preclude the possibility that SMT has value in certain subgroups of patients, they offer only weak support for what is a mainstay of practice in chiropractic.*<sup>108</sup>

Cooper and McKee conclude their summary of randomized trial research by saying that:

*....the research to date has shown... that SMT is effective in the treatment of both acute and chronic low back and neck pain... in only a narrow subset of such patients and, in those circumstances, it is no more effective than other treatments.*<sup>109</sup>

Anthony Rosner of the Foundation for Chiropractic Education and Research has reviewed these efficacy studies and argues that many of these randomized controlled trials on chiropractic care suffer from serious flaws, including: inadequate description of the adjustment/manipulation used, the qualifications (i.e. chiropractor, physical therapist, osteopath, etc.) of those administering the manipulation, small sample sizes, and experimental bias. A common problem across all studies is the failure to develop an appropriate “sham” treatment. He also notes many problems with the design of meta-analysis which create subjective value scales and overemphasize clinical observations from certain authors. He advocates more trials comparing chiropractic to the high risks and costs of surgery or medication.<sup>110</sup>

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<sup>108</sup> Cooper, Richard A, and Heather J. McKee, “Chiropractic in the United States: Trends and Issues”, The Milbank Quarterly, Vol. 81 No. 1, 2003, page 110. Internal references omitted for the sake of readability, but are listed below for further reference: Deyo, R.A., and J.N. Weinstein (2001) Low Back Pain, *New England Journal of Medicine*, 344: 363-70. Van Tulder (2001) Treatment of Low Back Pain: Myths and Facts, *Schmerz*, 15:499-503. Bronfort, G., W.J.J. Assendelft, R. Evans, M. Haas, and L. Bouter (2001) Efficacy of Spinal Manipulation for Chronic Headache: A Systematic Review, *Journal of Manipulative and Physiological Therapeutics*, 24:457-66. Van Tulder, M.W., B.W. Koes, and L.M. Bouter (1997) Conservative Treatment of Acute and Chronic Nonspecific Low Back Pain: A Systematic Review of Randomized Controlled Trials of the Most Common Interventions, *Spine*, 22:2128-56

<sup>109</sup> Ibid, p. 112.

<sup>110</sup> Rosner, Anthony L. (2003, Sept.) Fables or Foibles: Inherent Problems with RCTs. *Journal of Manipulative and Physiological Therapeutics*, Vol. 26, No. 7.



Other conditions treated by chiropractors, mostly viscerosomatic, have either limited evidence or no evidence of efficacy. These represent only a small percentage of the conditions treated by the average chiropractor<sup>111</sup> and one should remember, however, that an absence of evidence is not evidence of absence. Some examples include:

**Women's health:** Studies have noted that women who received chiropractic spinal manipulation reported significant reduction in pain, menstrual distress, and chronic pelvic pain.<sup>112</sup> However, a recent meta-analysis concluded that there is little evidence to suggest that spinal manipulation is effective in the treatment of menstrual distress.<sup>113</sup>

**Childhood Conditions:** A chiropractic team in Denmark, administering chiropractic care to 50 colicky infants, showed positive gains. A similar study in Norway failed to show that chiropractic care was more effective than a placebo for infantile colic.<sup>114</sup> A few case and cohort studies indicate that chiropractic may be an effective alternative therapy in treating otitis media, nocturnal enuresis, and scoliosis.<sup>115</sup>

**Asthma:** Two randomized controlled trials on asthma have been conducted. One looking at adult asthma patients did not show a statistically significant difference between chiropractic care and sham adjustments. The other, very controversial study looked at children with continuing symptoms of asthma despite the usual medical therapy. Both

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Rosner, Anthony L. (2003) Musculoskeletal Disorders Research published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. St. Louis: Mosby, Inc.

<sup>111</sup> The ACA suggests 6% for somatovisceral condition, American Chiropractic Association, op. cit., p. 6. While Cooper and McKee suggest that viscerosomatic conditions account for 8 to 10 percent of chiropractic visits. Op Cit p. 112.

<sup>112</sup> Kokjohn, Katrina, Della M. Schmid, John J. Triano, and Patricia C. Brennan (1992) The Effect of Spinal Manipulation on Pain and Prostaglandin Levels in Women with Primary Dysmenorrhea. *Journal of Manipulative and Physiological Therapeutics*, 15(5): 279-285.

Hawk, Cheryl, Cynthia Long, and Ayla Azad (1997) Chiropractic Care for Women with Chronic Pelvic Pain: A Prospective Single-Group Intervention Study. *Journal of Manipulative and Physiological Therapeutics*, 20(2): 73-9.

(1993) Premenstrual Syndrome: A Clinical Update for the Chiropractor. *Chiropractic Journal of Australia*, Vol. 23, pp. 48-53.

<sup>113</sup> ML Proctor, W Hing, TC Johnson, PA Murphy (2004) Spinal manipulation for primary and secondary dysmenorrhoea (Cochrane Review). In: The Cochrane Library, issue 3. Chichester, UK: John Wiley & Sons, Ltd.

<sup>114</sup> Masarsky, Charles S. and Marion Todres-Masarsky (2003) Somatovisceral Research published in *Fundamentals of Chiropractic*, Redwood, Daniel and Carl S. Cleveland III eds. St. Louis: Mosby, Inc.

<sup>115</sup> Rosner, Anthony L. (2003) *Infant and Child Chiropractic Care: An Assessment of Research*. Foundation for Chiropractic Education and Research. Norwalk, IA, USA.

the control group which received sham treatment and the group that received chiropractic care saw improvements (though some argue that important information involving nighttime symptoms was not published on this study).<sup>116</sup> A recent overview of the evidence found that there is little evidence to support spinal manipulation therapy as a primary treatment for allergy or asthma, but based on reported subjective improvement in patients receiving chiropractic care, further collaborative study is warranted.<sup>117</sup>

**Cardiovascular:** The only recent controlled clinical trial of chiropractic care in the cardiovascular area is on hypertension. The number of subjects was small and the duration short, but the outcome was promising in supporting the hypothesis that short-term blood pressure reduction can be achieved with chiropractic care.<sup>118</sup> Some case and cohort studies in Japan have been conducted on chiropractic and cardiovascular health.<sup>119</sup>

Some of these claims may appear extraordinary in nature, but should not be discounted. However, as Carl Sagan once said, "I believe that the extraordinary should certainly be pursued. But extraordinary claims require extraordinary evidence." Building a comprehensive set of evidence for the wide range of conditions treated by chiropractors will be a daunting task.

There is still a long way to go toward documenting the benefits of chiropractic care. While this developing body of research pales in comparison to federally funded studies of conventional medical approaches, its magnitude does reflect, again, chiropractic's commitment to research.

Other recent developments have increased the capacity of chiropractic to conduct research. For example, the U.S. Health Resources and Services Administration's Chiropractic Demonstration Program, started in 1994, continues to facilitate collaborative research between chiropractic and

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<sup>116</sup> C. Masarsky and M. Todres-Masarsky, op. cit.

<sup>117</sup> Balon JW, Mior SA. (2004, August) Chiropractic care in asthma and allergy. *Annals of Allergy, Asthma, and Immunology*, 93: S55-60. Retrieved Online: <http://www.ncbi.nlm.nih.gov/>

<sup>118</sup> C. Masarsky and M. Todres-Masarsky, op. cit.

<sup>119</sup> Budgell Brian S. and Yoshiki Igarashi (2001) Response of Arrhythmia to Spinal Manipulation: Monitoring by ECG with Analysis of Heart Rate Variability. *Journal of the Neuromuscularskeletal System*, 9(3): 97-102.

Budgell Brian S. and Fumie Hirano (2001) Innocuous mechanical stimulation of the neck and alterations in heart-rate variability in healthy young adults. *Autonomic Neuroscience: Basic and Clinical*, 91: 96-99.

medical institutions.<sup>120</sup> And in 1997 the National Center for Complementary and Alternative Medicine initiated a research center, the Consortial Center for Chiropractic Research, which represents a collaboration of six chiropractic colleges and four state-supported universities, at Palmer College of Chiropractic.<sup>121</sup> Also, chiropractic's recent gains in the military, the VA, and a public university could help improve the scope and quality of chiropractic research.

## SAFETY

Chiropractic manipulation, for almost all patients, is a safe, non-invasive treatment. Millions of patients receive spinal adjustment/manipulation each year without any apparent harm. Adverse events do occur, but are usually mild and disappear within 24-48 hours. More severe adverse events are rare compared to other modalities. A NCMIC commissioned monograph on the latest findings on cerebrovascular accidents (CVAs) and manipulation is available on the NCMIC website.<sup>122</sup>

The safety of neck adjustment/manipulation is the most discussed safety issue. The incidence of strokes (CVAs) in patients receiving cervical adjustment/manipulation is approximately 1 per 100,000 patients.<sup>123</sup> This assumes 10 or more manipulations per patient. The documented incident of stroke per manipulation is 3 per 10,000,000 adjustments. Placing this into context shows that CVAs attributable to spinal manipulation are equivalent to spontaneous rates for CVAs in the general populace due to everyday activities such as visiting a beauty parlor. In comparison, the risk of death from the use of nonsteroidal anti-inflammatory agents (NSAIDs-including aspirin) or from surgery, to treat the same conditions, as compared to chiropractic care, is 400 to 700 times greater.<sup>124</sup>

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<sup>120</sup> Hawk, C., W. Meeker, and D. Hansen (1997) The National Workshop to Develop the Chiropractic Research Agenda. *Journal of Manipulative and Physiological Therapeutics*, 20:147-9.

<sup>121</sup> Meeker, William C. and Scott Haldeman (2002) Chiropractic: A Profession at the Crossroads of Mainstream and Alternative Medicine, 136:216-227.

<sup>122</sup> Triano, John J. ed., (2005, January) Current Concepts: Cervical Spine Manipulation and Cerebrovascular Incidents. The report is available for download on the NCMIC website in January of 2005. Contributors include Greg Kawchuk, M. Ram Gudavalli, Michael Haneline, and Marion McGregor. This report builds on the original work of Dr. Alan Terrett and updates earlier views on the relationship of CVAs to chiropractic manipulation with modern evidence that shows the relative safety of chiropractic manipulation. It also includes additional sections for practicing chiropractors on examining and diagnosing patients as well as avoiding spurious claims.

<sup>123</sup> W. Lauretto, op. cit. p. 561-580.

<sup>124</sup> Rosner, Anthony. (2004, Feb. 27) Spontaneous Cervical Artery Dissections and Implications for Homocysteine. *Journal of Manipulative and Physiological Therapeutics*, 124-32.

Soon outcome measures, genomics and other advances in health care will probably allow us to identify in advance which patients are prone to suffer side effects from particular therapies. For example, a high level of homocysteine, for example, has been identified as a possible biomarker indicating an increased risk of CVA.<sup>125</sup> In the future, it will also be possible to predict who is most likely to benefit from a particular therapy and who needs preventative care. Chiropractors will be better able to tailor treatment plans to the needs of their patients.

## EVIDENCE BASED CHIROPRACTIC

Evidence based medicine has been growing in popularity and prominence in orthodox medicine since the 1980s. It has become important for alternative medicine professions that desire to integrate with the larger healthcare system. Even for professions based on the more mechanistic foundations of orthodox medicine, developing a comprehensive evidence base is a long and arduous process. It is even more difficult for the profession of chiropractic, which was founded on a philosophy of vitalism and in which many practitioners still believe in the primacy of the philosophy and art of chiropractic over what can be proven with science. The segmentation of chiropractic has significantly retarded the ability of chiropractic to embrace evidence based medicine. This can be seen in the segmentation of national and state chiropractic associations, the different scopes of practices in different states, and the intraprofessional conflict surrounding the attempt to construct evidence based practice guidelines in the 1990s.<sup>126</sup>

Chiropractic stands at a cross roads. It can remain outside the mainstream and focus on providing a high quality service for patients as it has done throughout its history. It can do this without embracing evidence based medicine and preserving its unique theory of vitalism. However, managed care is unlikely to pay for such care without good documentation and

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<sup>125</sup> Rosner, Anthony (2004, Feb. 27), op cit.

Pezzini A, Del Zotto E, Archetti S, Negrini R, Bani P, Albertini A, et al. (2002) Plasma homocysteine concentration, C677T MTHFR genotype, and 844ins68bp CBS genotype in young adults with spontaneous cervical artery dissection and atherothrombotic stroke. *Stroke*; 33(3):664-9.

Pezzini A, Del Zotto E, Padovani A. (2002) Hyperhomocysteinemia: a potential risk factor for cervical artery dissection following chiropractic manipulation of the cervical spine. *Journal of Neurology*; 249(10):1401-3.

<sup>126</sup> Villanueva-Russell, Yvonne (2005) Evidence-based medicine and its implications for the profession of chiropractic, *Social Science & Medicine*, 60, 545-561.

convincing evidence. While the rise of consumer driven healthcare may allow chiropractors to leverage their high patient satisfaction rates, many patients are likely to become more sophisticated in using provider report cards to seek out providers that have both high patient satisfaction and good outcomes.

Or chiropractic can continue to integrate into mainstream healthcare by building a stronger evidence base, increasing collaboration with other medical disciplines, and improving its educational system. This will not be an easy task, especially considering the diversity of opinions inside the profession, its unique philosophical underpinnings and terminology, and the negative opinion of chiropractic among the healthcare elite that remains from previous conflicts between chiropractic and the medical community. It may, however, be vital for the continued growth of the profession.

# CHAPTER 3

## SCENARIOS FOR CHIROPRACTIC IN 2015

### BACKGROUND

This chapter describes four alternative future scenarios for chiropractic care and chiropractors in the year 2015. While each is a separate story, all four scenarios should be considered as a set that will define the “future space of possibilities” for chiropractic.

In developing these four chiropractic scenarios, we made a variety of assumptions because solid data did not always exist. For example, there are disagreements over the number of active chiropractors in the U.S., an important starting point for our forecasts. Other factors such as the percentage of chiropractic care given to those under 18, the amount of spinal manipulation done by non-chiropractors, and the number of chiropractor “wellness or maintenance” visits were either unclear or unavailable. As noted IAF has used others’ estimates or developed our own, and then we used those estimates to develop forecasts. Appendix C gives the detailed assumptions for the various forecasts.

The purpose of the scenarios presented here are to inspire the reader to consider “if-then”: “If this scenario for chiropractic occurs, then what are the implications?” Interested individuals, classes, or organizations can contact IAF for assistance in generating your own scenarios using different assumptions.

In our previous 1998 report we created four scenarios set in the year 2010. It is our view that the key trends identified in those four scenarios are still valuable to the chiropractic profession and we have updated those trends in Chapter 2.

There are key forces at play in each scenario. These forces combine in various ways, in positive and negative directions, and with varying magnitude. IAF and our panel of experts have identified the key forces for both the macro-environment of technology, society, and health care, and also for the operating environment of chiropractic.

## KEY FORCES

In the Macro-Environment & Health Care:

- Aging
- Technology
  - Information technology
  - Biomonitoring
- Cost squeeze in health care
- Evidence/outcomes based medicine
- Interest in complementary and alternative approaches
- Consumer Directed Health Care/Health Savings Accounts (HSAs) and Health Reimbursement Arrangements (HRAs)

In the Chiropractic Field:

- Evidence supporting chiropractic care
- Chiropractic's cohesiveness or lack there of
- Chiropractors' services beyond manipulation
- Specialization by chiropractors
- Chiropractors entry into delivery systems: the VA, DoD, and beyond
- Multidisciplinary work by and acceptance of chiropractors
- Relationship to technology, particularly information technology

IAF has developed scenarios that are consistent with its aspirational approach in order to provide a look at how these forces might interact in the future. The scenarios are (1) an initial, best guess look at the future in 2015, (2) a challenge or hard times future, and (3 and 4) two different images of success for the chiropractic field.

In reading these scenarios consider each one individually. Try each future on and see how it fits. Consider the implications. Later you can consider how you would change these scenarios. More detailed information on the scenarios can be found in the appendices. Again, IAF encourages readers to explore and use these scenarios, and to adjust scenarios to create customized views of the future of chiropractic. Contact [futurist@altfutures.com](mailto:futurist@altfutures.com) for more information.

# **OVERVIEW OF THE FOUR SCENARIOS**

## **Scenario 1—Slow, Steady Growth**

Chiropractic continues its slow, steady growth in the numbers of chiropractors. The evidence for manipulation for back pain and neck pain is positive and cost competitive with other approaches. Wellness care for geriatric patients is also proven to improve health and mobility.

Chiropractic is somewhat better integrated into the medical community through rotations during college, and because of successful integration into large delivery systems. The Department of Veterans Affairs (VA) and the Department of Defense (DoD) make chiropractic a popular covered option. Other health care delivery systems include chiropractic care as an elective option. Each year leading to 2015, chiropractic college graduates have more opportunities to practice with other types of healthcare providers than the previous class.

Doctors of physical therapy (DPTs), massage therapists, and osteopathic physicians are all competitors. This competition has slowed the growth of fees and reduced the average number of visits to chiropractors. Wellness or maintenance visits are less common in most chiropractic practices, as neither the evidence nor managed care plans support them for most patients. The exception is geriatric chiropractic, where the research shows that regular chiropractic care including nutrition and exercise help keep patients healthy and mobile.

## **Scenario 2—Downward Spiral**

The cost squeeze in healthcare pushes many chiropractors to the brink. Consumer demand falls and managed care removes even more chiropractic coverage from their plans. Standards of care fall, insurance fraud is common, and many chiropractors turn to unethical behavior to sustain their practices. Simultaneously, serious malpractice cases involving missed and ignored diagnosis of serious illnesses by super straight chiropractors become major media stories.

By 2015, the evidence base for chiropractic effectiveness advances little over the limited indications where chiropractors had been proven effective in



2005. Other providers offer spinal manipulation for lower back, neck, and chronic pain. DPTs and massage therapists take over a large percentage of the cash market for back pain. The remaining chiropractors fight over the declining number of “true believer” patients who have had positive previous experiences with chiropractic and can afford to pay out-of-pocket.

### **Scenario 3— Evidence Based Collaboration**

Manipulation is found to be both efficacious and cost effective for a variety of NMS conditions including back and neck pain, headache and some types of chronic pain. Chiropractors expand their education and training to include more NMS conditions and they push for limited prescription rights. This allows them to fill a broader role as NMS specialists. Clinical experience for chiropractors in integrated settings becomes a standard part of chiropractic education and recertification. This, combined with new authoritative studies showing the benefits of chiropractic for NMS conditions, increases the rates of referrals from medical doctors to chiropractors.

Consumer-directed healthcare grows dramatically. Patients who manage their own care favor those chiropractors who score well on “report cards” which compare health care providers in their area. By 2015, the few large managed care plans that remain require patients to undergo a course of manipulation for back or neck pain before considering authorization of expensive surgery or medicines. Chiropractors have very sophisticated office information systems which include electronic patient records, the ability to link genomic information and “patient coaching” with different chiropractic techniques.

### **Scenario 4—Healthy Life Doctors**

A mindshift takes place in the US, particularly among individuals and health care systems. Chronic diseases can be forecast years in advance, and lifestyle approaches are often the most effective way to prevent disease or to reverse it in its early stages. A “healthy life” is viewed as powerful medicine and many types of providers, such as chiropractors, medical doctors, naturopathic doctors, and doctors of physical therapy, commit to build practices as “healthy life doctors”.

There is increasing evidence that spinal manipulation is effective for many types of neuromuscular problems. But lifestyle or wellness approaches are also effective for many of the same conditions, as well as for most viscerosomatic conditions. Many chiropractors argue that they have always included a lifestyle component in their practice -- yet only a small fraction actually did so. As the mind change takes place in the larger society, thousands of DCs shift their practices to become “healthy life doctors”.

By 2015, advances in prospective medicine allow accurate predictions of very specific risk factors for disease. Health information systems forecast health conditions by analyzing a person’s genes and sophisticated biomonitoring is done by all patients. Healthy life doctors specialize in providing targeted health management plans for their patients to avoid the onset of disease.

Consumer-directed health plans give individuals significant choice and proactive consumers who are willing to pay for wellness/preventative care drive changes in the healthcare system. Managed care follows after it becomes apparent that preventing disease is more cost effective than treating it.

## SCENARIO 1—SLOW, STEADY GROWTH

### Imagine:

*Over the last five years, Sarah Krantz, aged seventy-eight, has had trouble remaining active and mobile, especially since she suffers from chronic back pain. After a visit to her medical doctor, he recommended visiting a chiropractor he knows that specializes in gerontology. They had met professionally during a rotation at a local VA hospital ten years earlier and both have had a positive experience coordinating patient care over the last couple of years.*

*At first Sarah was skeptical that visiting a chiropractor would help. After all, she still remembers negative stories about chiropractic in the national media from years ago. On the other hand, her recent visit to the Consumer Reports website recommended spinal manipulation, as well as physical therapy, for back pain. Between her doctor's recommendation and Consumer Reports, Sarah decided chiropractic was the option for her.*

*With the first visit her fears disappeared. The chiropractor worked with her to create a care plan that included not only chiropractic manipulation, but also nutrition and exercise. Within a year, Sarah was leading a healthy and more active life.*

### Key Elements:

Most chiropractors in 2015 are still in solo-practices. They focus primarily on back and neck pain, with manipulation as their core service. However, the majority of chiropractors are involved in some way with multidisciplinary practices. These chiropractors refer more often to physicians and other health care providers, and they also receive more referrals.

High quality studies show the efficacy of chiropractic care for a select range of conditions.

- New evidence on efficacy for most back and neck problems show that massage therapists, chiropractors and Doctors of Physical Therapy (DPT) are roughly equivalent. The evidence clearly shows that all are superior and more cost effective than surgery or medication for most cases.

- Studies showing the benefits of chiropractic care for preserving mobility and quality of life for elders open up opportunities for chiropractors in geriatrics. Similar efficacy in aiding elderly mobility is shown for DPTs.

Chiropractors face competition in the spinal manipulation markets.

- Physical therapy converts much of its workforce, and all of its new entrants to DPTs and has direct patient access in all 50 states.
- Besides the clinical trials on the general efficacy of chiropractic, local report cards on providers compare chiropractors; physical therapists, and massage therapists on their efficacy and patient satisfaction.

Both Target and Wal-Mart offer Back Centers at hundreds of stores nationwide.

- Following Target's success with its MinuteClinics, back centers at Target and Wal-Mart stores grow rapidly.
- The centers allow customers easy access to back care, including on weekends and evenings.
- Target and Wal-Mart work to sell ancillary products in the Back Centers and the main parts of their stores.
- They focus largely on services that can be performed quickly and do not require an appointment.
- While these centers have DCs or DPTs focused on back and neck complaints, massage therapists do the majority of maintenance and wellness visits because of their lower fees.
- Visibility for DCs and DPTs as health providers is significantly increased by their work at the centers.
- Many new doctors of chiropractic start their professional careers at Back Centers where they have a guaranteed income, good benefits, and do not have to worry about developing a business.

Many chiropractors, especially young chiropractors, are increasingly part of integrated settings.

- VA/DoD pilot programs pave the way for chiropractors to work inside large public health systems.
- More contact between chiropractors and medical doctors make DCs and MDs more comfortable referring patients to each other.
- Referrals from medical doctors to chiropractors and from chiropractors to medical doctors have increased significantly by 2015.

Chiropractic education programs slowly expand their offerings and options to students.

- Florida State University (FSU) becomes the first chiropractic program at a state university.
- Many chiropractic programs offer dual degree programs integrated with various other colleges, including public health and business.
- More chiropractors are involved in health research.
- Chiropractors with masters of public health degrees begin to enter the healthcare elite as policymakers and health benefit consultants.

## SCENARIO 2—DOWNWARD SPIRAL

### Imagine:

*Everyday on his way home from work, Hector Gonzales passes by the window of his small town's only chiropractor. Last year Hector injured his back when he fell off a ladder removing Christmas lights. He asked his medical doctor and in his community about seeing a chiropractor, but no one thought it was a good idea. No one at his church or in his community has met the local chiropractor before.*

*Hector's medical doctor gave him magazine articles from Newsweek and Time magazine about serious malpractice trials involving large chiropractic clinics. When asked, the doctor admitted he had never met the local chiropractor, but the local medical clinic just hired a new Doctor of Physical Therapy (DPT) who specializes in back pain. Furthermore, the local clinic is part of Hector's Preferred Provider Organization. Hector is not even sure if chiropractic care is covered under his insurance. In the end, Hector's medical doctor refers him to the local DPT.*

### Key Elements:

Economic recessions in the US and major lawsuits against chiropractors, make for hard times. Infighting within the profession and poor public communication leave the public and the wider healthcare community with misconceptions about chiropractic.

- There is a slight increase in evidence supporting spinal manipulation therapy (SMT).
- Patients who are unfamiliar with chiropractic remain skeptical of the benefits of chiropractic and do not push their employers to add chiropractic to their managed care plans.
- There is no single voice from the profession to present a positive view of chiropractic to the public or to manage crises when a serious issue emerges involving fraud, professional discipline, or unethical or unprofessional activity.
- Minority groups in the profession try to limit the scope of chiropractic, which harms the profession.

Studies of the effectiveness of spinal manipulation for musculoskeletal conditions show some increased efficacy, but there is little difference between SMT delivered by a chiropractor, treatment by a DPT, or the techniques used by massage therapists.

Chiropractic looks less attractive to potential students, and many students face massive student debt.

- Many of the best students go to DPT programs rather than chiropractic programs.
- A lack of public support kills the FSU program before it starts.
- Some of the more financially fragile chiropractic colleges are forced to close their doors due to low enrollment.
- Chiropractic colleges with other degree programs are able to keep small chiropractic programs running, but are forced to concentrate on areas outside of chiropractic.

## SCENARIO 3—EVIDENCE BASED COLLABORATION

### Imagine:

*James Donovan, aged 18, seriously injured his back during a training weekend with the Army ROTC. Luckily for James, the university hospital emergency room had a chiropractic physician on call. Using the latest imaging technology at the hospital she was able to rule out fractures or breaks. She resolved James' injury without expensive prescription drugs or risky surgery. Within one month, James was back on ROTC hikes.*

*James was so impressed with the experience that he began looking into chiropractic as a career path. He found that his university offered a doctor of chiropractic degree and that the Army would be willing to defer his service and pay for part of his graduate school if he pursued a doctorate in chiropractic. Spotting a good deal, James switched his major from American History to biology to cover the prerequisites for entrance into his university's chiropractic program.*

### Key Elements:

The health benefits and cost effectiveness of spinal manipulation therapy for a range of neuromusculoskeletal (NMS) conditions (i.e. back, neck, headache and chronic spinal pain) are proven and widely acknowledged by the medical community.

- The efficacy of grade 5 mobilization by DPT's is equivalent to SMT done by chiropractors.
- Research shows that chiropractors who integrate lifestyle and other approaches with SMT have among the highest clinical outcomes and patient satisfaction.

Chiropractors focus on evidence based practice.

- Chiropractic education is upgraded to include more classes on evidence and how to run a practice to generate evidence.
- Almost all chiropractors subscribe to and read peer reviewed journals both inside the chiropractic profession, such as the Journal of



Manipulative and Physiological Therapeutics, and outside the profession, such as the New England Journal of Medicine.

Chiropractors become the providers of choice for many NMS conditions.

- Chiropractors improve their education in NMS conditions and have significantly more clinical experience. In most states, chiropractors have limited prescription rights and are able to treat many NMS conditions.
- Managed care mandates at least one chiropractic consultation for lower back, neck, and headache pain before authorizing expensive drugs or surgery.
- Most primary care providers and specialists refer NMS conditions to DCs or DPTs, particularly those professionals with whom they have positive professional relationships.

Most chiropractors work in teams with other health professionals.

- Chiropractors work in multidisciplinary teams with other health professionals to co-manage patients.
- Information technology has made this easier and cheaper to accomplish.

High demand for chiropractic services and a positive public perception of chiropractic increases enrollment in existing private chiropractic colleges.

- Most chiropractic colleges have ongoing internships with hospitals. All of the chiropractic colleges in 2015 have formal associations with university medical schools, allowing chiropractic students to take part in rotations.
- Chiropractic students have more opportunities for residencies and post-graduate work.
- Demand for chiropractic care is high enough to attract sufficient students to support both the state programs and the private colleges.

Chiropractors with practices focused on maximizing financial return without ensuring clinical outcomes are poorly rated on local report cards, have fewer patients who spend from their health savings accounts, and are not included in provider panels by managed care plans or by government payers.

- In 2015, third party payers have sophisticated systems and strict criteria for approving covered services and paying providers in an effort to control health care costs.
- Only those methods shown to be effective continue to be approved, and the frequency of therapy for specific conditions is clearly defined.

- Genomics has been integrated into chiropractic practice.
- Genomics enables physicians to target those at risk of side effects and create customized mixes of therapy.

The chiropractic profession begins to specialize through post-graduate education such as residencies, fellowships, and diplomates.

- By 2015, two thirds of chiropractors have a post-graduate specialization, which allows them to differentiate themselves from massage therapists and DPTs.
- Some of the most common specializations include: Chiropractic Sciences, Geriatrics, Neurology, Nutrition, Occupational Health, Pediatrics, Radiology, Sports Chiropractic, and Rehabilitation.

Consumer-Directed Health Care shifts much of health care management to the individual.

- For some patients this has increased their willingness to spend for wellness and maintenance visits.
- This benefits DCs who provide ongoing health coaching, and who score well on report cards of local providers.

## SCENARIO 4—HEALTHY LIFE DOCTORS

### **Imagine:**

*Jane Simmons' father was a busy executive who died at the age of fifty-seven. Years of work-related stress, drinking, smoking, and a rich diet had taken their toll on his heart.*

*On her fifty-seventh birthday, Jane realized she had many of the same problems her father did. She worked late, smoked, and paid little attention to her health. Like many in her family, she has a genetic disposition to heart disease. Her medical doctor prescribed a statin, which frequently caused dizziness and headaches, and did little to address the underlying causes of her poor health.*

*Jane's executive coach, Martin, recommended seeing a healthy life doctor. Dr. Goodwin, a chiropractor by training, had a completely different approach. He began by teaching Jane that many patients create their own illnesses due to their unconscious needs, expectations, and living patterns. He coached Jane to consciously assess her health status and to proactively deal with her underlying perceptions and actions that could cause illness. Jane learned to modify her behaviors, such as smoking, diet and activity, and to reduce her stress levels.*

*Dr. Goodwin is a member of a multidisciplinary practice. He refers Jane to other members of Jane's health team, such as a specialist in prospective medicine, when needed. The team uses the latest technology for biomonitoring and for identifying biomarkers to keep Jane healthy. Soon Jane is able to ditch her statin in favor of a light aspirin regimen and most of her indicators of heart disease have normalized.*

### **Key Elements:**

Most of the key elements are the same as scenario 3, *Evidence Based Collaboration*, except that a major movement occurs in which healthy life coaching becomes an accepted profession.

- Medical doctors, naturopathic doctors, and doctors of chiropractic are among those pursue the “healthy life doctor” path.

- In 2015 most of the 96,000 active chiropractors provide evidence-based NMS care.
- 10,000 doctors of chiropractic have expanded their practice to become “healthy life doctors”.

By 2015, almost 10% of chiropractors practice more broadly -- focusing on preventing disease by creating personal “health management plans” that teach patients to proactively deal with underlying perceptions and actions resulting in illness.

- 10,000 chiropractors make a complete transformation in their practices, focusing predominately on the healthy life approach.
- Established chiropractors take extensive additional training on the latest methods of preventative care, including technology, which makes this approach cost-effective.
- Patients, and a forward-thinking minority of managed care plans, are willing to pay to maintain health and well-being.
- While there is stiff competition among providers who are healthy life doctors, chiropractors’ training in nutrition, health, and wellness give many chiropractors an advantage with prospective medicine.
- Moreover, chiropractors have relatively strong patient-centered focus and high patient satisfaction rates which help DCs thrive as healthy life doctors.

Prospective Medicine becomes a reality.

- Evaluation of an individual’s genetic, proteomic and metabolomic profiles is an inexpensive office-based procedure.
- This information combined with family history, lifestyle and environmental factors provides high probability forecasts for the risk of future disease.
- Healthy Life Doctors often work in collaborative teams with an expert in prospective medicine.

Monitoring and coaching patients over extended periods is proven to improve health and quality of life at significant cost savings.

- Most healthy life doctors use advanced information systems that allow the integration of biomonitoring, patient assessment, communication and behavior shaping.
- Most chiropractors who become healthy life doctors maintain the importance of their palpation skills.

Relatively inexpensive biomonitoring devices for a wide range of diseases and conditions are incorporated into the chiropractic practice.

- Biomonitoring devices can test cholesterol and bone density quickly and in the office.
- This provides better tracking of a patient's health status and helps chiropractors provide better prevention and wellness care.

High quality research becomes a central component of the success of the “healthy life” approach.

- Research shows that the “healthy life” approach improves health, quality of life, and costs less over the long-run than healthcare models focused on treating disease.
- Extensive studies help healthy life doctors identify high risk patient groups.
- Healthy life doctors become popular as primary care providers.

Individual DCs and group practices, including healthy life doctors, routinely collect data in their offices, which is aggregated for research purposes.

- Most offices use secure internet-based systems for patient records and billing which makes aggregating this information easier.
- Performing research on large groups of patients is easier and can be done at a lower cost.
- The data aggregation and research is designed to protect a patient's privacy and ensure other HIPAA protections.
- Studies routinely compare traditional chiropractic practices, conventional medicine, complementary and alternative medicine, and various combinations of diet and activity-based approaches.
- Individual and group chiropractic practices also benefit by having their protocols routinely updated based on the latest research.
- This enables chiropractors to treat and prevent more effectively and to “raise their batting average”.

The “healthy life” approach establishes itself in the healthcare marketplace.

- The business model for healthy life doctors is typically a personal monthly fee for treatments which supplements health insurance or managed care payments.
- There are some technology/diagnostic services that healthy life doctors do in their offices that provide some income.

- However, local report cards promote transparency of pricing by providers.
- This leads to more effective use of diagnostic testing and to more competitive prices for consumers.

Public outreach efforts for chiropractic are successful.

- Initially, the public is skeptical of chiropractic care outside of low back and neck pain and many chiropractic healthy life doctors get their patients through referrals.
- Other healthy life doctors convince their back pain patients to become healthy life patients.
- By 2015, a combination of high standards and effective public outreach enable chiropractic healthy life doctors to attract patients directly.

The “healthy life” movement becomes an established specialty in chiropractic.

- The Association of Healthy Life Doctors forms to share the latest advances and to provide board certification for healthy life doctors.
- By 2015, four chiropractic schools have “healthy life” research institutes and offer 1, 2 and 3 year residencies for chiropractors interested in becoming healthy life doctors.
- Online education and training, with focused in-person sessions, increases in its effectiveness and cost-effectiveness and becomes the way that many doctors become healthy life doctors.
- The traditional marketers of practice enhancement approaches for chiropractors contribute to this movement by promoting healthy life practice management.

## **COMPARISON OF SCENARIOS**

The charts on the following pages compare the scenarios. The first three charts compare scenario drivers, and the last two charts compare supply and demand for chiropractic services. Details on the assumptions behind these charts are in Appendix C. IAF encourages readers to consider these forecasts and to develop their own versions.

## SCENARIO DRIVERS

<b>Drivers</b>	<b>Scenario #1: Slow, Steady Growth</b>	<b>Scenario #2: Downward Spiral</b>	<b>Scenario #3: Evidence Based Collaboration</b>	<b>Scenario #4: Healthy Life Doctors</b>
<b>Chiropractic Education</b>	More integrated education More diverse student body More specialized residencies	Less clinical experience Less diverse student body Few specialized residencies	More clinical training including hospital rotations More diverse student body More specialized residencies	More clinical training including hospital rotations More diverse student body More specialized residencies
<b>Professional Unity</b>	Straight/mixer divide persists	Straight/mixer divide persists	Profession unifies to develop evidence based practices and closer integration with the healthcare community	Profession unifies to develop evidence based practices and closer integration with the healthcare community
<b>Specialization by DCs</b>	Most Common Specialties: Pediatrics, Geriatrics, Sports Medicine, Occupational Health, Integrated Care, Diagnostic Imaging, Personal Injury, Sports Medicine, and Rehabilitation	Post-graduate studies are less common, but still include Radiography, Personal Injury, and Sports Medicine	Most Common: Pediatrics, Geriatrics, Sports Medicine, Occupational Health, Integrated Care, Diagnostic Imaging, Personal Injury, Sports Medicine, and Rehabilitation	Most Common: Healthy Life, Pediatrics, Geriatrics, Sports Medicine, Occupational Health, Integrated Care, Diagnostic Imaging, Personal Injury, Sports Medicine, and Rehabilitation
<b>Number of specialists</b>	1/3 of chiropractors have a specialization	Few specializations	2/3 of chiropractors have a specialization	10,000 chiropractors are certified healthy life doctors
<b>Prospective Medicine Use</b>	Some prospective medicine incorporated into healthcare for the wealthy	Little prospective medicine	Some prospective medicine incorporated into healthcare for the wealthy	Prospective medicine incorporated into the healthcare system
<b>Chiropractic's Relations with Mainstream Medicine</b>	Chiropractic's relations w/ medical community improve and there are more referrals	Chiropractic's relations w/ medical community go downhill & fierce competition leads to lower referrals	Chiropractic's relations w/ medical community improves substantially	Chiropractic's relations w/ medical community improves substantially

## SCENARIO DRIVERS

<b>Drivers</b>	<b>Scenario #1: Slow, Steady Growth</b>	<b>Scenario #2: Downward Spiral</b>	<b>Scenario #3: Evidence Based Collaboration</b>	<b>Scenario #4: Healthy Life Doctors</b>
<b>Research on Chiropractic Care</b>	More research at chiropractic universities	Research funding dries up	Most chiropractic research centers are in integrated settings	More federal research funds for Health/Wellness/Prevention
<b>Evidence Base for Chiropractic Care</b>	Evidence based health care supports DCs efficacy for LBP and neck pain, which encourages more referrals.	Little evidence supporting DCs beyond LBP.	Most DCs run evidence based and integrated practices. Better research on the efficacy & value of chiropractic for NMS.	Most DCs run evidence based and integrated practices. Preventative care is proven to be more effective than surgery or pharmaceuticals for most conditions.
<b>DC Practice Patterns</b>	3/4 of practices are small private solo or medium sized private group practices	3/4 of practices are small solo practices w/ low overhead struggling to survive	1/2 of practices are small solo offices electronically integrated with a larger integrated group	1/2 of practices are small solo offices electronically integrated with a larger integrated group
<b>Growth Areas in DC Employment</b>	Largest growth in salaried employees	Largest growth in underpaid salaried employees in chiro "mills" that focus on high volume & low overhead	Largest growth in salaried employees in integrated settings & back centers	Largest growth in large integrated group practices and as salaried employees
<b>Geriatric Chiropractic</b>	Many chiropractors treat the growing number of retiring baby boomers	Chiropractic fails to capitalize on opportunities in geriatric care	Many chiropractors treat the growing number of retiring baby boomers	Many chiropractors treat the growing number of retiring baby boomers
<b>Minority Usage of Chiropractic</b>	Chiropractic has difficulties making inroads into the minority market due to a lack of minority practitioners and public outreach campaigns in minority communities	Chiropractic has difficulties making inroads into the minority market due to a lack of minority practitioners and public outreach campaigns in minority communities	Chiropractic usage by minorities increases due to effective outreach activities	Chiropractic usage by minorities increases due to effective outreach activities



## SCENARIO DRIVERS

<b>Drivers</b>	<b>Scenario #1: Slow, Steady Growth</b>	<b>Scenario #2: Downward Spiral</b>	<b>Scenario #3: Evidence Based Collaboration</b>	<b>Scenario #4: Healthy Life Doctors</b>
<b>Technology</b>	Overuse of radiography, thermography, and others are curtailed	Many DCs oversell dubious technologies to raise revenue	More DCs in integrated settings use sophisticated imaging technologies	Biomonitoring and prospective screening become an integral part of the modern practice
<b>Electronic Medical Records</b>	EMRs have two common standards, and penetrate 1/2 of the chiropractic market	EMRs penetrate under 20% of the chiropractic market & there are no common tech standards	EMRs are commonplace in chiropractic and there is one common tech standard	EMRs are commonplace in chiropractic and there is one common tech standard
<b>Public Relations</b>	Public relations improve as more people come in contact with chiropractic, but disunity in the field keeps image of chiropractic confused	A series of public relations disasters ruin chiropractic's public image	Public relations improve as more people come in contact with chiropractic.	Public relations improve as more people come in contact with chiropractic.
<b>Competition in spinal manipulation</b>	25% of spinal manipulation is done by non-chiropractors, mostly DPTs	Half of spinal manipulation is done by non-chiropractors mostly DPTs.	15% of spinal manipulation is done by non-chiropractors, mostly DPTs	15% of spinal manipulation is done by non-chiropractors, mostly DPTs
<b>Competition in CAM</b>	Chiropractic remains the most widely used CAM therapy	Acupuncturists & NDs become the CAM providers of choice	Chiropractic is viewed less as a CAM therapy and more as a sub-specialty	Chiropractic is viewed less as a CAM therapy and more as a sub-specialty
<b>Competition in Primary Care</b>	NPs & PAs are the primary care providers for most managed care plans	NPs & PAs are the primary care providers for most managed care plans	NPs & PAs are the primary care providers for most managed care plans	Healthy Life Doctors become primary care physicians
<b>Consumer Driven Healthcare</b>	More consumer driven plans like HSAs, but managed care is still dominant	Everyone pays more out of pocket through higher deductibles & co-pays	50% of the US manages their own HSA by 2015	50% of the US manages their own HSA by 2015
<b>Wal-Mart or Target Back Centers</b>	50 pilot back centers at Wal-Mart Super-centers	Back centers staffed w/ DPTs	Hundreds of back centers staffed by DCs, DPTS, and massage therapists	Hundreds of back centers staffed by DCs, DPTS, and massage therapists

	<b>2002</b>	<b>Scenario #1: Slow, Steady Growth</b>	<b>Scenario #2: Downward Spiral</b>	<b>Scenario #3: Evidence Based Collaboration</b>	<b>Scenario #4: Healthy Life Doctors</b>
<b>US Population</b>	288,000,000	312,000,000	312,000,000	312,000,000	312,000,000
<b>% in managed care</b>	72.5%	90%	90%	50%	50%
<b># in managed care</b>	208,800,000	280,800,000	280,800,000	156,000,000	156,000,000
<b>% using CAM (18+)</b>	36%	50%	25%	50%	50%
<b># using CAM (18+)</b>	77,571,000	117,000,000	58,500,000	117,000,000	117,000,000
<b>% using chiropractic each year (18+)</b>	7.50%	15%	5%	20%	25%
<b># using chiropractic care each year (18+)</b>	15,226,000	35,100,000	11,700,000	46,800,000	58,500,000
<b>% of total chiropractic care provided to U-18 patients annually</b>	11%	12%	12%	12%	12%
<b>% of spinal manipulation done by non-chiropractors</b>	10%	25%	50%	15%	15%
<b># of practicing chiropractors</b>	61,000	74,000	58,000	96,000	96,000
<b>Patient Visits per Week</b>	135	140	125	145	150
<b>Treatment visits per year per patient</b>	9	7	6	7	7
<b>Wellness visits per year per patient</b>	6	2	3	1	4

	2002	Scenario #1: New Horizons	Scenario #2: Downward Spiral	Scenario #3: Evidence Based Collaboration	Scenario #4: Healthy Life Doctors
<b>Conditions Treated</b>					
Low-back pain	35%	40%	30%	45%	55%
Neck pain	25%	30%	20%	30%	10%
Headache pain	13%	10%	10%	15%	5%
Extremities	7%	5%	10%	3%	2%
Other NMS	5%	4%	10%	1%	2%
Other conditions	5%	1%	15%	1%	1%
Wellness/Prevention visits	10%	10%	5%	5%	25%
<b>Chiropractors working in a multi-discipline setting</b>	35%	50%	15%	50%	75%
<b>Disciplines included in multi-discipline settings</b>					
Massage Therapy	62%	85%	35%	85%	85%
MD/DO	12%	25%	1%	85%	75%
Rehab/Physical Therapy	18%	25%	4%	50%	50%
Dietitian/Nutritional counseling	15%	20%	5%	15%	75%
Other	38%	25%	55%	15%	25%
<b>Types of Chiropractic Practice</b>					
Solo Private Practice	70%	60%	75%	50%	50%
Group or Partnership Practice	25%	30%	10%	25%	25%
Salaried Employee	5%	10%	15%	25%	25%

# CHAPTER 4: INSIGHTS AND RECOMENDATIONS

## BACKGROUND

Chiropractic is a series of enigmas.

- It is the largest and most well established complementary and alternative medicine (CAM) in the United States.
  - But in practice many chiropractors are barely holistic or integrative.
- Chiropractic is still well positioned to take advantage of newfound interest in complementary and alternative care by providing more integrative care themselves, developing better interdisciplinary teams, and doing more consistent referrals.
  - But since we made that recommendation in 1998 DCs have done relatively little to make this integration more real.
- Patient satisfaction with chiropractic care is generally high.
  - But it is not clear if this is from spinal manipulation or the broader aspects of chiropractic care as it is delivered, including the personal attention of the chiropractor.
- The acceptance of chiropractic in mainstream healthcare has seen major advances. These include the establishment of a permanent chiropractic benefit established in the Department of Veterans Affairs. The Department of Defense has opened its health care facilities to chiropractors through test sites in 13 different military establishments. Chiropractic is covered in eighty-percent of all insurance plans and more chiropractors are working in integrated practices than ever before.
  - Yet wide parts of the health care provider establishment are still neutral or hostile to chiropractors and major insurers are cutting coverage.
- The first state sponsored chiropractic program has been created by the Florida Legislature and scheduled to open at Florida State University in 2007.
  - Yet the program is encountering significant opposition in the University System and from outside groups, some of which were involved in preventing a governmentally funded chiropractic program from being established in Canada.

Chiropractic faces many significant opportunities and challenges ahead. With thoughtful leadership and a committed community, chiropractic can continue to grow and prosper. Below is IAF's sense of challenges and opportunities as well as recommendations based on this updated look to the future of chiropractic.

## **CHALLENGES & OPPORTUNITIES**

### **PRINCIPAL CHALLENGES FACING THE FIELD**

- For a growing percentage of visits to chiropractors, the rise of managed care has led to fewer visits per treatment course and a lower reimbursement rate for each of those visits.
- The average amount of debt facing a recent chiropractic graduate is at an all time high and makes it difficult to attract the best talent to the profession, increase the training, or clinical experience time.
- After the dramatic drop in enrollments in chiropractic colleges there has been a significant recovery, but chiropractic colleges remain far more tuition driven than other doctoral programs in health care.
- There is still a long way to go to improve chiropractic's legitimacy to the medical establishment and the public. The evidence for manipulation in treating back and neck pain is far from conclusive and the evidence for many other conditions treated by chiropractic is thin.
- Chiropractors are also likely to suffer from increased competition from other providers particularly DPTs. While these trends are not unique to chiropractic, as many of the major health professions face competition, the comparative numbers of new competing professions facing chiropractors in the next decade is unique.
- Chiropractic remains fragmented due to philosophical differences
- Given the evolving demographics of the U.S., there are too few minorities within the traditional patient base, and within the profession.
- Referrals to chiropractors from physicians and other health care providers remain less than they should be for effective treatment of back pain
- Chiropractors who oversell chiropractic services and related technology continue to create a negative impression of the profession.
- Appropriate evidence is lacking on four major topics:
  - 1) Identifying which patient groups benefit the most from ongoing chiropractic care and why they benefit from ongoing care.

- 2) Chiropractic's comparative cost effectiveness for back and neck pain.
- 3) The benefits and ultimately cost effectiveness of maintenance/wellness care by chiropractors – both maintenance visits for manipulation, and broader wellness services by chiropractors.
- 4) Identifying which somatovisceral conditions are positively affected by chiropractic manipulation and why they are positively affected.
- The rampant growth in overall health costs in the U.S. will force painful cost cutting throughout the entire healthcare industry forcing chiropractic to show that it is both efficacious and cost-effective.
- Finally, the benefits and proven applications of chiropractic remain relatively unknown to the general public.

## **OPPORTUNITIES FOR CHIROPRACTORS**

- Consumer backlash over the safety of prescription pain relievers such Vioxx are likely to create a greater mistrust of medications and that should get more people to consider chiropractors' non-drug approach to their neuromusculoskeletal conditions.
- Most primary care providers and specialists would prefer to refer patients with back pain. Chiropractors need to reach out more to develop positive professional relationships, especially with MDs.
- Chiropractors will come into contact with allopathic physicians more frequently in the future through the Department of Defense, the Department of Veterans Affairs, and educational internships. These need to be nurtured and enhanced, as well as other opportunities for joint work, including free clinic or other charity service done with other health care providers.
- Consumer driven healthcare will give more choice and make consumers more responsible financially. This is a major opportunity for chiropractic to show its comparative efficacy, safety, cost effectiveness, and patient satisfaction to consumers.
  - Significant opportunities will emerge for enhanced research: both through current chiropractic researchers, and more consistently from chiropractic practices, as the appropriate infrastructure to track outcomes is established in the offices of chiropractors.
- Recognizing that pain, and its subjective measures will be important, the chiropractic community needs to be involved in the development of outcome measures, particularly for the prime conditions that chiropractic

treats. These are measures that should be used by chiropractors in their office practices.

- As personal biomonitoring becomes common over the next decade, chiropractors need to ensure that the biomarkers considered will include measures relevant for chiropractic care.
- Significant opportunities remain for chiropractors to emphasize promoting health and wellness beyond manipulation, particularly through nutrition, exercise, and lifestyle choices.
- There is a need and opportunity for patient-centered electronic medical record systems, websites, and communication routines that reinforce the chiropractor's treatment and coaching of patients, particularly for health promotion.
- Developing business models to enable:
  - Health promotion oriented practices (moving beyond only paying for treatment).
  - Care for the elderly as that population expands.
- Developing better CPT codes for different chiropractic techniques that can be used by insurers and providers, particularly managed care.

## **IAF's RECOMMENDATIONS**

Given the trends shaping chiropractic, the alternative futures we have envisioned, and challenges and opportunities identified, the IAF team makes the following recommendations for the chiropractic field. We do this in the context of our vision of health care as one that optimizes individual and community health with the most cost effective approaches.

### **1. Accelerate research**

**Target Research Topics** -- Accelerate research on 1) which patient groups benefit the most from ongoing chiropractic care and why they benefit from ongoing care; 2) chiropractic's comparative cost effectiveness for back and neck pain; 3) the benefits and ultimate cost effectiveness of maintenance/wellness care by chiropractors – both maintenance visits for manipulation, and broader wellness services; and 4) which somatovisceral conditions are positively affected by chiropractic manipulation and why they are positively effected.

**Promote Data Collection in Chiropractic Practices** -- The chiropractic community needs to aggressively promote data collection in chiropractic practices. This includes development of practice management systems which enable DCs to do this easily and ensuring that privacy and other HIPAA requirements are maintained as data is aggregated. As genotype and phenotype data are incorporated into care and evidence gathering, the components which are most relevant for chiropractic care will need to be anticipated.

**Honor Chiropractic's History and Foundations, but Find the Evidence--** The history of chiropractic is rich and varied and contains many lessons for future practitioners, but should not be allowed to block chiropractic's further integration into mainstream medicine or developing a comprehensive base of evidence. Chiropractic organizations or individuals that attempt to limit the scope of other practitioners or force their philosophy on them do the profession a disservice. Rather, they should look at how their understanding of chiropractic can be integrated into the future of healthcare and enrich the entire profession. Also, developing evidence for chiropractic requires a mind open to new possibilities and developments.

## **2. Continue to Strive for High Standards of Practice**

In the years ahead, both empowered consumers, especially if they are purchasing with their own dollars from their health savings accounts, and managed care plans will demand better information on their health care providers. They will look for healthcare providers that are transparent, generate good outcomes for their patients, and provide good value. The chiropractic profession should define and ensure high standards of practice that will keep existing patients satisfied with their care and attract new patients to chiropractic.

**Support Report Card Development** -- The development of local and national reporting systems that give the results or clinical success of health care providers in their patient care will be important in the future. For consumers these will ultimately be report cards on providers. The chiropractic profession and its various associations and organizations should support the development of report cards on health care professionals, including chiropractors. Ultimately report cards will take into account patients' disease sensitivity, risk sensitivity, and other measures such as patient satisfaction, in rating the outcomes of healthcare providers.



Report cards will also allow the profession, managed care plans, and individual consumers to better identify those chiropractors that oversell services and technology. The professional chiropractic organizations and state board of examiners should publicly renounce, monitor, and punish false and misleading advertising.

**Promote Use of Best Practices (whether guidelines or database)** -- One aspect of standards of practice is practice guidelines or a best practice database. Some experts argue that practice guidelines contain suggested therapy time frames that can be mistakenly applied as arbitrary limits. A best practice database, on the other hand, is more of an ongoing dynamic process and initiative that includes research, clinical judgment, and patient values, rather than just a document. Developing and maintaining practice guidelines or a best practice database is an important, parallel activity to the report cards. Chiropractic should develop, and continuously update, comprehensive best practice database, such as those being developed by the Council on Chiropractic Guidelines and Practice Parameters (CCGPP).

**Anticipate Developments in Electronic Medical Records** -- Health care is changing dramatically, giving all health care providers significant tools for providing more effective patient care. The chiropractic field should actively anticipate developments in biomarkers, biomonitors, electronic medical records, and other advances and translate them for practicing chiropractors.

### **3. Develop Greater Integration with Mainstream Healthcare**

Greater integration with mainstream healthcare will create many opportunities for the profession. DCs in practice need to enhance their ability to network with doctors and other health care providers, and make appropriate referrals to them. The clinical experience of chiropractic students should be improved and graduating students should have some clinical experience in settings with healthcare providers other than chiropractors.

**Take Full Advantage of the VA and DoD Opportunities** -- The VA and the DoD serve as many as 16 million people and provide neutral ground for the development of chiropractic research. Take full advantage of chiropractic involvement in these to develop and do research on the outcomes of manipulation as well as the outcomes of integrative/collaborative health practices. Publicize the results of this research, also taking advantage of the VA's closeness to academic medicine.

**Engage Managed Care** -- Managed care will continue to be a dominant force in the healthcare landscape for the foreseeable future. Actively engaging managed care to develop better current procedural terminology (CPT) codes that differentiate between different chiropractic techniques will enable both managed care and chiropractic to understand which patients and conditions respond to different techniques. Showing managed care the cost-effectiveness of chiropractic will be vital to expanding the market for chiropractic care. Improving access and influence on Health Benefit Consultants will also be important to leveraging opportunities to expand and preserve chiropractic benefits in managed care plans. The most important action that chiropractic can take is to encourage patients to demand chiropractic care from managed care plans.

**Integrate Chiropractic Education**—Chiropractic colleges should accelerate their efforts to provide their students with clinic experience in hospitals and other medical sites.

**Provide Pro Bono Care With Other Providers** -- Encourage chiropractors to provide volunteer and pro bono care in free clinics and other settings where the work and results of chiropractors can be seen by other types of providers

#### **4. Anticipate and Engage Consumer Directed Care**

Consumer Directed Healthcare will be an important force directing the future of healthcare. Chiropractic's high patient satisfaction rates are important, but not sufficient for becoming the treatment of choice for patients. Chiropractic will also have to improve outcome measures and advertise the benefits of chiropractic care to the public through public intermediaries such as the press and consumer advocacy groups.

#### **5. Create Greater Unity Within the Profession**

Creating greater unity within the profession remains a major challenge. Since we made this recommendation in 1998 there have been significant efforts towards unity, although with mixed success, and they should continue.

**Create and Communicate a Vision of Chiropractic**--Chiropractic is a unique health profession at a historical crossroads between mainstream and alternative medicine. In order to move forward it needs not only legitimacy

from the larger community, but professional unity. The profession should come together to develop a shared vision of its version of health in the US and the role of the profession in achieving that.

Since our 1998 report there have been significant efforts to develop a unified national vision for chiropractic. One was the ACC philosophy statement and the other was a 2000 effort led by the state associations through COSCA. Unfortunately the effort did not generate enough commitment in the chiropractic community to take hold. And the different views of how chiropractic can restore health have hampered the full internal adoption of this vision. The leading chiropractic organizations need to continue working together to define the most aspirational shared values of the profession.

A unified identity has moved further internationally during this time. The World Federation of Chiropractic (WFC) has undertaken a project to create an "identity" for the profession worldwide. The process has taken two years and will be decided at June 2005 conference in Sydney Australia. This effort is one of the first worldwide efforts to solicit input from the profession worldwide. Almost 4000 doctors of chiropractic responded to the survey.

**Avoid misleading arguments** -- The communication campaign should include a focus on what efficacy is established for chiropractic treatments. As we have reviewed business planning advice for chiropractors, much of it ignores a real focus on outcomes. The public communication campaigns should not suffer this failing as well.

## **6. Enhance Individual DC's Contribution to Public Health**

Public and community health objectives are often not addressed by individual chiropractors (just as they are usually not addressed by MDs and other treatment focused health care providers). We recommend that each DC understand what contribution they can make to public/community health and do this. We recognize that many already are doing this, but most chiropractors are not.

## **7. Prepare for the Future of Prevention & Wellness**

Scenario 4 forecasts a "healthy life doctor". No aspect of health care has invented the business model for prevention and wellness. Chiropractors argue that they are closer to it than others and some (but only some)

chiropractors do practice prevention. But the field will need to be inventive in defining the economics of success in this realm.

## **8. Develop Geriatric Chiropractic**

One of the largest growth areas in healthcare will be geriatrics. The retiring Baby Boomers will look for alternative medicine that can help them to remain active and healthy. Developing better evidence for geriatric chiropractic and more in-depth post-graduate programs in geriatric chiropractic will help chiropractic expand. There is much overlap between prevention and wellness approaches and what elders need.

APPENDIX A  
Advisers and Experts Interviewed

**PROJECT ADVISORY BOARD  
FUTURE OF CHIROPRACTIC REVISTED**

J. Michael Flynn, DC  
Former Chairman of the Board  
American Chiropractic Association

Peter Ferguson, DC  
Immediate Past President  
National Board of Chiropractic Examiners

Arlan Fuhr, DC  
President  
National Institute of Chiropractic Research  
Activator Methods International, Ltd.

Scott Haldeman, DC, MD, PhD  
Clinical Professor of Neurology  
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Joseph C. Keating Jr., PhD  
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Executive Director  
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Vincent Lucido, DC  
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Foundation for Chiropractic Education & Research

George B. McClelland, DC  
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American Chiropractic Association

William Meeker, DC, MPH  
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Robert Mootz, DC  
Associate Medical Director for Chiropractic  
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Mary Selly-Navarro, RD, DC  
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# **EXPERTS INTERVIEWED**

## **FUTURE OF CHIROPRACTIC REVISTED**

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Richard G. Brassard, DC  
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Debra Brown  
Chief Executive Officer  
Florida Chiropractic Association

David A. Chapman-Smith, LL.B., [Hon.] FICC  
Secretary-General  
World Federation of Chiropractic

Carl S. Cleveland III, DC  
President  
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Gerard W. Clum, DC  
President  
Life Chiropractic College West

Andrew C. Cohen  
National Chair  
Student American Chiropractic Association (SACA)

Richard L. Cole, DC, DACNB, DAAPM, FICC  
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Rick Flaherty  
Leader International Corporation

George A. Goodman, DC, FICC  
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Bart Green, DC, MEd, DACBSP  
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Kent S. Greenawalt  
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Foot Levelers Inc.

Jerry L. Hardee, Ed. D.  
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Matthew H. Kowalski, DC, DABCO  
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University of Arizona-Dept. of Psychology  
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Jean Moss, DC  
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Western States Chiropractic College

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Frank A. Zolli, DC  
Dean  
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University of Bridgeport

## APPENDIX B

### Lessons Learned from the 1998 report

Since the Institute for Alternative Futures (IAF) published *The Future of Chiropractic: Optimizing Health Gains* a number of changes have taken place in the field of chiropractic, but many of our insights and recommendations still remain relevant. In this section, IAF will review the scenarios and recommendations from the original report to determine how chiropractic has changed, how far the profession has come in the last seven years, and what areas of the original report still remain relevant. Many of the recommendations below are also discussed in our insights and recommendations chapter. *The Future of Chiropractic: Optimizing Health Gains* is available for download on our website: [www.altfutures.com](http://www.altfutures.com).

### **PROJECT LEADERSHIP**

Project Leadership was an initiative of the Congress of Chiropractic State Associations (COCSA) to open lines of communication and develop a shared vision for the chiropractic profession. The first meeting in 1998 focused on the lack of a shared vision and the shared goals of the chiropractic organizations. The 1999 meeting focused on the state association leaderships and their top three priority projects, and how these projects speak to a shared vision.

In April of 2000, representatives from the nation's top chiropractic organizations met again in St. Louis for three days for a visioning exercise facilitated by IAF President Clem Bezold. The Association of Chiropractic Colleges' Position on Chiropractic was unanimously approved by the representatives. This established a basis of understanding on such issues as: the chiropractic paradigm, the subluxation, and chiropractic scope and chiropractic practice. Three goals were adopted for the profession: unity, public awareness/increased utilization, and \$10 million for research by 2005.

Since its inception in 1998, Project Leadership has developed a formal structure and has established working groups to oversee projects aimed at achieving agreed upon goals. Now named the National Chiropractic Leadership Forum (NCLF) it continues to clarify and work toward a vision for chiropractic.

## COMMENTS ON SCENARIOS CREATED FOR THE 1998 REPORT

### **Scenario #1: More and Better Health Care**

Many of the key drivers of this scenario are still on track. Research on many alternative remedies, including chiropractic, is of higher quality. Electronic Medical Records, after frequent delays, appear to be gaining ground among health care providers.

In this scenario we forecast the rise of back clinics at Wal-Mart stores offering low cost chiropractic care. While there is no Wal-Mart clinic offering chiropractic care, there have been other interesting developments.

In 2004, Wal-Mart partnered with a private company, America's Back, to open back pain clinics in nine selected Wal-Mart stores in Colorado. The clinics charge \$10 for a few minutes of care on equipment similar to devices found at rehabilitation clinics. Target stores have recently opened MinuteClinics which offer limited primary care.

Many of our interviewees still consider back centers at big box stores a likely outcome. Some thought that this would be a horrible development for the profession. Others saw an opportunity if chiropractic was offered at these clinics. These clinics could be a positive new way to reach a larger group of patients and a good opportunity for new chiropractors.

### **Scenario #2: Hard Times, Frugal Health Care**

Some of the drivers of this scenario have already appeared in the last seven years. Managed care has continued to grow over the last seven years and now covers 72.5% of the insured and is still on track to reach the 80% coverage forecast for 2010.<sup>127</sup> Managed care has squeezed reimbursement rates since IAF's 1998 report and this was one of the most often cited problems with the current state of chiropractic heard in our interviews.

Some of our interviewees believed that the chiropractic underemployment of 35% forecast in this scenario is still probable if the profession does not do

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<sup>127</sup> Percentage of health plan enrollment calculated from data in: Kaiser Family Foundation. (2004). *Trends and Indicators in the Changing Health Care Marketplace, 2004 Update* Retrieved online 8/15/2004 at <http://www.kff.org/insurance/7031/index.cfm>

more to capitalize on its opportunities outside of manipulation for lower back pain.

This scenario also forecast a 50% drop in enrollments at chiropractic colleges. According to the National Center for Education Statistics enrollments in chiropractic colleges dropped 42.6%.<sup>128</sup> Based on our interviewees, and a recent upswing in enrollment numbers, it appears that enrollments will return to their prior levels and ultimately grow.

However, there are many additional major threats to chiropractic that were not recognized in 1998. These include the rise of DPTs and studies indicating equal efficacy for back problems from physical therapist, massage therapists, self care and chiropractors; and highly publicized lawsuits against chiropractors. All of these are addressed above in scenario 2.

### **Scenario #3: Self-care Rules**

Many of the drivers of this scenario have not occurred, but may still be on the horizon. Medical Savings Accounts have been replaced with Health Savings Accounts and may extend further in President Bush's second term as he seeks to lower health costs for businesses and create an "ownership" society. The odds of a two-tier system for health care are still high and many would say it already exists.

Health care markets are not much smarter than in 1998 since most healthcare markets do not utilize "report cards" on healthcare providers. However, that may still change in the future.

The internet has made patients much more aware of the different modalities available to them and is likely to extend into health care providers eventually. For example, Consumers Union has developed a "best drug buys" service that is available on the Consumer Reports website.

Expert systems and "home healthy" devices that would displace chiropractors have not appeared on the market and may not before 2010, though as noted above, the massage chairs have declined in price, and the company which makes the activator technology used by chiropractors is

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<sup>128</sup> National Center for Education Statistics, *Integrated Postsecondary Education Data System*, Retrieved online 8/15/2004 at <http://nces.ed.gov/ipeds/pas/>

developing equipment to measure joint stiffness. While this is not their intended purpose, this might ultimately be used in automated equipment.

#### **Scenario #4: The Transformation**

As of this report, the transformation has not happened. The majority of the health care professions are still focused on treating disease rather than promoting health. To a certain extent, government, consumers, and the medical community are much more aware of lifestyle choices and their effects on health than in 1998. The holistic view remains a possibility. Scenario 4 above revisits the form that such an image might take, this time focusing on the “healthy life doctor”.

## **RECOMMENDATIONS**

Many of the principal challenges facing the field and the recommendations that IAF made in 1998 remain relevant. The section below considers IAF’s 1998 recommendations and movement toward them.

**Aspire: Clarify Chiropractic’s Identity and Vision:** Of all the challenges identified, conflicts among the leadership of chiropractic remain the most troubling. Many of our interviewees for this 2005 report identified chiropractic unity as the most important and least solvable challenge facing chiropractic. They often mentioned public conflicts between very small, but overly vocal chiropractic organizations and individuals and the more mainstream chiropractic organizations.

On the positive side, the McDonald survey shows that at the grassroots level, chiropractic may not be as divided as many think. Also the leadership of the major chiropractic organizations has made a concerted effort to unify through Project Leadership, the World Federation of Chiropractic Identity Conference, and other initiatives. Still, unity in the profession seems as unlikely, or even more unlikely, than in 1998.

**Determine Chiropractic’s Role in Primary Care:** Some experts interviewed believe that chiropractic colleges have made great strides in improving the quality of primary care education since our 1998 report. This includes more courses on primary care techniques as well as internships in integrated settings with allopathic physicians.

It is not clear that many DCs are choosing to pursue a primary care role. They may not be willing to diagnose the range of conditions seen in primary care patients and they may not be willing to either treat or refer, including for pharmaceuticals when appropriate.

Regardless, chiropractors must do a better job of integrating with the medical community to provide high quality primary care. Access to improved imaging and diagnostic technology is more important than ever for effective primary care. Individual chiropractors must reach out and form relationships with other local healthcare providers if they are going to be effective in a primary care role. Referrals, both to and from, medical doctors must also increase significantly.

**Engage Managed Care:** Managed care has faced its own identity and vision crisis since our report in 1998. The leadership of chiropractic has done an admirable job of leveraging third-party studies, such as AHCPR's, to open up managed care coverage.

Greater managed care inclusion of chiropractic care, however, does not mean profitability for chiropractors. Like many other healthcare professions chiropractic has felt the squeeze of managed care, but due to its smaller size, has had less opportunity to negotiate better rates.

The AMI study, which showed the effectiveness of using chiropractors as gatekeepers in managed care plans, provides a potentially effective role for chiropractors. Yet this study has been criticized, including by some DCs who participated, as yet another example of focusing on costs rather than care outcomes.

**Champion Health Promotion:** Much more could have been done to promote health promotion in chiropractic by providing better evidence for routine "wellness visits" and better use of proactive coaching to promote health.

To truly promote health, chiropractic has to move beyond just spinal manipulation in their regular wellness visits to attack the underlying lifestyle choices that cause poor health. There is interest in this and courses being offered to chiropractors, yet it is not clear how many have moved in this direction.

As the new scenario 4 points out, information systems are likely to make this easier than it has been in the past. There is more talk about this, including adding this focus into the training for DCs and using health promotion as a way to build a chiropractic practice. But the outcomes for health promotion have not yet been defined.

**Enable the Chiropractor to Practice More Broadly:** There have been relatively little advances here. There are a couple of programs, including the proposed Florida State University (FSU) program, offering joint DC and master's degrees in various fields, including a Masters in Public Health.

**Define, Collect, and Share Outcomes:** IAF still believes there is a wealth of data in individual clinics that could be aggregated together to develop community and nationwide patterns in chiropractic. Little appears to have been done about this, although those companies providing web based practice management tools may offer a platform for aggregating and comparing data across multiple providers (assuming that HIPAA guidelines can be adhered to).

**Communicate:** Chiropractic still needs to make a concerted unified effort to reach out to the public about the benefits of chiropractic. Kent Greenawalt's work on developing the Campaign for Chiropractic to clarify chiropractic to the public should be a large step forward for chiropractic.

**Self-Police the Profession:** IAF believes that chiropractic could do a better job of policing the profession. More could be done to sanction chiropractors who over-treat, promote report cards on chiropractic providers, and monitor customer satisfaction,

**Don't Produce Surplus Chiropractors:** This appears far less likely and relevant than it did in 1998 in light of falling enrollment during the mid-1990s. The dip in chiropractic college enrollments should greatly reduce the potential for an over-supply of chiropractors, assuming that demand for chiropractors remains steady or grows. However, the possibility of oversupply still exists unless chiropractic can prove better outcomes and compete more effectively in the healthcare marketplace.

**Promote Health Equity:** It is not clear that there has been much movement on this recommendation. This still remains a relevant recommendation for the field and individual chiropractors as well.



**Stimulate the Frontiers of R&D:** The quality of chiropractic research continues to grow both at nationwide chiropractic organizations such as the Foundation for Chiropractic Education and Research (FCER), the Palmer Center for Chiropractic Research, integrated research centers such as The Texas Back Institute, and at individual chiropractic colleges.

According to our interviews for this 2005 report, federal funding for chiropractic research has reached \$20 million -- thanks largely to the chiropractic community, and NCMIC's commitment to research funding through the FCER, showing that high quality chiropractic studies are possible. Thus the Project Leadership goal of obtaining \$10 million in research funding by 2005 will be more than met.

## APPENDIX C

### Scenario Assumptions

This Appendix contains the assumptions used to create the forecasts for the scenarios. In some cases, where definitive information did not exist, we had to rely on the “best guess” of the chiropractors and other experts we interviewed for this project. While some might disagree with the exact numbers on any one of these elements, the information below is nonetheless useful for allowing us to develop scenarios and explore the implications. Readers are encouraged to alter these assumptions and share the results with IAF at [futurist@altfutures.com](mailto:futurist@altfutures.com).

#### RATIONALE FOR THE SCENARIOS

Scenario Elements	2002	Rationale/ Documentation
US Population	288,000,000	US Census Bureau
% under managed care (HMO, PPO, POS, & Medicare Managed Care)	72.5%	Kaiser Family Foundation Trends & Indicators in the Changing Health Care Marketplace: 2004 Update
# under managed care (HMO, PPO, POS, & Medicare Managed Care)	208,783,078	Kaiser Family Foundation Trends & Indicators in the Changing Health Care Marketplace: 2004 Update
% using CAM within the last 12 months (18+)	36%	2002 National Health Review Survey
# using CAM within the last 12 months (18+)	77,571,000	2002 National Health Review Survey & the US Census Bureau
% using chiropractic (18+)	19.90%	2002 National Health Review Survey
# using chiropractic (18+)	40,242,000	2002 National Health Review Survey
% using chiropractic in the past 12 months (18+)	7.50%	2002 National Health Review Survey
# using chiropractic in the past 12 months (18+)	15,226,000	2002 National Health Review Survey
% of chiropractic care given to those under 18	11%	Lee, et. al. (2000) <sup>1</sup>
% of spinal manipulation done by non-chiropractors	10%	Estimate based on interviews with chiropractic experts
% of spinal manipulation done by automated devices	0%	Estimate

Scenario Elements	2002	Rationale/ Documentation
# of licensed chiropractors	72,000	Estimate of the Number of Active Non-redundant licenses (see note below)
Average number of treatment visits per year per patient	9	Estimate based on interviews with chiropractic experts
Average number of wellness visits per year per patient	6	Estimate based on interviews with chiropractic experts
Average Patient Visits per Week per Practicing Chiropractor	135	5th Annual Chiropractic Economics' Salary & Expense Survey (2002)
Conditions Treated		
Low-back pain	35%	Estimates based on the 1999 ACA Statistical Survey Packet and adjusted to account for wellness/prevention visits
Neck pain	25%	
Headache Pain	13%	
Extremities	7%	
Other NMS	5%	
Other Conditions	5%	
Wellness/Prevention Visits	10%	Based on NBCE estimates
Types of Chiropractic Practice		
Solo Private Practice	70%	Based on the 5th Annual Chiropractic Economics' Salary & Expense Survey (2002)
Group or Partnership Practice	25%	
Salaried Employee	5%	
Multi-discipline Practice Characteristics		
Chiropractors working in an multi-discipline practice	34.5%	5th Annual Chiropractic Economics' Salary & Expense Survey (2002)
Other Disciplines/Professions included in the practice		
Massage Therapy	62%	
MD/DO	12%	
Rehabilitation/Physical Therapy	18%	
Dietitian/nutritional counseling	15%	
Other*	38%	

Note: Our estimate on the number of chiropractors is based on active non-redundant licenses. This may be different than the number of practicing chiropractors, which we estimate to be 61,000. The BLS estimates 49,000 as the number of practicing chiropractors and projects 60,000 chiropractors in 2012 based on their regular household survey.<sup>2</sup>

\* acupuncture, yoga, psychology, psychotherapy, reflexology, neurology/ anesthesia, hydrotherapy, colonics, optometry, music therapy, Qi Gong, Reiki, midwifery, and aesthetician services

## SCENARIO 1: DEMAND FOR CHIROPRACTIC

Scenario Elements	2002	2015	Rationale
US Population	288,000,000	312,000,000	US Census Bureau
% under managed care (HMO, PPO, POS, & Medicare Managed Care)	72.5%	90%	Managed Care continues to grow
# under managed care (HMO, PPO, POS, & Medicare Managed Care)	208,783,078	280,800,000	
% who have ever used CAM within the last 12 months (18+)	36%	50%	CAM use grows as it is integrated into the healthcare system.
# using CAM within the last 12 months (18+)	77,571,000	117,000,000	
% using chiropractic (18+)	19.90%	25%	Referrals from medical doctors
# using chiropractic (18+)	40,242,000	59,365,000	
% using chiropractic in the past 12 months (Age 18+)	7.50%	15%	Referrals from medical doctors for back and neck pain
# using chiropractic in the past 12 months (Age 18+)	15,226,000	35,100,000	
% of chiropractic care given to those under 18	11%	12%	More awareness of pediatric chiropractic
% of spinal manipulation done by non-chiropractors	10%	25%	More D.O.s and D.P.T.s offer manipulation
# of licensed chiropractors	73,000	88,000	
Patient Visits per Week	135	140	Better EMRs and billing systems
Average number of treatment visits per year per client	9	7	Clinical guidelines recommend between 6 and 8 visits for most conditions
Average number of wellness/prevention visits per year per client	6	2	Managed Care restricts wellness visits except for geriatric chiropractic

### Scenario 1: Demand (cont'd)

Scenario Elements	2002	2015	Rationale
<b>Conditions Treated</b>			
Low-back pain	35%	40%	Better evidence and better reimbursement for LB and Neck pain
Neck pain	25%	30%	
Headache pain	13%	10%	
Extremities	7%	5%	
Other NMS	5%	4%	
Other conditions*	5%	1%	
Wellness/Prevention Visits	10%	10%	
<b>Chiropractors working in a multi-discipline setting</b>	34.5%	50%	
Massage Therapy	62%	85%	More chiropractors work in integrated and hospital settings
MD/DO	12%	25%	
Rehab/Physical Therapy	18%	25%	
Dietitian	15%	20%	
Other	38%	25%	
<b>Types of Chiropractic Practice</b>			
Solo Private Practice	70%	60%	Growth in corporate back centers and more opportunities in integrated care settings
Group or Partnership Practice	25%	30%	
Salaried Employee	5%	10%	

## SCENARIO 2: DEMAND FOR CHIROPRACTIC

Scenario Elements	2002	2015	Rationale
US Population	288,000,000	312,000,000	US Census Bureau
% under managed care (HMO, PPO, POS, & Medicare Managed Care)	72.5%	90%	Managed Care continues to grow
# under managed care (HMO, PPO, POS, & Medicare Managed Care)	208,783,078	280,800,000	
% using CAM within the last 12 months (Age 18+)	36%	25%	Managed care squeezes payments
# using CAM within the last 12 months (Age 18+)	77,571,000	58,500,000	
% using chiropractic (Age 18+)	19.90%	10%	M.D.s warn patients not to try chiropractic
# using chiropractic (Age 18+)	40,242,000	23,764,000	
% using chiropractic in the past 12 months (Age 18+)	7.50%	5%	A small number of "true believers"
# using chiropractic in the past 12 months (Age 18+)	15,226,000	11,700,000	
% of chiropractic care given to those under 18	11%	12%	
% of spinal manipulation done by non-chiropractors	10%	50%	More competition
# of licensed chiropractors	73,000	64,300	Lack of demand
Patient Visits per Week	135	125	
Average number of treatment visits per year per client	9	6	
Average number of wellness/prevention visits per year per client	6	3	

## Scenario 2: Demand (cont'd)

Scenario Elements	2002	2015	Rationale
<b>Conditions Treated</b>			
Low-back pain	35%	25%	With a decline in patients, many chiropractic "mills" treat conditions for which there is little evidence of efficacy.
Neck pain	25%	15%	
Headache pain	13%	10%	
Extremities	7%	10%	
Other NMS	5%	10%	
Other conditions	5%	15%	
Wellness/Prevention Visits	10%	15%	
<b>Chiropractors working in a multi-discipline setting</b>	34.5%	15%	Most chiropractors are unable to work in large integrated settings, but many private practices offer other CAM therapies to supplement their revenue.
Massage Therapy	62%	35%	
MD/DO	12%	1%	
Rehab/Physical Therapy	18%	4%	
Dietitian	15%	5%	
Other	38%	55%	
<b>Types of Chiropractic Practice</b>			Small established private practices with low overhead and large chiropractic mills working on low margins are the two dominant types of practices.
Solo Private Practice	70%	75%	
Group or Partnership Practice	25%	10%	
Salaried Employee	5%	15%	

### SCENARIO 3: DEMAND FOR CHIROPRACTIC

Scenario Elements	2002	2015	Rationale
US Population	288,000,000	312,000,000	US Census Bureau
% under managed care (HMO, PPO, POS, & Medicare Managed Care)	72.5%	50%	Managed Care continues to grow
# under managed care (HMO, PPO, POS, & Medicare Managed Care)	208,783,078	156,000,000	
% using CAM within the last 12 months (Age 18+)	36%	50%	CAM is integrated into the system
# using CAM within the last 12 months (Age 18+)	77,571,000	117,000,000	
% using chiropractic (Age 18+)	19.90%	35%	Back pain and/or neck pain patients visit a chiropractor at least once
# using chiropractic (Age 18+)	40,242,000	83,110,000	
% using chiropractic care in the past 12 months (Age 18+)	7.50%	20%	Cases involving back and neck pain are referred
# using chiropractic care in the past 12 months (Age 18+)	15,226,000	46,800,000	
% of chiropractic care given to those under 18	11%	12%	More awareness of pediatric chiropractic
% of chiropractic manipulation done by non-chiropractors	10%	15%	More competition
# of licensed chiropractors	73,000	101,000	
Patient Visits per Week	135	145	Better EMRs and billing systems
Average number of treatment visits per year per client	9	7	Clinical guidelines recommend between 6 and 8 visits for most conditions.
Average number of wellness/prevention visits per year per client	6	1	Managed Care restricts wellness visits to 2/yr



### Scenario 3: Demand (cont'd)

Scenario Elements	2002	2015	Rationale
<b>Conditions Treated</b>			
Low-back pain	35%	45%	Chiropractors are seen as the experts to treat LB, Neck, and Headache pain and referrals from medical doctors for these conditions rise
Neck pain	25%	30%	
Headache pain	13%	15%	
Extremities	7%	3%	
Other NMS	5%	1%	
Other conditions	5%	1%	
Wellness/Prevention Visits	10%	5%	
<b>Chiropractors working in a multi-discipline setting</b>	34.5%	50%	Half of all chiropractors work in integrated settings where it is easier to co-manage patients.
Massage Therapy	62%	85%	
MD/DO	12%	85%	
Rehab/Physical Therapy	18%	50%	
Dietitian	15%	15%	
Other	38%	15%	
<b>Types of Chiropractic Practice</b>			Growth in corporate back centers and more opportunities in integrated care settings
Solo Private Practice	70%	50%	
Group or Partnership Practice	25%	25%	
Salaried Employee	5%	25%	

## SCENARIO 4: DEMAND FOR CHIROPRACTIC

Scenario Elements	2002	2015	Rationale
US Population	288,000,000	312,000,000	US Census Bureau
% under managed care (HMO, PPO, POS, & Medicare Managed Care)	72.5%	50%	More patients have choices through HSAs
# under managed care (HMO, PPO, POS, & Medicare Managed Care)	208,783,078	156,000,000	
% using CAM within the last 12 months (Age 18+)	36%	50%	CAM is proven essential to prevention disease and maintaining health.
# using CAM within the last 12 months (Age 18+)	77,571,000	117,000,000	
% using chiropractic manipulation (Age 18+)	19.90%	35%	Chiropractors capture most of the "healthy life" market.
# using chiropractic manipulation (Age 18+)	40,242,000	83,110,000	
% using chiropractic care in the past 12 months (Age 18+)	7.50%	25%	"Healthy life" patients see their chiropractor on a regular basis.
# using chiropractic care in the past 12 months (Age 18+)	15,226,000	58,500,000	
% of chiropractic care given to those under 18	11%	12%	More awareness of pediatric chiropractic
% of chiropractic manipulation done by non-chiropractors	10%	15%	More competition
# of licensed chiropractors	73,000	101,000	
Patient Visits per Week	135	150	Better EMRs and billing systems
Average number of treatment visits per year per client	9	7	Clinical guidelines recommend between 6 and 8 visits for most conditions.
Average number of wellness/prevention visits per year per client	6	4	Includes visits to healthy life doctors as wellness/prevention visits

### Scenario 4: Demand (cont'd)

Scenario Elements	2002	2015	Rationale
<b>Conditions Treated</b>			
Low-back pain	35%	55%	Most chiropractors have moved from a disease treatment model to a health promotion model.
Neck pain	25%	10%	
Headache pain	13%	5%	
Extremities	7%	2%	
Other NMS	5%	2%	
Other conditions	5%	1%	
Wellness/Prevention Visits	10%	25%	
<b>Chiropractors working in a multi-discipline setting</b>	34.5%	75%	Chiropractors work in large integrated settings where it is easy to co-manage care and access vital technologies for biomonitoring and preventative medicine.
Massage Therapy	62%	85%	
MD/DO	12%	75%	
Rehab/Physical Therapy	18%	50%	
Dietitian	15%	75%	
Other	38%	25%	
<b>Types of Chiropractic Practice</b>			The majority of chiropractors work in large integrated settings.
Solo Private Practice	70%	50%	
Group or Partnership Practice	25%	25%	
Salaried Employee	5%	25%	

## SUPPLY OF CHIROPRACTORS

<b>Supply of Chiropractors to 2015: Alternative Scenarios</b>					
	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>Rationale</b>
<b>Scenario #1</b>					
Chiropractic Colleges	16	18	19	20	Addition of FSU & D'Youville College
Graduates per year	3,800	3,400	3,700	4,000	Close to full enrollment
Licensed DCs	69,000	74,000	80,000	87,000	Moderate demand growth
Practicing DCs	59,000	63,000	68,000	74,000	Assume 15% of licensed chiropractors do not practice
<b>Scenario #2</b>					
Chiropractic Colleges	16	17	16	12	Poor enrollment forces 5 schools to close
Graduates per year	3,800	3,000	2,800	2,500	Excess capacity in the colleges
Licensed DCs	69,000	71,000	68,000	64,000	Many chiropractors leave the profession
Practicing DCs	59,000	64,000	61,000	58,000	Less opportunities for licensed chiropractors in auxiliary roles
<b>Scenarios 3 &amp; 4</b>					
Chiropractic Colleges	16	18	19	20	Another small state program opens
Graduates per year	3,800	3,600	4,200	4,800	Full enrollment
Licensed DCs	69,000	76,000	88,000	101,000	High demand growth
Practicing DCs	59,000	72,000	84,000	96,000	Less underemployment

<b>Trends and Base Forecast for Chiropractors</b>					
<b>Trends &amp; Base Forecasts</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>Assumptions</b>
<b>Chiropractic Colleges</b>	16	17	19	20	<b>Accreditation of D'Youville college, FSU, and one other small program</b>
<b>Graduates per Year</b>	3,800	3,400	3,700	4,000	<b>Chiropractic college see improvement in enrollment</b>
<b>Retirement Rate</b>	3%	3%	3%	3%	<b>Relatively young and well educated workforce</b>
<b>Total Licensed DCs</b>	69,000	74,000	80,000	87,000	<b>Based on non-redundant active licenses and assuming moderate growth in demand</b>
<b>Total Practicing DCs</b>	59,000	63,000	68,000	74,000	<b>15% of licensed chiropractors do not practice</b>

<sup>1</sup> Lee, A.C., D.H. Li, and K.J. Kemper (2000) Chiropractic Care for Children, *Archives of Pediatric and Adolescent Medicine*, 154:401-7.

<sup>2</sup> Hecker, Daniel E. (2004, February). Occupational Employment Projections to 2012. *Monthly Labor Review*, p. 86. Retrieved 11/23/2004 at <http://www.bls.gov/opub/mlr/2004/02/art5full.pdf>