

The Future of Chiropractic: Optimizing Health Gains

Institute for Alternative Futures

July 1998



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**Made possible by a grant from the
NCMIC Insurance Company
Administered through the
Foundation for Chiropractic Education and Research**

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A Shared Vision for the New Millennium

By Louis Sportelli, DC, Marino R. Passero, DC and Arnold E. Cianciulli, DC

The NCMIC Insurance Company recently underwent a strategic reorganization in its corporate structure. According to Mr. Larry Rister, EVP, “The corporate diversification was necessary to insure the survival of a company that is 52 years old and was virtually unchanged in structure, goals, objectives, and vision.” The new structure, according to Mr. Rister, will insure NCMIC’s continued growth and provide the proper strategy to permit the necessary adaptability to meet the future demands of the company and the profession it serves.

The Executive Committee and governing board of the newly formed NCMIC Group is committed to providing the “leadership tools” necessary for the chiropractic profession to truly take an objective, dispassionate look at where chiropractic might be 15 years from now, what will be required to get there, and what trends and changes will be essential for the profession to recognize in order to be prepared.

The Executive Committee outlined several fundamental requirements for a proposed study. One prerequisite was to find an independent professional organization that specialized in projects demanding expertise in futures research. We searched for a group possessing a sterling reputation among its peers, a history of diverse clients, exceptional proficiency in health care forecasting, and unassailable credibility. That institution was identified as the *Institute for Alternative Futures* (IAF). The background of this firm included the right mix of knowledge and intuitive insight. With clients ranging from government to military, from the Fortune 500 to companies not yet on the stock exchange, IAF was the right choice to undertake this project. Two reports would be generated by IAF, one entitled *The Future of Chiropractic: Optimizing Health Gains* and the second report entitled *The Future of Complementary and Alternative Approaches (CAAs) in US Health Care*. The reports address questions of where the chiropractic profession will be in the year 2010.

A series of meetings was required to insure that the research would be conducted with outstanding attention to detail. The nuances and rich history of chiropractic, coupled with the social and professional controversies surrounding the profession were essential to discuss in order to acquaint IAF with the current issues confronting the profession. The aim was to create a document that could serve as a “future planning map” for the collective profession to use in beginning to build and create a “shared vision” for tomorrow.

Above all, however, the integrity of the research needed to be guaranteed in order to protect the independence and objectivity of the final reports. IAF’s high standards demanded tenacious and uncompromising attention to process, program, and methodology. Scrupulous attention to every detail was essential in order to distinguish these reports from others which may have tangentially opined on the subject of the future of chiropractic without adequately researching the issue.

NCMIC is very pleased with the thoroughness of these reports. They present a set of current facts, and outline scenarios for the future which will ultimately be “self-directed and self-selected” by the profession. These reports identify the challenges for the profession in an adroit, clear and concise fashion. They provide action steps that can be used as is, modified, and/or redefined by the profession.

The reports attempt to set the stage for questions answerable only by the profession itself: How does chiropractic define its vision? Will the profession attempt to coalesce the many disparate views into one “shared vision” for the future? What will the profession do with the blueprints provided by the scenarios in these documents? Will the profession seek the common ground necessary to insure future survival and growth? These “tools” for consideration are prepared in a “scenario” format designed to help generate a “shared vision,” composed of survival mechanisms to carry chiropractic to a prominent position in health care by the year 2010.

NCMIC fully recognizes that this document is not the end, but rather the beginning—the start of a process for the chiropractic community to unite behind a single “shared vision” which will identify, to those within the profession and those outside the profession, our message. The chiropractic profession needs to define and refine the vision, and ultimately to determine how the vision is achieved.

NCMIC has, thus, we hope, been a catalyst in bringing creative ideas, concepts, and optimism for the future to the chiropractic community. These reports are the thoughts and views not of a few selected DCs, but rather of a wonderful blend of past, present, and future thinkers from many professions who have provided a rich, thoughtful beginning for a process which will be never-ending. It is imperative that the chiropractic profession remain dynamic, viable, united, hopeful, and futuristic in its decisions for tomorrow. The future direction of the profession will be achieved either by active direct involvement or total default, by complete participation or benign neglect. Only the profession can create its own “shared vision,” and NCMIC is proud to have been a part of helping to focus on the future.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I
I took the one less traveled by,
And that has made the difference
The Road Not Taken
(Robert Frost)

NCMIC is confident the chiropractic profession is ready for the new challenges, which will take this profession from obscurity to dominance, from conflict to coalescence, and from discord to harmony. A “shared vision” will be the first step in our journey.

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INTRODUCTION

Chiropractic is a system of healing created in the United States in 1895. Despite significant opposition over the years by allopathic or conventional medicine, chiropractic has grown. There are 55,000 chiropractors in the United States today and that figure is expected to nearly double to 103,000 by 2010. Chiropractic is the most widespread of the complementary and alternative approaches (CAAs) to health and medicine used in the United States.

What will chiropractic practice be like in 2010? How will chiropractors relate to managed care, primary care and health promotion? What should chiropractors do to provide their

greatest contribution to health gains? These are among the questions that the National Chiropractic Mutual Insurance Company (NCMIC) asked the Institute for Alternative Futures (IAF) to explore in this report. To answer these questions, IAF sought the expertise of leading practitioners and experts in health care and chiropractic; conducted focus groups with consumers, chiropractors and health care executives; and made use of IAF's ongoing knowledge bases on the future of health and health care.

It is important to keep in mind the relative importance of medical care in health. Roughly 90% of the variance in premature death is related to factors other than medical care—lifestyle, genes and the environment. Health care is moving from its focus on medical care to factors affecting this 90%, particularly lifestyle. This new focus will increasingly favor prevention and treatment approaches, with certain core components: nutritional, physical, psychological and spiritual. One reason for the growing interest in CAAs is that they, more often than conventional health care, include or reinforce these components of care. Chiropractic has its own unique combination of physical manipulation of the spine, nutrition and other approaches, depending on the practice style of the individual chiropractor. The potential to “optimize health gains,” to make individuals and communities healthier, will require an even broader approach.

This report begins (in Chapter 1) by arguing that thinking about the future requires certain specific steps in order to be effective, steps we take in this report by exploring trends and forecasts, putting these together into scenarios (alternative stories about what might occur—plausible futures) and considering the vision of chiropractic. Chapter 1 also notes that as consumers become more interested in health care and particularly in CAAs, they have many to choose from. In the area of back problems, chiropractic competes not only with more familiar CAAs such as massage and osteopathy, but also with yoga, rolfing, shiatsu, acupuncture and acupressure. In addition to considering the challenges and opportunities in managed care, chiropractors will need to consider how these CAAs will affect them and how to use CAAs in their practices.

Chapters 2 and 3 describe the broader trends in health care, particularly in demographics, evolving paradigms, therapeutic and preventive advances, the health professions, managed care and the pursuit of wellness beyond conventional health care. Chapter 4 considers trends in chiropractic itself, while Chapter 5 presents four divergent scenarios for chiropractic. Chapter 6 provides IAF's reflections on this exploration of the future of health care and chiropractic, in the form of insights and recommendations.

HEALTH CARE TRENDS

Health care, including the use of chiropractic and other CAAs, is evolving rapidly thanks to several overarching trends.

Demographics

Racial and cultural diversity, generational and value differences will challenge health care and reinforce the growth of CAAs. Aging and its needs will become a major focus of health care. As new generations (particularly the Baby Boomers) become dominant and then retire, policies that strengthen individual freedoms and responsibilities will become more prominent. These demographic trends will favor the growth of self-care, prevention and wellness.

It is possible that we can “compress morbidity,” particularly among the elderly, leading to fewer years of disabling disease later in life. Simultaneously, among the fastest-growing conditions will be those related to “diseases of meaning,” including depression, certain accidents, substance abuse and violence.

Evolving Paradigms

The mental models that enable us to make sense of the world are radically changing in multiple arenas including health care. Our interpretations of health and illness, accountability of care providers, humans’ biological capacity for self-healing, clinical trials and the very product of health care—all are moving beyond current paradigms.

We will increasingly “move upstream” in health care toward addressing major risk factors. A host of visible environmental risks, not the least of which is global warming—is joined by less visible threats such as the endocrine-disrupting pollutants that contribute to a range of health problems, including lower male fertility. Simultaneously, there is a growing recognition that poverty is the greatest risk factor for ill health in the United States. Health care will become creative in dealing with these issues. Chiropractors, individually and as a profession, will be challenged to do the same.

Health care is being held more accountable for what it does and does not do. Outcome measures, supported by health data and publicly communicated in state and local report cards on health care providers, are coming into play. The Internet will hasten this trend. As a result, outcomes—the combination of efficacy, cost-effectiveness and patient satisfaction—will drive the evolution of therapeutics, both conventional and CAAs. Chiropractic tends to have high satisfaction among its users and growing evidence of positive and cost-effective treatment outcomes. Chiropractors will be challenged to accelerate their collection of health data to define outcomes. Outcomes themselves are a moving target; in the years ahead we will broaden our outcome measures as we broaden what health means to us as a society. The World Health Organization’s vision of “Health For All” is likely to become a global standard for judging whether our pursuit of health is meeting larger values such as social equity.

Conventional clinical trials and the approaches we take to identifying the appropriateness of therapies will be fundamentally challenged because of their technique of “massifying” results into average success rates for medicines or therapies,

rather than seeking customized results for specific types of individuals. Likewise, current approaches to clinical testing often discard important healing opportunities in “controlling” their studies. Even more challenging to conventional care will be the multiple scientific paradigms that accompany CAAs, and the attendant lack of any “transparadigm science” that might be used to evaluate one approach against another. What will be the science that confirms the existence of the “innate healing force” and chiropractic’s capacity to positively influence health through it?

The basic framework of health care is changing to the “Forecast, Prevent and Manage” paradigm—from treatment that was unmeasured, to the measurable prevention and optimal treatment of disease over a person’s lifetime. The likelihood of experiencing specific diseases will be forecast for each individual based on genetic proclivity and current health conditions, allowing early-prevention strategies tailored to that individual's biochemistry, learning style and interest level. Genetic knowledge and advanced therapeutics will deal far better with those diseases that do occur. In addition to this enhanced focus on individual outcomes over a person’s life, health care will increasingly focus on population health and the creation of healthy communities.

Consumers will increasingly have very effective self-care tools (e.g., biomonitors, diagnostic expert agents and personal electronic health coaches) enabling them to handle most of their health care themselves, in their homes.

Therapeutic and Preventive Advances

Today’s conventional view of health care will see dramatic advances. Cancer and heart disease will be detected far earlier and prevented or definitively treated by 2010. This will result from dramatic pharmacologic advances, full use of the information revolution and integration of CAAs, including chiropractic, into mainstream health care. Integrated therapies, which synthesize body/mind/spirit approaches with conventional modalities, such as the work of Dr. Dean Ornish, are already showing among the highest outcomes for treating heart disease. These are likely to be used for other diseases. Chiropractors need to understand how manipulation will be integrated into these, and how, in their own treatment modalities, chiropractors likewise can integrate other appropriate modalities.

We will customize or personalize health care, integrating several approaches based on the unique needs of each person. Genomics will identify what genes and what physical or behavioral characteristics (genotypes and phenotypes) are most relevant for determining how to treat a given condition with given modalities. The customization of approaches and the tailoring (or withholding) of medicines will improve efficacy and reduce side effects. Health care will discover how unique each of us is, and learn to address those differences. Ironically, CAAs such as Oriental medicine, homeopathy and Ayurveda have always used customized treatments, based on the extensive knowledge of individual difference built into their diagnostic and therapeutic systems. Chiropractic will need to consider how these genotypes and phenotypes affect the nature and outcomes of manipulation as well as chiropractic’s contribution to discovering clinically

relevant phenotypes. The capacity to forecast, based particularly on genotypes and phenotypes, will require all health care providers, including chiropractors, to understand how to provide the appropriate counseling (genetic and lifestyle) which this knowledge will necessitate. In addition to important learning about behavioral differences from CAAs such as Oriental medicine or Ayurveda, parallel psychological preferences and related tests like the Myers-Briggs Type Indicator (MBTI) will become clinically relevant. This is an area where conventional medicine and CAAs will both challenge and learn from each other.

Customization will hasten the existing trend among insurers and managed care organizations to meet consumer interest by providing access to a wide range of CAAs. It also raises ethical and public policy issues regarding how to take advantage of this genomic knowledge without unfairly discriminating against individuals because of their genes or other characteristics.

Nanotechnology—the ability to create and move objects at the molecular level, and the resulting nanomedicine—is a wildcard. We could create almost anything with nanotechnology—for example, a backup immune system for each person. Although the full potential of nanotechnology will still be largely speculative in 2010, aspects of this powerful technology will be on their way, with important applications in health care. As with the other advances mentioned here, but particularly with nanotechnology, the potential for misuse will also increase dramatically.

The Health Professions

There is dramatic growth among the complementary and alternative health providers. Health care professionals (including many physicians) trained to do acupuncture will swell from 10,000 to 24,000 by 2010. The number of chiropractors will nearly double from 55,000 to 103,000 by 2010. Yet this expansion comes at a time when experts are forecasting massive surpluses of conventional health care providers (surpluses of 100,000 or more physicians, 200,000 or more nurses and 40,000 pharmacists by 2010). CAA providers could face tremendous increased competition from these provider populations, as well as from expert systems that will decentralize health care knowledge to other health professionals and directly to consumers for self-care. Chiropractors have an advantage in that spinal manipulation, particularly the ability to safely and reliably move the spine in the paraphysiological range of motion, will be among the last to be “roboticized.” However, many conventional health care providers may be trained in and offer spinal manipulation as part of their range of services.

In this environment, all health care professionals will face significant challenges. The opportunities to function as a healer will expand dramatically. The ability to be financially successful will be more challenging. Outcome measures applied to local health care providers and appearing in local report cards will be available in most regions by 2010. It is likely that “winning” health care providers will be those who include CAAs in their practices. Likewise, for certain indications these report cards will steer consumers toward specialists. For example, now some 40% of those with back problems utilize

chiropractors; to the extent that report cards show them as more helpful for back problems than others, chiropractors' share of this niche market will grow. This will be a test of the competitive ability of chiropractic to cost-effectively generate positive outcomes.

Education and training for the health professions will evolve, incorporating greater use of technology and “virtual learning environments,” resulting in faster and more effective individual learning. A critical question is whether the CAA schools, including chiropractic colleges, will “overshoot” and produce surpluses, as medical, nursing and pharmacy schools are thought to be doing now.

Licensure will evolve. Professionals will attempt to maintain and protect their turf, but ultimately the boundaries of the professions are likely to blur. The right to continue to practice with a license will be based on one's outcomes. Even more important, as local marketplaces become “smarter,” consumers will regulate the market by rewarding better practitioners. Local “report cards” and related mechanisms to rate providers' performance with individual patients will be important, as well as the health care providers' contribution to community health gains.

Managed Care 2010

Combined, these trends will lead to managed care in 2010 that is far more effective, prevention-oriented and customized. It will utilize health care professionals far more effectively. Cures or definitive prevention will be available for many conditions. There will always be more health care options that could be utilized for most individuals than available resources permit, so by 2010 state or national policies probably will identify minimum packages of coverage. As in the state of Oregon, the public is likely to take part in determining what is included in those minimum packages. Subscribers to various plans that include more than the minimum package will also take part in determining health service priorities above those minimums. Most systems will allow individuals to “buy up” to additional uncovered services.

There are dramatically different forecasts for managed care by 2010. Most people think of a revolt against the current cost-management mistakes of managed care—returning to something closer to more familiar fee-for-service approaches which somehow become more effective. A different, more likely alternative, however, is one of “self-managed care” which by 2010 will be a major source of competition for managed care. The same information tools that enable managed care to become more effective, prevention-oriented and customized will be available to individuals and families; some individuals and families will choose to manage their own care, using only high-deductible catastrophic insurance as backup. Many of these people will also be wise buyers of wellness services.

Wellness and Chiropractic

Consumers seeking prevention and wellness often go beyond what medical care or medical coverage provides. They do this now, for example, by joining fitness clubs. This sort of “wellness demand” now accounts for a significant part of some CAAs’ workloads. For chiropractors, an estimated 14% to 35% of all current visits are routine maintenance or wellness visits not related to a specific problem. Forecasting the future demand for wellness visits to chiropractors will be an important task for the field. There will be issues of appropriateness of purchase of these chiropractic (and other CAA wellness) services. And local report cards are ultimately likely to include these in their ratings. However, the consumer calculus and willingness to spend out-of-pocket for these services transcends the appropriate efforts to limit health care services to what is most cost-effective within the budget constraints of insurers or health care systems.

CHIROPRACTIC TRENDS

In the United States, 55,000 chiropractors see nearly 27 million patients each year for roughly 340 million visits. In terms of supply, an estimated 15% of current chiropractors are underemployed. The supply is forecast to grow to 103,000 by 2010. Demand forecasts range all the way from a 50% decline because of managed care and related factors to a tripling because of greater coverage of back problems (chiropractors annually treat only an estimated 40% of those Americans who experience back problems), expansion of chiropractic treatment for other indications and expansion of the currently estimated 14% to 35% of current visits to chiropractors devoted to “wellness” or preventive care not related to specific complaints. (Specific demand forecasts are included in the detail for the chiropractic scenarios given in Appendix B.)

Positive outcome data for chiropractic in treating low back pain has led the federal Agency for Health Care Policy and Research (AHCPR) to endorse chiropractic manipulation in that area. The efficacy of chiropractic treatment for other conditions is actively being researched. All chiropractors will need to use their practices to systematically gather data in order to track their outcomes.

What about the future of efficacy and utilization for chiropractic? For this report we explored certain conditions for which chiropractic, as well as Oriental medicine and homeopathy, might be used as a primary or as a complementary approach. There is great diversity in the depth and quality of data available on the effectiveness of each of these three now, yet each enjoys some level of reliable data supporting efficacy. Based on our interviews and reviews of the current data, a preliminary forecast for their use by 2010, for selected major indications, is given in the table below.

A Speculative Forecast for 2010 for the Use of Chiropractic, Oriental Medicine and Homeopathy for Selected Conditions

Selected Condition	Chiropractic	Oriental Medicine	Homeopathy
AIDS	C	C	C/P*
Alzheimer's	C	C	C
Arthritis	C/P	P	C/P*
Back Pain/Problems	P	P/C	C
Cancer	C	C/P	C
Chronic Pain	C/P	C/P	C/P
Diabetes	C	C/P	?
Heart Disease	C	C/P	C

KEY:

P=Primary therapy

C=Complementary use

*P = Primary therapy in early stages of condition, along with other approaches

This table is a speculative forecast, based on our interpretation of information provided by the experts we interviewed and the literature we reviewed. This input was not in agreement, and alternative forecasts could be developed. But we are comfortable that it is a plausible forecast, and relevant as a starting point. By 2010 we will also know much about which subgroups in the population will get the most benefit from each of these, separately or in combination—for example, depending on a person's stage of disease and their genotype or phenotype. Thus we will be able to target for whom chiropractic should be considered primary or complementary. This will include the calculations of relative cost-effectiveness which health care providers, or insurers, or the consumers themselves (if they are paying out-of-pocket) will need to make about which of the multiple options deemed appropriate should be pursued.

Managed Care and Chiropractic—Managed care has already begun to affect chiropractors by reducing their access to patients, the scope of services paid for, the number of visits and the amount for those visits where payment is provided. Yet, managed care consumers are increasingly interested in CAAs, including chiropractic. Where that occurs, such as in the case of Oxford Health Plans, possibilities for chiropractors will grow. Again, outcomes to justify treatment are essential, along with efforts to provide chiropractic equivalents to managed care. As more progressive managed care organizations enter into the marketplace, the amount and scope of services covered, particularly those offered by CAA providers, will also likely increase. A major question for chiropractors and managed care is whether chiropractors should serve as the primary care physicians rather than simply as back specialists.

Primary Care and Chiropractic—Some 90% of chiropractors see themselves as primary care providers, yet the public and health care executives do not agree. For chiropractors, primary care is associated with serving as the first-contact provider, able to treat without being referred to, but with the ability to refer patients on to others. In conventional health care, the definition of primary care is evolving to one of integrated care by clinicians who are accountable for addressing a large majority of the patient's personal health needs, based on a partnership with the patient and practicing in the context of family and community. The dilemma for the chiropractor is the time-effectiveness of manipulation. A chiropractor/patient encounter typically takes 5 to 15 minutes after the first encounter, but primary care often involves greater time in diagnosis, treatment, information transfer and behavioral coaching. Some chiropractors do this, but most focus on manipulation as their prime tool. There are other obstacles to chiropractors becoming primary care providers: public perception of chiropractors as back specialists; negative attitudes toward chiropractors among non-users of chiropractic services; philosophic differences within the profession; the rise in non-physicians (particularly nurses, nurse practitioners and physicians assistants) who are providing primary care; the anti-vaccination position of some chiropractors; and the influx of specialist physicians who will reprogram their careers to become generalists/primary care providers as demand in their specialty drops.

Yet it is possible for chiropractors to adjust their practices to operate effectively as primary care providers. Information technology can make this more feasible, backing up the chiropractor with appropriate information and maximizing the patient's time in the office. But the basic question is one of commitment on the part of chiropractors. For those who commit to manage a broader range of patient concerns, enhance their training where necessary and prove their cost-effectiveness in this role, there are opportunities.

Health Promotion and Chiropractic—An estimated 14% to 35% of chiropractic visits are for "wellness," or routine maintenance not related to any specific problem. Some experts feel that these visits represent 25% of most established, successful practices, while others believe it is much higher. In fact, some chiropractors have built their entire practice around monthly or quarterly maintenance or wellness visits, most often paid for out-of-pocket. While the data for such visits is sketchy, their estimated number is impressive. They represent a consumer decision that manipulation does provide important rebalancing.

Beyond the use of manipulation for health promotion, chiropractors are challenged by the rise of health promotion to enlarge their tools for behavioral coaching as well as for community health enhancement.

SCENARIOS FOR CHIROPRACTIC 2010

Health Care Scenarios for the United States—As noted, by 2010 managed care will be providing significant advances in personal and community health outcomes. And information systems, therapeutics, policy changes and consumer assertiveness will have led some families to re-appropriate the direction and risk of their health care with “self-managed care.” These two forecasts and others intersect to portray four different scenarios for US health care: *Business as Usual* includes many advances and more expense; *Hard Times/Government Leadership* leads to very frugal universal coverage with managed care; the *Buyer’s Market* allows more freedom of choice and smarter markets; and in *Health Gains and Healing*, health systems and providers join with their communities to provide a diverse set of health services with positive results for individuals and communities. (See Chapter 1 for more details.)

Chiropractic Scenarios—Given these US health care scenarios and the various trends explored in Chapters 2, 3 and 4, Chapter 5 presents four scenarios for chiropractic in 2010. Briefly, these are:

Scenario 1—*More and Better Health Care*: Managed care, outcomes and consumers drive health care. Chiropractic care is proven cost-effective for low back pain, headaches, neck pain, arthritis, scoliosis, asthma and repetitive stress injuries, and as supplementary therapy for cancer and other conditions where the disease or treatment involves significant pain. Wal-Mart creates “the back center” in its stores and expands access to low cost chiropractic care. There are 103,000 chiropractors, with average visits per week holding at about 120, with back conditions representing 50% of visits and wellness another 20%. Underemployment among chiropractors holds at about 15%.

Scenario 2—*Hard Times, Frugal Health Care*: Chiropractic is drastically affected by frugal universal coverage through managed care; outcomes limit manipulation to back problems. And 50% of spinal manipulation in 2010 is delivered by physicians, nurses and other health professionals. Chiropractic colleges close, as only 68,000 chiropractors are needed in 2010. Many of those still practicing are forced to sell “the \$10 treatment.” Wellness visits decline and underemployment grows to 35%.

Scenario 3—*Self-Care Rules*: Very effective self-care, including advanced home health systems and universal catastrophic coverage, make health care a buyer’s market. Individuals and families can do most of their care very effectively at home, lowering the need for all types of providers. Surplus providers exceed the 450,000 number forecast in the 1990s by the Pew Commission. Health care professionals who provide “touch” are in high demand but competition is fierce. Chiropractors are able to increase demand significantly by ensuring they provide care to 60% of those Americans with back problems (rather than 40% as in the 1990s). Chiropractors also expand the indications they can treat with proven efficacy as well as provide evidence that for many people wellness visits are appropriate. The success of chiropractors leads to 85,000 chiropractors in 2010 (about 20,000 fewer than anticipated in 1997), but they are doing well.

Scenario 4—*The Transformation*: Chiropractors' clarified and expanded vision for the profession leads them to expand their contribution to health outcomes for their patients and their communities. Wellness and self-healing resulting from enabling the body to function effectively (the innate healing force) become much sought-after contributions of chiropractic manipulation—so sought-after that 50% of manipulation in 2010 is performed by non-chiropractors. Chiropractors broaden what they do with and for their patients and their communities. For their patients they combine intelligent information systems with high touch and assertive coaching. The wellness emphasis of health care and the success of chiropractors in treatment and wellness leads to 108,000 in 2010 with 10% of these chiropractors employed in non-clinical roles and only 6% underemployed.

INSIGHTS AND RECOMMENDATIONS

Challenges and Opportunities

Major challenges face the chiropractic profession—increased competition within the profession; declining demand from managed care; divisions and a lack of common vision within the profession; and growing surpluses among physicians and nurses. Along with these challenges comes an equal set of opportunities—true recognition of the healing outcomes of chiropractic; demand for regular “wellness” visits; capturing the 60% of people with back problems who do not currently receive chiropractic care; developing chiropractic's contribution to health care teams; transforming chiropractors' practices into learning and outcomes research sites; and broadening chiropractors' role in health promotion and CAAs.

We began the study with five hypotheses based on IAF's extensive work in this arena. Here are the hypotheses and what we found:

- Hypothesis #1—Complementary and Alternative Approaches (CAAs), including chiropractic, will be integrated into conventional medical protocols, displacing some portion of conventional medicine – **Yes to both integration and displacement.**
- Hypothesis #2—Chiropractic and other CAAs will become major tools for health promotion and prevention – **Yes, both through wellness visits for manipulation and by chiropractors broadening their focus on lifestyle and community health issues.**
- Hypothesis #3—Chiropractors and other CAA providers will become recognized as primary care providers and will be funded by the dominant health care systems – **Yes to funding by dominant health care systems; potentially chiropractors will be recognized as primary care providers.**

- Hypothesis #4—The use of chiropractic manipulation and other CAAs by conventional providers, “automated” providers and consumers themselves will increase – **Yes, conventional providers have already begun to use alternative therapies and this will grow, including manipulation; “automated” or robotic chiropractic is possible but is not likely to be as significant as, for example, the use of expert systems to provide homeopathic treatment.**
- Hypothesis #5—Chiropractors, other CAA providers and conventional health care providers who take a significant role in creating healthy communities will gain a competitive advantage – **A qualified yes, hopefully. Conventional health care providers have begun moving in this direction. Some chiropractors have as well, though most stay focused on their patients. Our forecast for growth here is as much a statement of hope as a forecast.**

Recommendations

Aspire: Clarify Chiropractic’s Identity and Vision

Consider the coherence of chiropractic’s vision. The profession has a history of visionaries and of conflicts from inside and outside of the field. The field and individual chiropractors need a shared vision of the profession, in the context of creating optimal health gains.

- The leading national chiropractic organizations should cooperate to develop a unified vision for the profession that helps it unite around the highest shared values.
- This process should touch as many chiropractors in the United States as possible and be done in association with state and local vision development processes.

Determine Chiropractic’s Role in Primary Care

Organizations should:

- Help individual chiropractors determine if they are willing to take on the additional challenges of being more broadly responsible for the health of more of their patients, including maintaining an effective personal relationship and taking responsibility for lowering preventable morbidity.
- Fund outcome studies with large enough groups to determine the efficacy and cost-effectiveness of chiropractors as primary care providers in comparison with other primary care providers.
- Accelerate the development and availability of tools that chiropractors can use to deliver effective primary care in the most time-effective ways.
 - Prepare chiropractors to treat the wide range of primary care complaints and to refer effectively as appropriate.
- For those chiropractors who choose not to pursue primary care, celebrate the fact that many chiropractors will remain neuroskeletal specialists providing worthy services, without taking on the broader responsibilities of primary care.

Engage Managed Care

- Accelerate the development of outcome measures to show the cost-effectiveness of chiropractic manipulation for the traditional indications chiropractors treat as well as for the emerging indications listed in this report.
- Prepare chiropractors to compete in very cost-constrained settings.
- Prepare chiropractors to work effectively as members of various types of health care teams.
- Enhance and operate effectively the chiropractic equivalents of managed care.
- Encourage patients to demand chiropractic care from managed care plans; and equip them with the evidence of chiropractic's efficacy.
- Enhance and document chiropractic's relevance to the Medicare business—as more of Medicare comes under managed care, chiropractic's ability to treat geriatric conditions and manage pain should be promoted.
- Prepare chiropractors to play a gatekeeper role, effectively managing their patients' access to proven CAAs effectively, for managed care.
- Take optimum advantage of third-party studies favorable to chiropractic, such as AHCPR's, for publicity and leverage them into winning managed care coverage.
- Prepare chiropractors to thrive with emerging provider systems, such as retailers who enter the delivery market (“Wal-Mart Back Center” type of option).

Champion Health Promotion

- Enable chiropractors to provide health promotion services more easily and cost-effectively.
- Improve chiropractors' outcomes as health coaches who affect behavior positively.
- Explore and document the effectiveness of routine “wellness visits” to chiropractors.
- Accelerate the development of appropriate in-office and in-home tools for patient self-use that automate appropriate parts of the health promotion process.
- Individual chiropractors and local and state chiropractic associations should commit to community health initiatives.
- Be creative in attacking the largest causes of illness—environmental, social, financial, etc.—regardless of their impact on chiropractic demand; and seek out high-leverage situations where appropriate chiropractic treatment can make significant health gains.
- Be a personal model of health promotion.
- Provide “performance enhancement” and proactive wellness services and monitor their outcomes.

Enable the Chiropractor to Practice More Broadly

- Encourage the development of software and other tools for choosing among and accessing various CAAs.
- Enable chiropractors to deal with the information that genomics will produce on the proclivity to various diseases, as well as the impacts it is likely to have on

chiropractors' patient base and choice of therapies.

- Foster appropriate research on the role of genotype and phenotype, from a chiropractic perspective, and the appropriate chiropractic response.
- Identify additional customization approaches (in addition to genotype, the phenotypes suggested, for example, by homeopathic, Oriental or Ayurvedic medicine) that would affect the relevance or efficacy of manipulation.
- Move beyond professional bias in order to accelerate the ability to work with and refer to physicians and other health care providers.
- Explore the contribution that chiropractors can make to public health, policymaking and research through roles other than as clinicians.
- Assist individual chiropractors and students to provide important contributions beyond clinical services.

Monitor: Define, Collect and Share Outcomes

- Aggressively promote data collection in chiropractic practices. Ensure that this data can be used to aggregate information across practices, in order to show community and nationwide patterns and to support local report cards on providers.
- Develop the outcomes that justify chiropractic care for indications beyond treatment for lower back pain.
- Develop the outcomes that justify routine wellness visits.
- Develop the outcomes that enable chiropractors to optimize their use of multiple approaches by determining what CAAs or conventional approaches are best used with manipulation.

Communicate

- Work to overcome chiropractic's negative image among many consumers and health care executives by focusing on the outcomes that chiropractors can provide and the wide range of individuals who use chiropractors.
- Develop a communications plan that makes use of both existing and emerging media to reach the wider public.
- Seek out celebrity users of chiropractic to endorse the field.

Self-Police the Profession

- Provide standards of conduct, codes of ethics, mechanisms for hearing complaints against DCs and the capacity to sanction wayward DCs.
- Develop the ability to identify and constrain or remove chiropractors who overtreat, have high numbers of adverse reactions or misrepresent themselves and the field.
- Provide active support for local marketplace report cards and other devices whereby outcomes, including consumer satisfaction, and adverse events are recorded and made available to consumers and large purchasers.

Don't Produce Surplus Chiropractors

- Prevent chiropractic colleges from needlessly overproducing.
- Provide appropriate research to forecast potential surplus chiropractors, and to monitor current underemployment and unemployment among chiropractors.
- Ensure that students are given the tools to forecast demand for their services and the level and nature of health professional competition while in school and beyond.
- Encourage appropriate non-clinical contributions and employment of students in training to become DCs.

Promote Health Equity

- Promote greater equity for consumers, in health services and health outcomes.
- Encourage individual chiropractors to contribute their services for community health activities.
- Support policies and local actions that would increase access to appropriate health care and efforts, beyond health care, to improve community health.

Stimulate Frontiers of R&D

- Encourage research on chiropractic as used in conjunction with other CAAs.
- Continually monitor leading-edge research (such as neurosciences, biosensors and nanotechnologies) and assess its implications for chiropractic.
- Encourage research on customization by phenotype and genotype and its implications for chiropractic.
- Investigate research by phenotype groupings suggested by CAAs such as homeopathy, Oriental and Ayurvedic medicine.

CONCLUSION

Success (or failure) for chiropractic is in the hands of chiropractors themselves—visionaries, leaders in the field and individual practitioners. Chiropractors make important contributions now. The future will enable and require chiropractors to do even better—to generate optimal health gains. The trends and scenarios defined in this report outline challenges in the environment for individual chiropractors, as well as choices for the profession itself. IAF has added our insights and recommendations. It is up to chiropractic to choose its preferred future and, while addressing the challenges and opportunities defined in this report, to create chiropractic's preferred future.

Chapter 1

CHIROPRACTIC, THE FUTURE AND HEALTH CARE

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INTRODUCTION

Chiropractic, as a uniquely American health approach, turned 100 years old in 1995. The field and its members have survived very difficult times and prospered. In fact, “chiropractic is now recognized as the principal source of one of the few treatments recommended by national evidence-based guidelines for the treatment of low back pain, spinal manipulation.”¹ There are now approximately 55,000 chiropractors in the United States serving an estimated 27 million patients. Chiropractors are the third largest group of doctoral level health professionals in America.² The profession can point proudly to its growing numbers of students, practitioners and patients. Given the number of colleges of chiropractic and the trends in enrollment, by 2010 there may be over 100,000 chiropractors in the United States.³ This report argues, however, that the future offers no guarantees that there will be adequate demand for this many chiropractors.

In fact, in the midst of today’s growth, it is essential that chiropractors thoughtfully and systematically consider the long-term future of the profession.

Many key questions are considered in this report. What changes will transpire in health care in 2010? What roles might chiropractors play? How will chiropractic and its practitioners change? How can chiropractors optimize their contribution to health outcomes or health gains? In exploring these questions with chiropractic leaders, with experts in health care and managed care, and with consumers, IAF was guided to significant insights that are the basis for the recommendations made to the chiropractic profession at the end of this report.

ORIGINS AND PURPOSE OF THIS REPORT

This report to the Foundation for Chiropractic Education and Research (FCER) and the National Chiropractic Mutual Insurance Company (NCMIC) presents an exploration of future opportunities and threats. It looks at specific trends and forecasts as well as broader scenarios. And it provides recommendations from the Institute for Alternative Futures (IAF) for the chiropractic profession. IAF produced *The Future of Chiropractic: Optimizing Health Gains* to help prepare the profession for a successful 21st century. NCMIC and FCER commissioned IAF to develop a parallel report describing the future of complementary and alternative approaches (CAAs) in US health care. Chapters 2 and 3 of this report contain the same trend information as that CAA report, along with a discussion of implications for chiropractic.

The objectives of this report are:

- to explore the likely futures of health care, including the role of chiropractic, through the year 2010;
- to explore possible roles for chiropractic health care and chiropractors in primary care, health promotion and managed care; and
- to provide insights and recommendations on how chiropractors can optimize their contributions to cost-effective health gains in the 21st century.

FUTURES TOOLS AND THIS REPORT

This exploration of the future of chiropractic and its environment grows out of IAF's 20 years of experience in aiding organizations, communities and professions to be more effective in creating the futures they prefer. To accomplish the report's objectives, IAF focused on four important "futures tools": *trends*, *scenarios*, *vision* and *strategies*.

Trends

Trends are forces that are apparent in today's environment and will have an impact on the future. It is important to identify and study a broad set of trends and speculate on possible results. Further, it is essential to seek out divergent opinions and paradigms, solicit knowledge from experts and begin to organize disparate thoughts about the look and feel of the future. In this report, we will explore trends that are shaping health care (Chapters 2 and 3) and trends within the chiropractic field (Chapter 4).

Scenarios

Futurists start with the premise that there is no single, certain future. Where trend data and forecasts are available, like those in this report, they are often moving in conflicting directions. Scenarios, or stories, about the future explore alternative integrated pathways in which a field, such as chiropractic, and its environment might travel. Scenarios bound the uncertainty of the future and provide learning tools that let us examine our assumptions and explore the implications of different futures.

IAF uses an “archetypal” approach to scenario development. Typically the first scenario assumes a continuation of the major dimensions of the present, based on currently visible trends. This is a “best guess extrapolation” scenario, sometimes called “business as usual” or “the official future.” The second scenario explores “what could go wrong,” helping readers explore items that are often ignored because of the threats they pose. The third and fourth scenarios present challenging sets of forecasts that are “structurally different” from the current environment; they are both geared to press the thinking of the user of the scenarios. One or both of these structurally different scenarios is “visionary,” exploring what would emerge if leaders in the field worked effectively to create the “best that could be.”

Four Futures for US Health Care

Using this “archetypal” approach, following are brief descriptions of a set of scenarios for US health care in 2010. Scenarios for chiropractic in 2010, also based on IAF’s archetypal model and building on the health care and chiropractic trends explored in Chapters 2, 3 and 4 and the scenarios below, will be detailed in Chapter 5 (and were briefly highlighted in the Executive Summary).

Note: italicized text is written from the point of view of an observer in 2010.

Scenario 1—Business as Usual: *National health care reform was sent back to the states, resulting in great diversity. Expensive technology and therapeutics, including function-enhancing bionics, help push health care’s share of the gross national product to 17% by 2005. Health care providers shift to forecasting and then managing illness far earlier and more successfully. Poverty and lack of access to health care persist.*

Scenario 2—Hard Times/Government Leadership: *Recurrent hard times and a political revolt against the health care system lead to a frugal, Canadian-like system. Most states follow Oregon in consciously setting priorities. Heroic measures for terminal patients decline and a more frugal yet successful approach to innovation is adopted. Health care’s percentage of the gross national product is reduced to 11% by 2001. Thirty percent of Americans “buy up” to affluent, higher-tech care, and two parallel systems of health care emerge.*

Scenario 3—Buyer’s Market: *Many thought the 1980s would be the decade of health care’s entry into the marketplace—that competition would lead to better,*

less expensive service. What failed during the 1980s began to work in the 1990s and really became significant after 2000. Markets, including health care, now do a much better job of giving consumers a range of high-quality services, delivered in convenient ways at relatively low cost over the long term, while maintaining a high degree of innovation. These amazing changes are coupled with better social policies to blunt the inequities and lack of access that accompany the stronger market approach.

Scenario 4—Health Gains and Healing: *The 15 years up to 2010 were a time of vision and design for health care. Health care organizations, their customers and the communities they serve join to develop and pursue powerful shared visions. These generally lead to health gains, through a variety of paths. This noble activity is reinforced by “smarter markets” that allow consumers and large purchasers to understand the outcomes of health care providers both for individuals and for communities.*

Vision

Vision is a desired future state that individuals are committed to creating. It is the noble purpose of an organization or profession. There is no more powerful tool for an organization or a profession than a shared vision of the “best that could be.” A vision defines how an organization, company or community can make its maximum contribution to society and play a leadership role in creating a positive future. In this report we explore how health care visions are evolving and the impacts these visions are having on primary care and on outcome measures for health care. Among chiropractors, there always have been powerful visions, but there is no single vision that now unites the profession.

Strategies

Strategies provide guidance for high-level actions or approaches to achieve the vision that an organization or community is committed to creating. Strategies can position an organization or community to anticipate the threats posed by changes in the future and turn them into opportunities. IAF’s recommendations in Chapter 7 include some key strategies for the chiropractic field.

FUTURES RESEARCH APPROACH TO THIS REPORT

IAF combined a variety of approaches in preparing this report, including use of our previous studies, additional bibliographic research, interviews with experts and focus groups with providers and consumers. This report explores the future of chiropractic both as a treatment modality and as a community of practitioners. We were able to use IAF's extensive work on the futures of the health professions. The Institute has previously worked on the future of physicians,⁴ nurses,⁵ pharmacists⁶ and allied health providers.⁷ In addition, IAF has worked with health care system administrators, particularly in hospitals and managed care, and with health technology standards professionals.⁸ Early in the Institute's work in health care we recognized the importance of complementary and alternative approaches.⁹ This study continues our commitment to using the tools and approaches of the futures field to help healing professionals make their optimum contribution to health gains.

IAF sought input from a variety of experts in health and chiropractic. Appendix A provides a complete list of individuals interviewed for this project. As we assured each interviewee anonymity, they will not be quoted in the report. We also conducted extensive literature and on-line searches on chiropractic, alternative therapies and health care as well as consulting our own internal knowledge bases, research and reports. References to these publicly available sources, where relevant, will appear throughout the report.

Because of the wide range of topics addressed in this report, and the need to have more interactive input, we conducted ten focus groups with health care providers and consumers (six with consumers, two with chiropractors and two with leaders of managed care). Five of these were held in the San Francisco area, where alternative remedies are relatively advanced in their use. The other five were held in the Minneapolis area, where managed care composes a very large share of the health care marketplace.

Thus this report mixes a variety of sources. Where we are citing from published material, generally a specific reference is given. Where we are citing from our expert interviews, we refer to "experts" or "experts interviewed" without providing names. Where the insight came from the focus groups, reference is made to consumers in our focus groups, chiropractors in our focus groups or managed care executives in our focus groups.

Choosing Among Health Care Approaches Today

Before presenting our scope and hypotheses for this report, it is relevant to consider how broad a selection consumers now have in choosing their therapeutics, particularly in relation to the indications for which consumers seek chiropractic care. This is relevant because chiropractic faces competition not only from allopathic or conventional medicine but also from a wide range of CAAs. Health care providers increasingly have numerous modalities at their disposal, if they are willing to use them. Equally important,

individuals—as consumers and managers of their self-care—likewise have many choices for health promotion and treatment. And the tools for consumer choice are growing rapidly. To begin exploring chiropractic care and its environment, we reviewed what various popular, primarily consumer-oriented, guides identify as relevant and effective therapies. Later we will consider the degree of evidence supporting many of these. For the moment, it is relevant to simply consider what leading consumer guides suggest as the range of options. Table 1-1 identifies a broad range of health conditions and the equally broad range of modalities that consumers can consider using for those conditions.

Table 1-1: Comparison of CAAs Identified as Meriting Consideration for Selected Conditions

	Acupuncture/pressure	Aroma-therapy	Ayurvedic	Chelation Therapy	Chiropractic	Homeo-pathy	Hydro-therapy	Massage Therapy	Mind/Body	Nutrition/Diet/Exercise	Osteo-pathy	Reflex-ology	Traditional Chinese Medicine
AIDS	TL, BG	TL			SE	TL		BG	TL, BG	TL, BG			TL, BG
Alzheimer's	TL		BG, JM	TL	SE	TL				BG, JM			TL, BG, JM
Arthritis	TL, BG, JJ	JJ	BG		BG, SE, JJ	TL, JJ		BG, JJ	TL	BG, JJ	JJ		TL, JJ
Back Pain/Problems	TL, BG, JJ	JJ			TL, BG, SE, JJ	TL	TL	TL, BG, JJ	TL, BG	TL	TL, BG, JJ		TL
Cancer	TL				SE	TL		TL	TL, JM	TL, JM			TL, JM
Chronic Pain	TL, BG	TL			SE	TL	BG		BG	BG		TL	TL
Diabetes	TL		BG	BG	SE				TL, BG	TL, BG			TL, BG
Heart Disease				TL, BG	SE	TL		TL, JM	TL, BG, JM	TL, BG, JM			TL, BG, JM

Key:

- TL Time-Life Books, *The Medical Advisor* (Alexandria, VA: 1996): “The goal of this volume is to provide a solid base of knowledge to help in the [decision-making] process, so that you can make informed—and thus more confident—choices about healthcare in the end. The best decision will be one you make in conjunction with your healthcare practitioner.” (p. 13)
- BG Burton Goldberg Group, *Alternative Medicine* (Puyallup, WA: Future Medicine Publishing, 1993): “These should not be substituted for the advice and treatment of a physician or other licensed health professionals, but rather should be used in conjunction with professional care.” (p. 36)
- JM James E. Marti, *The Alternative Health Medicine Encyclopedia* (Nashville, TN: Knoxville Press, 1995): “Recommended as potential approaches for these conditions.” (p. 64)
- SE Study Experts—Those experts, primarily chiropractors but non-chiropractors as well, interviewed for this report regarding the indications for which chiropractic is thought to be relevant, either as a primary application or in a supportive (e.g. pain management) role; see Appendix A for a list of all experts interviewed for this study.
- JJ Jennifer Jacobs, Consulting Editor, *The Encyclopedia of Alternative Medicine* (Boston, MA: Journey Editions, 1996): These approaches are “for reference purposes only” and should “serve to point (the patient) in the right direction so (the patient) can make further inquiries about specific therapies and forms of treatment.” (p 15)

If we focus more closely on those indications most often associated with chiropractic treatment—back or musculoskeletal problems—which CAAs might consumers choose? Table 1-2 reviews these choices, noting that there is a wide range of modalities for classically chiropractic indications such as back problems, disk problems, lumbago and entrapped nerves. By 2010, we will have very effective data on most, if not all, of these modalities used to treat back-related indications. We will know what works, for what type of individual, for any particular indication.

In the interim, it is relevant for chiropractors to be aware of typical ranges of options being suggested to consumers. As an example, from a chiropractic point of view, chiropractors would consider themselves capable of treating osteoporosis. However, according to Table 1-2, chiropractic is not one of the potential options suggested for osteoporosis. This example of differing perceptions of chiropractic's scope of treatment highlights some of the difficulties chiropractic has in gaining a broader acceptance for treatment of conditions beyond low back pain. Interestingly, some of the options mentioned on Table 1-2 are already part of the chiropractic armamentarium, such as diet therapies or nutrition, and others could well be added. (More detail on the approaches beyond chiropractic is given in IAF's parallel report, *The Future of Complementary and Alternative Approaches (CAAs) in US Health Care*).

The point for chiropractic is that as the profession acts on its opportunities to move into mainstream health care and self-care, chiropractors face a broad range of competition. David Eisenberg's classic article in the *New England Journal of Medicine* in 1993 noted that one-third of all Americans use some form of alternative remedy. He noted that most physicians do not know what their patients are using, and would not be able to handle the information if the patient gave it to them.¹⁰ We encountered no data about the degree to which patients of chiropractors are using some form of alternative remedy other than chiropractic, but it is probably higher than the general population. Chiropractors will need to have a sense of how to integrate other modalities with their practices, whether initiated by the consumer or prescribed by another provider or health care professional.

Table 1-2: Suggested Therapies for Further Patient Inquiries for Musculo-Skeletal Problems

	Arthritis	Back problems	Cramps	Disk problems	Fibrositis	Lumbago	Muscle strains	Osteoporosis	Rheumatism	Sciatica	Tenosynovitis	Trapped nerves
Acupressure	√	√	√	√		√	√		√	√	√	√
Acupuncture	√	√	√	√	√	√	√		√	√	√	√
Alexander technique		√		√		√	√		√	√		√
Aromatherapy	√	√	√		√	√	√		√	√		
Autogenic training		√	√			√				√		
Chiropractic	√	√	√	√	√	√	√		√	√	√	√
Color therapy												
Diet therapies	√		√									
Herbal medicine	√		√		√	√	√	√	√			
Chinese herbal	√		√			√	√		√			
Homeopathy	√		√		√	√	√		√	√		
Hypnotherapy	√		√			√	√		√			
Iridology												
Massage therapy	√	√	√	√	√	√		√	√			
Naturopathy	√		√									
Osteopathy	√	√	√	√	√	√	√	√	√	√	√	√
Polarity therapy	√	√	√									
Reflexology			√			√						
Rolfing		√	√	√	√	√	√		√	√	√	√
Shiatsu	√	√	√	√	√	√	√		√	√	√	√
T'ai chi ch'uan	√											
Yoga	√	√						√	√			

Source: Jennifer Jacobs, Consulting Editor, *The Encyclopedia of Alternative Medicine* (Boston, MA: Journey Editions, 1996), pp. 15-21. It notes that the above "are for reference purposes only. However, they might serve to point [the patient] in the right direction so that [the patient] can make further inquiries about specific therapies and forms of treatment." (p.15)

Scope and Hypotheses

This report explores the future of chiropractic in the context of growing consumer options, major trends in health care and important trends in chiropractic itself. In using the term Complementary and Alternative Approaches (CAA), we recognize that any definition is a moving target. Just as many insurers and health care systems now cover or provide chiropractic and acupuncture treatments, by 2010 a broader range of what we now call CAAs will be part of “conventional” treatment.

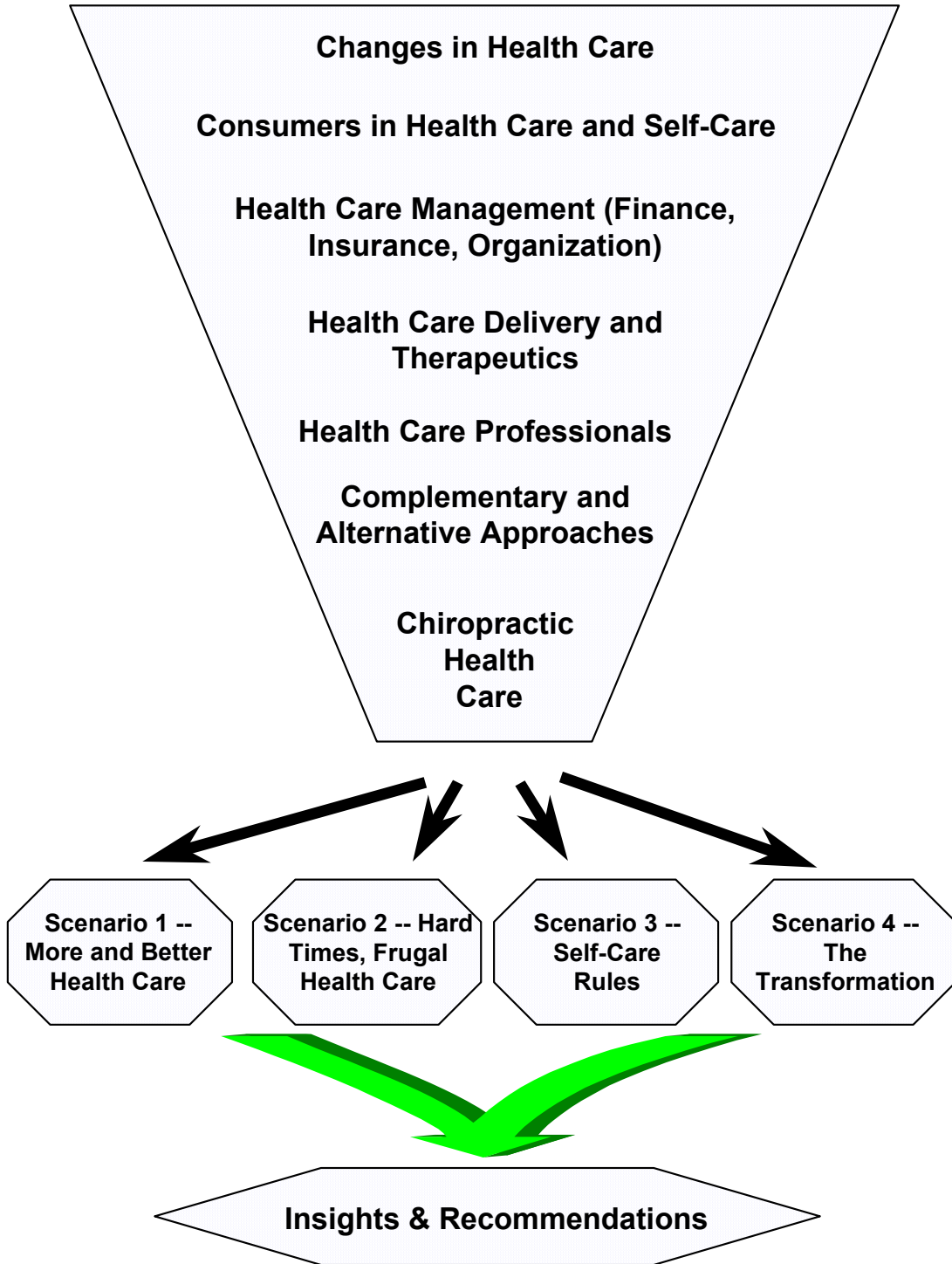
Based on preliminary discussions and longstanding experience in health futures, IAF developed an initial set of hypotheses to test in this project, for both the CAA report and this report on the future of chiropractic.

Chiropractic, CAAs and Health Care in 2010: Study Hypotheses

1. Complementary and alternative approaches, including chiropractic, will be integrated into conventional medical protocols, displacing some portion of conventional medicine.
2. Chiropractic and other CAAs will become major tools for health promotion and prevention.
3. Chiropractors and other CAA providers will become recognized as primary care providers and will be funded by the dominant health care systems.
4. The use of manipulation and other alternative therapies by conventional providers and “automated” providers will increase.
5. Chiropractors, other alternative health care providers and conventional care providers who take a significant role in creating healthy communities will gain a competitive advantage.

The Insights and Recommendations presented in Chapter 6 grow out of our exploration of these hypotheses.

As the illustration below depicts, the organization of this report provides a structure for thinking about the future.



ENDNOTES FOR CHAPTER 1

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Chapter 2

TRENDS: HEALTH CARE DEMAND, FINANCING AND DELIVERY

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INTRODUCTION

Health care today is being altered by major trends—some highly visible, some barely in sight. Many factors will converge to make health care in 2010 radically different: “smarter” consumer markets, new demographic realities, genomics, the information revolution, the movement for accountability and outcome measures, revamping of training and licensure, incorporation of social and environmental factors in health—and, not least, the integration of CAAs, including chiropractic, into conventional health care.

This chapter and the next will review these key trends based on IAF’s ongoing futures research as well as on the expert interviews, focus group sessions and secondary research conducted for this report.

EVOLVING DEMANDS

Growing dissatisfaction with the existing health care system among American consumers—the most educated and informed in history—is creating “smarter markets.” Smarter markets are in turn placing new demands on the health care system. In the decades leading up to the 1990s, Americans essentially wanted affordable health care when they got sick—demands that seem simple compared with today’s complex marketplace. Now and in the future, people will want a system oriented to prevention and wellness as much as to treatment. As a steadily growing body of research confirms that psychological, social and spiritual factors contribute significantly to health, consumers are responding by seeking a holistic approach to their health care. People want to live in safe, healthy communities. Many want to assume more responsibility for their health and to understand their options for prevention and self-care. When treatment is necessary, they want to play an active role in guiding it, armed with the knowledge they need to make informed choices from the available menu of modalities, providers and treatments. They are moving to a “patient-led” model of care, in which the physician or other care provider acts as a consultant and the patient is in charge. Admittedly there are also many passive health care patients, comfortable to let others decide. This will persist; yet the nature and quality of the care these passive patients receive will be shaped by the growing ranks of more active patients.

In addition to these sea changes in attitude, demand is being affected by changing demographics, changes in disease and morbidity and the extension of healthy lifespans. This section explains how these trends are reshaping demand, including the demand for chiropractic and other complementary and alternative approaches to health care (generally referred to in this report as CAAs).

Changing Demographics

Diversity

By 2010, demographic shifts will trigger dramatic changes, quantitative and qualitative, in US health care.

Quantitatively, a generally lower birth rate and generally higher life expectancy, along with immigration and higher birth rates in some minority populations, will shift attention to the growing proportions of elderly and minority Americans. In 2011, the oldest members of the Baby Boom generation will turn 65. The largest proportion of CAA users typically is middle-aged or older: in 1990, 38% of users of CAAs were 25-49 years of age; by 2010, these same users will be age 45 and older.¹ Though a growing percentage of America's elderly will be healthy later in life, another large percentage will not. Thus, aging markets mean that health care providers, both conventional and CAA, will need to target their services to patients with limited incomes as well as a spectrum of geriatric health problems.

The racial composition of society also will change markedly, with particularly high growth among Hispanic groups. CAA practitioners, including conventional physicians using CAAs, will see increasingly diverse populations of consumers. They will need to be even more sensitive to physical, social, mental, emotional and economic distinctions among their patients. And, as health care moves toward prevention and self-care, they will need to devise customized health maintenance and treatment protocols for these diverse populations, versus favoring one generalized treatment for most patients.

Generations

Qualitative population changes will be perhaps even more significant, due to the passage of one dominant generational cohort and the rise of the next. Psychographic research has identified a set of "generational personalities" that characterize successive cohorts of Americans, with one type following the next in a fixed, continuous cycle. While there is certainly great diversity within each cohort, as a whole each tends to exhibit a central behavior pattern, a modal set of preferences, as the cohort passes through successive phases of life. Each of these generation-wide "personalities" reacts in characteristic ways to the opportunities and challenges of youth, middle age and old age.²

The age cohort now entering its 70s and 80s is the "GI Generation." This generation has been one of the most assertive in American history. In its heyday, its members' strong civic spirit led them to invent and strengthen large institutions—and to look for support from these institutions in return. After winning World War II, this cohort built hospitals, strengthened medical authority and, in Medicare, legislated a funding structure to support them in their old age. The civic disposition of this generation is visible today in

the many ways its members continue to band together, in groups from the American Association of Retired Persons to the sprawling retirement communities of the Sun Belt.

The old-age patterns of this generation will not carry into the next, however. The cohort currently in its 50s and 60s—the “Silent Generation”—is far less assertive. Its psychographic personality is characterized by compromise, sandwiched as it is between two more powerful generational personalities. History shows that generations with these attributes typically have many great legislators, but few presidents. This less-dominant group will continue to benefit from the tremendous resources institutionalized by the GI’ers for supporting the final decades of life. In response to the demands for change coming from the other direction—an increasingly dominant “Baby Boomer” generation—they may modify these institutions, but will refrain from radical reconstruction.

The 77-million-strong Baby Boomer cohort now taking political power is characterized as idealist in its desire to place individuals over institutions. Thus, it is no surprise that the first Baby Boomer US president would seek to reform health care, or that his generation will drive continued change in health care. The trend is likely to lead to a weakening of institutional power, since Baby Boomers believe in individuals assuming greater responsibility for their health and financing more of their care during illness. According to this “generations analysis,” the dominant trend among Boomers would be to support the gradual reduction of programs like Medicare and bureaucracies like the Health Care Financing Administration (HCFA).

The “Generation X” cohort following on the heels of the Baby Boomers is less dominant and more pragmatic. This generation already has suffered from the weakening of institutions. Its members were born into a time, for example, when the institution of marriage was weakened by rising divorce rates and schools were weakened by tax revolts. This cohort has come to expect that opportunities and benefits given to previous generations will not be open to them. The Generation Xers tend to look very realistically at such issues as careers, Social Security and Medicare. They are also likely to acquiesce to current Baby Boomer reforms aimed at shifting resources from the elderly to children.³

Given this ongoing dynamic between generational cohorts, the trends for health care between now and 2010 are likely to include a series of Baby Boomer-instituted reforms that weaken institutional roles and strengthen individual freedoms and responsibilities. The powerful financing, research and health care delivery organizations that dominated the second half of the 20th century will be subject to increasing challenge in the years ahead. Public spending for the elderly will probably decline for two to three decades, beginning about the time the Boomers enter retirement. And, as noted before, a health care paradigm emphasizing self-care, prevention and wellness will join and to some extent supplant today’s treatment-focused model.

Demographics and Use of CAAs

David Eisenberg’s landmark study on unconventional medicine, published in 1993, found that the use of CAAs was significantly more common among people who are 25 to 49 years old, college-educated, have relatively higher incomes and live in the West.⁴

Paul Ray, in a study for the Institute for Noetic Sciences four years later, made similar findings regarding values and interest in holistic health. Ray identified three subsets of American culture that are influencing the demand for health services,⁵ summarized in Table 2-1 below. Ray’s research suggests a growing number of Americans, a group he labeled “Cultural Creatives,” have non-traditional values that require a different paradigm of health. These consumers believe in holistic health: body/mind/spirit are unified. And they are willing to try a variety of approaches. While fairly healthy, members of this group have been described as the “worried well.” They are more prevention-oriented than the other two groups Ray identified (see Table 2-1). As the size of the Cultural Creatives group increases and comes to the forefront in American culture, its members could push for increased coverage and reimbursement for CAAs and increased number of available CAAs. They are also more likely to be able and willing to purchase complementary and alternative services as “wellness” expenditures, out of their own pockets, beyond the limits of health care cost reimbursements.

Table 2-1: American Sub-Groups

Group Interests & Traits	Number of Adults: 1996-2010
Heartlanders: preserve traditional or “rural” values, resist change, are middle- to lower-income and isolationist	Currently 29% of US population; in 2010 they will be 20% of the US population
Cultural Moderns: mainstream, all income categories	Currently 48% of US population; in 2010 they will be 45% of US population
Cultural Creatives: upper income levels, leaders of cultural change, view a desirable future, growing in numbers	Currently 23% of US population; in 2010 they will be 35% of US population

Source: P. Ray. *The Integral Culture Survey* (Sausalito, CA: Institute for Noetic Sciences, 1996).

Ray found that 37% of Americans were using alternative health care at the time of his 1994 survey—a figure, he notes, which is up 4% from the 33% cited by Eisenberg in his 1990 survey. Among his sub-groups, 52% of Cultural Creatives, 32% of Moderns and 34% of Heartlanders were using alternative health care.

Non-Users of CAAs

Focus group participants in this study suggested there is a fine line between users and non-users of CAAs. Most non-users appear to be less aware of different CAAs, e.g., aromatherapy, naturopathy and homeopathy, but are not opposed to using them, particularly if they are scientifically proven. However some non-users had a strongly

negative view toward some CAAs, for example chiropractic. Other factors that may determine use of CAAs include:

- Preference for self-reliance versus preference for reliance on external authority, such as a physician; and
- Cost-effectiveness. Focus group participants responded very positively to a future in which CAAs are scientifically proven and are reasonably priced.

Ray’s survey points out that many lower-income persons are “at least as excluded from alternative health care as from regular health care: they can’t afford it.”⁶

CHANGES IN DISEASE AND MORBIDITY

The pattern of diseases is changing in developed and developing countries. Based on the work of the World Health Organization (WHO)'s *Global Burden of Disease* study, Table 2-2 presents the leading causes of DALYs—Disability Adjusted Life Years—a major measure of disease burden for established market economies, including the United States.

**Table 2-2: Disability-Adjusted Life Years (DALYs, in thousands):
Established Market Economies, 1990 and 2020**

1990 ⁷		2020 Projection ⁸	
Cause	# in thousands	Cause	# in thousands
Ischaemic heart disease	9362	Ischaemic heart disease	9119
Cerebrovascular heart disease	4974	Unipolar major depression	6642
Dementia	3989	Cerebrovascular heart disease	4761
Road traffic accidents	3319	Trachea, bronchus and lung cancer	4480
Trachea, bronchus and lung cancer	3070	Alcohol use	4344
Alcohol use	2822	Dementia	4296
Congenital abnormalities	2356	Osteoarthritis	3432
Osteoarthritis	2239	Road traffic accidents	3315
Unipolar major depression	2108	Bacterial meningitis (COPD)	2272
Self-inflicted injuries	1947	Self-inflicted injuries	2217

Thus, from 1990 to 2020 unipolar major depression rises in the ranks to number two.

Shifting from the developed market economies to the world as a whole, Table 2-3 below notes that infectious diseases will lose their 1990 places in the top three to be replaced in 2020 by:

- Ischaemic heart disease (acute myocardial infarction, angina pectoris and congestive heart failure);
- Unipolar major depression; and
- Road traffic accidents (long-term episodes including fractured femur, fractured skull, spinal cord injury and intracranial injury; short-term episodes including intracranial injury).

Table 2-3
Global Disease Burden Measured in Disability-Adjusted Life Years (DALYS)

Estimate 1990			Projection 2020		
Rank	Cause	% total	Rank	Cause	% total
1	Lower respiratory infections	8.2	6	Lower respiratory infections	3.1
2	Diarrhoeal disease	7.2	9	Diarrhoeal diseases	2.7
3	Perinatal conditions	6.7	10	HIV	2.6
4	Unipolar major depression	3.7	1	Ischaemic heart disease	5.9
5	Ischaemic heart disease	3.4	2	Unipolar major depression	5.7
6	Cerebrovascular disease	2.8	3	Road traffic accidents	5.1
7	Tuberculosis	2.8	4	Cerebrovascular disease	4.4
8	Measles	2.7	5	Chronic pulmonary disease	4.2
9	Road traffic accidents	2.5	7	Tuberculosis	3.0
10	Congenital abnormalities	2.4	8	War	3.0

Source: WHO website: <http://www.who.ch/programmes/mnh/mnh/ems/dalys/intro.htm>

Generally, the current trend of non-communicable diseases, such as heart disease and many cancers, displacing traditional enemies such as infectious diseases and malnutrition will continue worldwide through 2020. This is partly a function of aging: as birth rates go down and average life span increases, the ratio of adults to children—and hence of adult diseases to childhood ones—increases likewise.

As reflected in the WHO figures above, globally the rate of injury (both intentional and unintentional) is rising. By 2020 it will rival infectious disease as a chief source of ill health.

According to the same WHO study, tobacco use will cause more premature death and disability than any other single risk factor—up to 9% of the adult disease burden by 2020.⁹

Finally, the WHO forecasts suggest an important shift that is relevant for all health care providers, conventional or alternative: the growing presence of “diseases of meaning.” Globally, diseases such as depression, which in many cases are related to larger questions of personal meaning and coherence of worldview, are among the fastest-growing. Depression does have both genetic and physiologic components, but in many cases a person’s unsatisfactory social context and sense of personal meaning are major factors. These problems are also likely to be shown as contributing to the growth of some violence, road accidents and risky sexual behavior. And there is some concern regarding the bio-ethical implications. “Meaning” in this context is more of an epiphenomenon, following from biomedical and environmental causes, than a disease. To focus on diseases of meaning could lead to holding health care providers partly responsible for outcomes beyond their control. However, the parallel issue is already being raised regarding those close to death: some medical experts argue that people in the last stages of life, who are asking to end their lives, are suffering from depression and therefore “giving up.” Treating the depression will become an important objective in these cases.

The challenge for chiropractors and other providers is to identify patients whose “crisis of meaning” can be prevented or ameliorated through clinical intervention. Many CAAs offer important tools for such interventions, both by improving general physical and emotional well-being and by treating short-term symptoms.

This trend also may lead to chiropractors being called upon by their communities to assume larger roles in more public health oriented issues. As recognition of the growth and causes of diseases of meaning becomes more prevalent, health care providers will be looked to for their diagnoses and prescriptions. They will be challenged to be more effective both with their patients individually and with problem solving to help communities enhance overall health—including the sense of personal coherence and meaning experienced by members of the community.

CHANGING THE DISEASE CURVE: COMPRESSING MORBIDITY

The WHO forecasts cited above extrapolate trends based on past experience. But some forward-thinking providers submit that morbidity can be lowered well below extrapolated levels, particularly for the elderly. James Fries, Professor of Medicine at Stanford University Medical School, created a theory on the “compression of morbidity” which went from being heresy in the early 1980s to being the accepted target for “successful aging” by the end of that decade.¹⁰ Fries argues that appropriate lifestyle changes can sustain health and delay the onset of disease in late life, thus “compressing morbidity” into the last year or last few months of life rather than having it dominate the last few years.

Fries reminds us that we can go well beyond current norms to create greater health, with dramatic social and financial effects. He notes that demand management for medical services, combined with social policies (such as seatbelt laws), can yield better health for fewer dollars. Fries forecasts that health care costs will actually be reduced by 20% using currently available techniques, particularly in capitated systems.¹¹ His work stands in striking contrast to the extrapolated forecasts that show an aging population pushing morbidity and health care costs skyward.

For chiropractic, an important implication is that the demographic and disease burden forecasts (such as the steep rise in road traffic accidents) show a growing number of patients requiring more musculoskeletal care due to injury, as well as arthritis, back strain and degenerative conditions. A more visionary opportunity is for chiropractors to play a major role in actually “compressing morbidity” among their elderly patients, through greater lifestyle coaching and reinforcement of healthy lifestyles both during and before the retirement years.

EVOLVING PARADIGMS

Health Care in the United States: A Short History of Paradigms Waiting to Change

The paradigms that defined US health care for most of this century are now vanishing into history along with it. Health care “took off” in this country in the early 20th century. Hospitals saw dramatic growth, fueled by improvements in surgery and infection control. In the 1920s state governments established licensure laws, some of which made it illegal to practice various alternative modalities, or even to refer patients to such practitioners. By the second half of the 20th century, most physicians were barely aware that they were “allopaths.” Employer-provided health insurance plans grew rapidly during World War II (wages were frozen, but benefits such as health insurance were not) and became the norm thereafter. Insurance companies did not require proof of efficacy before they paid for procedures; rather, they would pay the customary fees without question for anything an (allopathic) physician prescribed. By the 1980s, business groups, which were then paying a significant percentage of their total expenditures for health care, claimed that about 40% of all health care was either unnecessary or ineffectively delivered. Meanwhile, medical schools expanded their production of doctors, especially of specialists who, often, were trained to rely on expensive high-tech procedures.

The paradigms framing this evolving system were fundamentally reductionist, both in terms of medical science and in terms of their orientation to specialty practice. These characteristics have bred some extraordinarily positive results: in terms of medical science, for example, the focus on discrete, discoverable physical aspects of bodily

functioning has created genomics. But it also has led to ignoring the roles of mind and spirit in human health, and to ignoring various categories of side effects.

By 1980 this system had overproduced specialist physicians; skewed its focus to hospital-based care; neglected prevention; and often utilized therapies whose cost-effectiveness had never been proven.

As insurers and health care systems began to change their behavior, inpatient utilization of hospitals on a per capita basis actually dropped by 50% between 1980 and 1990, yet costs soared during this period. By the mid-1990s health care was consuming 15% of the US GNP. Nevertheless, it was delivering lower outcomes to fewer people than did the health care systems of many European countries—at a relative cost 30-50% greater than those of the European systems.

The system was ready for change. In the 1980s large employers began to complain about the growing cost and uncertain results. Employer groups and federal policy tried to encourage more of a real “marketplace” in health care in the 1980s.

Managed care, in this context of overspending, represented “atonement for the sins” of fee-for-service medicine. Yet managed care has often carried on the reductionist paradigm, narrowly focusing on cost management. In the process it has inadvertently fostered the backlash against many of its cost-cutting efforts, such as limiting the hospital stays of new mothers after delivery.

US health care is beginning to change. Major trends are underway. Some might yet be reversed, but it is much more likely that they will gain momentum—to the point that, by 2010, a number of interlocking “paradigm shifts” will have redefined health care. In the new paradigm:

- Disease and risk will be defined much more broadly;
- Providers will be held more accountable for a broader range of outcomes; and
- Health care systems will change their basic service, using the “Forecast, Prevent and Manage” paradigm, to minimize illness over the lifecourse, rather than waiting for acute problems to materialize.

Each of these shifts will present both threats and opportunities for chiropractors by 2010. The table below summarizes these choices.

Table 2-4: Implications of Changes in Health Care for Chiropractic

Chiropractors' ability to enhance their contribution to individuals		
	Threat	Opportunity
From disease treatment to forecast, prevent and manage	Overall there will be fewer patients to treat because more disease is prevented	Effectively provide prevention and wellness, including manipulation
Outcomes-driven care	Chiropractic will not be able to document outcomes and will fall behind other conventional and alternative providers	Provide competitive outcomes and measure these in office practice; generate sophisticated outcome data
Social and environmental components of health for individuals and consumers	As providers to individuals, chiropractors will have little to offer by way of public/community health	Broaden the DC's focus and area of contribution; visibly support policies to achieve health gains

Source: IAF, 1997

Broader Interpretations of Health and Illness

In the future, health care providers will not only treat the direct, localized physical or biochemical effects of a disease; they will increasingly take into account the effects of a disease on the patient's other body systems and mental state—and vice versa. A growing body of research shows, for example, that psychological status correlates with morbidity and mortality.¹² Chiropractors and other providers will view disease as a dynamic element affecting and being affected by multiple concentric systems—from genetic to cellular to organ to body to mind-body-spirit to individual-family to family-community-health to global. By 2010, a “systems view” will constitute the overarching paradigm for addressing health and disease.

Many chiropractors already operate with a systems view. James Gordon, an MD who uses alternative approaches, including manipulation, in his practice, believes illness should be viewed as an opportunity to examine and improve our lives. Disease can be a catalyst to explore what it means to be truly healthy and in harmony with our surroundings, he suggests.

Table 2-5 illustrates how these broader aspects of disease will be viewed in the future. The example of a breast cancer patient is used to show the wide range of bio-psycho-social manifestations that might be addressed by the health care system in 2010, as well as some of the steps that might be taken at the societal or community level to “design out” such illnesses.

**Table 2-5: Example of Bio-Psycho-Social Model of
Prevention and Treatment**

Disease	Bio-psycho-social manifestations	Social/community interventions (including early detection and possibilities to "design out")
Breast cancer leading to chemotherapy and a mastectomy	<ul style="list-style-type: none"> • nausea, hair loss and fatigue caused by the chemotherapy • depression over the illness and loss of a breast • back pain due to imbalance in body frame from the mastectomy • marital problems due to loss of self-esteem and sexual desire 	<ul style="list-style-type: none"> • identification and control of environmental pollutants contributing to higher cancer rates in the community • anti-smoking programs to eliminate one of the main causes of cancer • increased awareness and education of the benefits of mammograms for women over 40 or those with genetic predisposition to the disease • community support groups

Source: IAF, 1997

Chinese lore tells the parable of a famous physician who modestly insisted to a visitor that his older brothers' healing skills were far superior to his own, because they knew how to stop disease before it manifested—and therefore, were not famous like him. CAA practitioners likewise will seek to detect conditions before symptoms arise, through in-depth analysis of the constellation of factors predisposing a patient to ill health. Some practitioners of the leading CAAs, particularly chiropractic, Oriental medicine and homeopathy, already do this. However, all practitioners of these three and other CAAs (as well as of conventional health care) are likely to interpret the bio-psycho-social manifestations of disease more effectively and recommend different treatment regimens by 2010.

In a health delivery system driven by outcomes, reimbursements will expand beyond treatments for the bio-chemical aspects of disease to include services aimed at bio-psycho-social manifestations. In the table above, the patient would be reimbursed for her chemotherapy and mastectomy as well as for proven treatments she received for depression, back pain and loss of sex drive. Some insurance and managed care plans do this now. How much this practice will expand is unclear, but the opportunity exists and will be propelled by competition to achieve these broader health gains.

Syndromes of Risk

As health care moves “upstream” to address the causes of illness and prevention, it will increasingly consider the “syndromes of risk” associated with various diseases. This shift has clearly begun, with factors such as diet and lifestyle playing a greater role in approaches to health.

The shift toward viewing syndromes of risk, like poverty and environmental decline, as intimately linked to health creates a challenge for chiropractors, for other types of providers and for the general public. As considered in more detail later, in our focus group sessions for this study, chiropractors were not viewed by the typical consumer who has never been treated by a chiropractor as having a significant role in health promotion. Of course, many chiropractors do view themselves in a health promotion role, and many chiropractic patients visit their chiropractors for “wellness visits” after their initial course of treatment. This expertise is not well-known to the public, however.

Beyond addressing health promotion for individuals, chiropractors will find it even more challenging to decide what role they should play in addressing environmental and social ills, and how to persuade the public of their own relevance to such issues. As Michael Lerner, Director of Commonweal, a health and environmental research institute in Bolinas, California, has pointed out, the role of environmental factors in cancer means that “any truly visionary discussion of the future of cancer care would need to assume that a global dialogue on the health impacts of the structure of industrial civilization would be a primary advocacy concern of leaders” in efforts to combat cancer.¹³ Lerner’s comment is an example of the type of health challenges that chiropractors will need to face.

Dealing with entrenched risk syndromes like poverty is no small challenge. By 2010 it is likely that visionary chiropractors and other types of health care providers, pursuing cost-effective outcomes, will have taken action against some of them, including environmental decline, poverty and crime.¹⁴ Today, however, no clear set of strategies exists among chiropractors (or most other health care providers) for taking such action. Around the United States, efforts like the Belmont Vision Project have stimulated national and local dialogues to develop shared visions. The resulting commitments often move in the direction of attacking broader risk factors.¹⁵

Environmental Issues

Over the past decade, the environment has emerged as a major concern in health care. Water quality, for example, has become a health issue in some parts of the United States and is a critical health issue in developing nations throughout Asia and elsewhere.

Environmental threats to health are growing on a global scale, despite significant progress in some areas. Both outdoor and indoor air pollution contribute to respiratory diseases. Even in the richest nations, poor areas often bear heavy burdens of pollution

and toxic-waste exposure. Deforestation and habitat destruction in the tropics are major factors in the emergence of new diseases. Depletion of the stratospheric ozone layer is causing a rise in the incidence of skin cancers worldwide, but especially in parts of the Southern Hemisphere.

Michael Lerner, as noted, urges a global dialogue on industrialization's environmental impacts. As a wide-ranging example of these impacts, Lerner points to endocrine-disrupting chemicals,¹⁶ which are implicated in hypospadias,¹⁷ testicular cancer, reported declines in male sperm counts in industrial nations, endometriosis and learning and behavior disorders in children.¹⁸

Global warming threatens to bring tropical diseases into northern latitudes and may cause more weather extremes, with storms and flooding leading to injuries and other health problems. Global warming is also likely to enlarge the "hot zones" which produce new strains of disease. Meanwhile, worsening problems of soil erosion, water scarcity and over-fishing could undermine the nutritional status of hundreds of millions of people in the decades ahead. Environmental problems can also contribute to economic problems and outbreaks of conflict, which in turn pose threats to health.

As health increasingly becomes the focus of health care, health care providers—whether conventional, complementary or alternative—ultimately will see their work judged in relation to these broader issues. Many will seek to discover and invent ways in which they can make a contribution, through their patients and beyond, to environmental issues.

Poverty

Poverty increasingly is being recognized as the largest risk factor for ill health in the United States. Poor living conditions, high-stress environments, poor nutrition and limited access to preventive health care all increase the risk of disease. For example, the health status of residents in parts of Washington, DC, is as poor as that in Haiti, with an overall life expectancy akin to that of the former Soviet republic of Turkmenistan—due primarily to negative social, economic and environmental health stresses like those mentioned above. Furthermore, infant mortality among poorer populations in cities like Washington, DC, is far higher than in most developing countries.¹⁹ The health care system, in seeking outcomes, ultimately will need to confront both these disparities and the poverty that is a major cause of them.

Medicaid combines federal and state funds to subsidize health care costs for the poor (along with disabled people and those in nursing homes who are not private-pay patients). Over recent decades most primary health care for the poor has come from physicians who accept Medicaid, as well as from community clinics staffed by public health workers and emergency rooms. Overuse of expensive emergency rooms, rising costs, few prevention programs and poor health outcomes for Medicaid recipients have led many states to move their Medicaid populations into managed care systems.

Some health care delivery systems are also working to provide poor communities with working models that improve health. For example, three HMOs in the Minneapolis region have joined to open a clinic in the local school of a poor region of the city, where they cover most of the students and their families as Medicaid recipients. Some of these experiments in providing care for the poor also provide access to CAAs. One outstanding example is the King County Natural Medicine Clinic in Kent, Washington, where poor and uninsured people can receive integrated conventional and CAA services. (See Appendix C for details.)

As the poor are moved into systems of integrated care driven by outcomes, these systems are more likely to target poverty as an overarching source of ill health. Traditionally, CAAs have been excluded from Medicaid coverage. Now their practitioners need to become aware of syndromes like poverty and consider contributions they could make to alleviating them.

One approach, suggested by futurist Leland Kaiser, who is coaching a number of health care systems around the country, is for managed care systems to give 10% of their net income to the community for health promotion efforts, including efforts to reduce poverty. And public health leaders, often with the participation and sometimes with the funding of their local health care providers, have created “healthy community” programs around the country to demonstrate that better health can be achieved in populations beset by poverty. (See “Population Health and the Healthy Cities/ Communities Movement,” below.)

Violence

Both homicide and suicide have increased in recent decades, making violence a significant cause of early death and disability. The link between economic status and violence is strong: poor populations are more likely to have higher rates of homicide, while wealthier groups have higher rates of suicide.²⁰

The rise in violence has leveled off in the mid-1990s, however. Some experts consider this phenomenon temporary and forecast new increases in youth violence and a wave of “superpredators.” Alternatively violence could moderate as political attention turns to society’s failure to support at-risk children. This awareness has begun to move resources back toward youth. Violence prevention programs, in particular, have demonstrated that both homicide and suicide rates can be lowered in at-risk populations; these programs are likely to expand over the coming years. Likewise, KiddieCare-Child Health Insurance Programs, federally and state-funded programs to provide health care coverage for poor or uninsured children, are growing in certain states. The states may expand funding of these programs or develop their own new programs.

Accountability/Outcomes/Efficacy

Another important shift is the trend to hold health care practitioners accountable for the care they provide, and the use of outcome measures to achieve this. By 2010, outcome measures, we believe, will be applied to health care systems, modalities, individual providers and, ultimately, health care provider teams.

In turn, the movement for outcome measures is spurring a broadening view of how we define and measure “health.” Ultimately, we believe, WHO’s vision of “Health For All” will be adopted by many health care stakeholders as the “gold standard” for global, optimal health. In WHO’s ambitious definition, equity, solidarity, sustainability and gender sensitivity are considered critical precursors to true health (see “The Future of Outcomes: WHO’s ‘Health For All,’” below).

For most of this century, and particularly during the dramatic growth of the US health care system since World War II, health care providers have had few incentives to measure their outcomes clearly, since buyers did not require it. This situation is changing dramatically. The demand for outcome measures, mainly from large buyers, has spawned several national efforts to develop and apply them. Perhaps the most prominent is the federal government’s Agency for Health Care Policy and Research (AHCPR), which Congress began with great fanfare in 1989. Political constraints and funding cuts in recent years have seriously curbed the scope of federal outcomes research, however.

Instead, private efforts have come to the fore. Three projects are worth noting. First is the National Committee for Quality Assurance (NCQA), which has been accrediting managed care organizations since 1991. The NCQA accreditation program is a voluntary process. Accreditation reflects a managed care organization’s ability to satisfy NCQA standards based on the NCQA’s Health Plan Employer Data and Information Set (HEDIS). HEDIS 3.0 is a standardized set of 71 performance indicators that include measures related to cancer, heart disease, asthma and other pressing health concerns.

A second private quality-and-outcomes initiative is that of the Joint Commission for Accreditation of Health Care Organizations. The nation’s oldest health care accreditation organization, the Joint Commission has expanded its focus beyond hospitals and now evaluates and accredits health care networks and plans, home care organizations, long-term care facilities, ambulatory care providers and clinical laboratories. In February 1997, the Joint Commission launched ORYX, its initiative to integrate outcomes and performance measures into its accreditation process. Full implementation of ORYX will be phased in through 1998.

A third significant quality initiative is the Foundation for Accountability, Inc. (FACT). FACT was founded by Paul Ellwood, one of the originators of managed care and the “HMO” concept, after he concluded that health maintenance organizations, which he once championed, would not produce healthy outcomes on their own.

Smaller initiatives are blossoming too. “Best practices,” or algorithms for disease management, are being developed throughout biomedicine. In many cases these combine best-practice guidelines with advanced office- or clinic-based information systems so providers can instantly choose whether and how to incorporate best practices in real-time care. The effects of these systematic efforts to identify best practices and build them into the care setting will be profound by 2010.

In its current manifestation, outcomes research has a strong political dimension. Myriad approaches and methodologies fall under the rubric of outcomes assessment, including cost-effectiveness and cost-benefit studies that look at both clinical and economic measures. Given that there is no single accepted standard under which to organize this research, the key question to ask when reviewing these studies is “Whose perspective dominates the research”?²¹ Some studies emphasize the consumer or patient point of view, using questionnaires such as Short Form 36 (SF-36) to quantify subjective responses over potentially long periods of time. SF-36 is a standardized patient self-assessment of health and quality of life. Others take more of a provider perspective, focusing on quality of process and evaluating shorter periods of time. As outcomes studies grow in number and use, practitioners and patients will learn to recognize and select the studies that are most valuable for the context at hand.

The politics of outcomes studies will become increasingly ferocious, because the research will influence the flow of dollars to competing systems, therapies and professional providers. The evolution to smarter markets, as mentioned above, means that the winners will be those who most effectively and convincingly take the consumer point of view. This evolution will be powered in part by research tools and techniques that collect data on quality of life and create objective methods for evaluating subjective responses.

Report Cards on Providers

Chiropractors, like other health care providers, will be held accountable for their outcomes as consumers become more knowledgeable. Consumers will be able to vote with their pocketbook and choose providers with the best outcomes, highest patient satisfaction and best prices. Although the current trend in managed care is to restrict patient choice in favor of lowering costs, managed care executives in our focus groups stated they would be amenable to greater patient choice if that was what the market demanded and it could be justified in terms of cost-effectiveness.

Performance- or outcome-reporting systems are being developed in many local areas. Preliminary versions of these report cards have been produced by the Midwest Business Coalition for physicians in the Minneapolis area and by *Washington Consumer Checkbook* for greater Washington, DC (rating physicians, HMOs, emergency rooms and hospitals). *Health Pages* now publishes comparative information on competing plans in a number of cities across the country. And consumer guides have been published by state agencies—for example, a Satisfaction Survey in Utah, Consumer

Guides in Maryland, Performance Reports in New Jersey and a rating of cardiac surgeons by Pennsylvania.

Report cards also could support the rating of providers against more sophisticated value screens. Increasingly, consumers will more consciously link their values to their expenditures. Environmental ratings or “Green Seals” of companies are only the first of many categories of “goodness” by which consumers increasingly will judge companies.²² Consumer groups of various persuasions will use the Internet to accelerate the polling currently done on paper. There will be enhanced consumer reports, nationally as well as locally, rating a wide variety of services and products.²³ Manufacturers and service providers will no doubt use this ongoing feedback as part of their continuous quality improvement processes.²⁴

Information Advances and the Web Will Affect Outcome Measuring

The infrastructure for developing and disseminating outcome measures is quickly being put into place. In the years ahead, the capacity to track outcomes will be significantly enhanced as electronic medical records, inexpensive personal biomonitors, home use of the Internet, expansion of private intranets and greater interest on the part of patient/advocacy groups in testing, all come into play.

Already, entrepreneurs are attracting venture capital to develop computer-based decision tools that organize data on health plans and providers so consumers can choose the quality measures they find most appealing. Ultimately they will consider which local health care professionals might be the best match for their values, personality, genetics, behavior and environment.

For example, Health Magic, a Denver-based spin-off of the Adventist Health System, and its Celebration Health, a \$111 million medical complex designed to serve Disney’s new town of Celebration, Florida, are working with both health care providers and consumers to develop health information tools. One result of this effort is HealthCompass, a state-of-the-art, Internet-accessible computer service which allows patients to gather their electronic health records into a single source and update it throughout their lives. HealthCompass also enables consumers and their families to better manage their interactions with health care providers, by giving ready access to test results, diagnoses and treatment advice. HealthCompass includes access to Direct Medical Knowledge (a spin-off of the very successful Planetree system, which has enabled hospitals to provide consumer access to leading medical knowledge), a self-help interactive software for stress management developed by psychiatrist and expert system software developer Roger Gould. Other services will be offered through or in conjunction with this tool.

Lack of a Transparadigm Science and the Collapse of Diagnostic Categories

The fast-approaching confluence of diverse knowledge paradigms—networked data, genomics, CAAs, etc.—is transforming diagnostics, too. “Normal” statistical approaches—parametric statistics based on normal distribution curves—massify medical knowledge by considering a large number of individuals in relation to a single variable. Such statistics will increasingly prove unreliable and ineffective as guides to regulation, formulary development or reimbursement. They are designed to calculate the “odds-ratio” effect—how likely it is that something will occur. However, in clinical practice a clinician must calculate the likely magnitude of an effect as well as its odds ratio. Clinical trials at this time seldom prove helpful with this higher level of complexity.

Genomics, CAAs and distributed databases comprised of longitudinal data from individuals’ medical records are three wildly different phenomena whose potential impacts on conventional medical science are remarkably similar. Together, they are helping to usher in a highly customized therapeutic paradigm in which diagnostics will address an individual’s unique status from the cellular to the societal and environmental. Data and approaches from public health, and more complex probabilistic models using genomics, will come into play at one end of the spectrum, while individuals will be able to closely monitor and record their own health conditions and establish their uniquely “normal” patterns of health indicators, at the other.

Consequently, both diagnostic categories and outcomes measures will probably be very different by 2010. Genomics will enable us to determine individuals’ proclivities to diseases and co-morbidity factors. Cancers will no longer be defined only by organ or body site—e.g., “breast cancer” or “lung cancer”—but instead will integrate those genotypes and phenotypes that have been shown to be significant for how cancers in these sites continue to grow or are stopped. CAAs, too, will provide new diagnostic categories based on their observations of phenotypic differences. Homeopathy, for instance, finds relevance in how certain things taste to an individual, as well as in some behavioral and morphological characteristics. Oriental medicine keys many diagnoses off differences in the person’s pulse. As factors like these prove useful, their frameworks and results will be integrated into diagnostic categories.

In fact, “proving useful” will be the standard by which health care outcomes move forward at the margin, in the absence of a transparadigm science and in the face of altered diagnostic categories. And “proving useful” itself will be more complex as it is modulated by patient preferences.

Clinical Trials and Therapeutic Development

Meanwhile, the conventions and practices that have defined clinical development are being undermined by these new insights. Economic incentives will make new knowledge irresistible despite opposition from entrenched interests. IAF forecasts that

new methods for developing and evaluating therapies will come strongly to the fore over the next decade.

Currently, the “gold standard” for evaluation of new therapies is the double-blind, controlled clinical trial. This 50-year-old method, which was devised to study antibiotics, is now seen by critics as a useful but limited approach. It has serious flaws in many contexts—for example, when addressing treatment of chronic diseases.

These severe limitations include cost, the application of “average” responses to individuals and the “designing out” of subjective factors. The cost problem is most visible in the pharmaceutical industry, where getting a new drug to market can cost \$500 million. These escalating costs have created a bottleneck that stifles the introduction of new products and narrows the range of therapeutic options.

The second weakness, reliance on massified clinical data, is quickly being rendered obsolete by scientific advances. Genomics—in tandem with enhanced personal biodata and environmental data—is beginning to replace “massifying” methodologies with a highly granular look at individuals. The massifying methods on which current drug testing is based are designed to test the average response of an artificially selected population to an intervention over a short duration. This approach will be put aside, allowing far more effective clinical judgments, as we combine a knowledge of genotype/phenotype with assessments of given, relevant factors within large populations over long periods of time (meanwhile controlling for co-morbidities and other relevant factors). This enhanced knowledge will be applied to acute as well as chronic diseases.

Self-Healing Capacity and the “Placebo Effect”

The third criticism of clinical trials is far older: their designing-out of subjective factors which may, it is becoming evident, be invaluable in healing. To objectively evaluate a particular intervention, clinical trials “blind” participants and providers to knowledge of whether a subject is receiving a real medication or an inert substitute. This makes the “placebo effect”—the measurable healing response often found in patients who believe they have been given an appropriate medication—a constant rather than a variable. The placebo effect may, in fact, be highly significant for healing. It may represent a capacity to self-heal, or it may trigger the self-limiting nature of many diseases. But by making its effect a constant, clinical trials override its potential benefits.

The placebo effect and its role in healing are well documented in the scientific literature. In double-blind, well-controlled pharmaceutical research trials that use placebos (rather than the current “standard of care” medication) as the control, placebo response rates of 30% are common. Some researchers argue that 40-70% of the success of all patient care can be attributed to the placebo response and, therefore, that it should be harnessed as a therapeutic tool. Herbert Benson, a Boston physician and author, supports the higher end of this range, arguing that the placebo response is twice as

common as previously believed. Benson also proposes that we rename the placebo effect “remembered wellness,” and that practitioners use it consciously and concertedly to augment treatment. Benson estimates that evoking the remembered-wellness response, such as through relaxation and cognitive-behavioral techniques, would dramatically reduce psychosomatic problems and result in savings of over \$50 billion per year.²⁵ These savings would come from a significant decrease in patient visits and/or the number of treatment visits required.

Three Components of Remembered Wellness

1. Belief and expectancy on the part of the patient;
2. Belief and expectancy on the part of the caregiver;
3. Belief and expectancy generated by a relationship between the patient and the caregiver.

Source: Benson, Herbert (1996) *Timeless Healing* (New York: Scribner), p. 32.

If correct, the implications of Benson’s argument for all modalities, conventional and complementary, are significant. Under this model, any approach that *doesn’t* stimulate a person’s innate healing system would be suspect.

Prayer, personality and belief systems are other mind/body phenomena whose well-documented powers can confound the assumptions built into clinical trials, but whose clinical benefit should be investigated and put to use.

The 80% Rule: Consideration of self-healing harks back to the discussion about the difficulty of holding chiropractic and other CAAs to standard outcome measures. The striking fact is that leading practitioners in many CAA disciplines have been shown to be effective with their regular patients about 80% of the time—*regardless* of which CAA they employ. This implies that in these situations the placebo response, or “remembered wellness,” is a powerful factor, nurtured by the provider’s healing skills and warm relationship with the patient. This phenomenon is one explanation of why preliminary studies showing the efficacy of a CAA sometimes cannot be replicated. To the extent this subtle dynamic between provider and patient becomes a conscious focus of both research and practice, all health care providers, CAA and conventional, will enhance their healing skills.

Bias in the Use of Therapies

Finally, beyond the sometimes inherent unsuitability of the clinical-trial paradigm for some CAAs, clinical researchers have been accused of bias in their application of clinical development standards to CAAs. Some CAAs have been subjected to very rigorous testing by their own communities (albeit using non-conventional, non-allopathic assumptions). Yet conventional medical researchers often exhibit prejudice against these approaches. The tension can sometimes amount to a “holy war” of scientific ideologies, at the expense of empirical learning, and can delay the therapeutic adoption of modalities that have been shown to be useful.

Thus, some experts argue that CAAs are casualties of a double standard. In studying cancer treatments, for example, medical writer Henry Dreher notes that psychosocial interventions have been shown to enhance quality of life for cancer patients and, in three studies with a total of 250 patients, have been linked to longer survival or reduced mortality rates. Dreher concluded that these psychosocial interventions should be instituted as complementary approaches immediately, across the board, in cancer treatments. But conventional researchers countered that research norms require trials on 2,000 patients, rather than 250, before such a broad-based therapeutic change can be accepted. While Dreher concurs that 2,000 is sometimes the accepted baseline for adopting a new *primary* therapy, he notes that adjustments to standard therapies—e.g., designating a new drug within an existing class as the treatment of choice—are often based on trials involving fewer than 200. Dreher writes: “the bias against non-pharmacologic therapies has no basis in science or biomedical ethics. With evidence of quality-of-life and of life-extending potential, biomedicine’s lack of an initiative is nothing short of a scandal.”²⁶

In the face of all these forces mitigating against incorporation of CAAs into mainstream health care, it is perhaps understandable that many CAA providers insist that today’s standard outcomes cannot or should not be applied to them. The diagnosis and the clinical endpoints for a chiropractic treatment or homeopathic remedy may be very different from their allopathic counterparts. This issue is likely to be sorted out on the basis of more data on large numbers of users of these therapies; it is likely that standard diagnostic categories, e.g. ICD-10, may look very different because of the challenges of CAAs. There most likely will be another revision to ICD-11 by 2010.

Also, different endpoints, process measures and clinical outcome indicators may be appropriate when a modality is used to attack a syndrome rather than a specific condition. In either case, however, consumer satisfaction, cost-effectiveness and appropriate clinical efficacy will provide the basis for competition in the smarter markets of the 21st century.

The Forecast, Prevent and Manage Paradigm

Arising from the confluence (or the clash) of the health care currents detailed above is a fundamental shift in the paradigm underlying health care: a move from treating disease after the fact to preventing disease before it starts. As noted, this “Forecast, Prevent and Manage” paradigm moves practitioners away from treating symptoms of disease to anticipating changes in health status, preventing morbidity wherever possible and proactively managing morbidity when it does occur.²⁷

This shift in the paradigm of treatment will entail a concurrent paradigm shift in institutional practice and investment. The entire health care community, from practitioners to policy makers, will need to expand its focus to encompass all aspects of lifestyle. This shift will be supported by the development of information systems that support prevention and self-care; the development of approaches designed to prevent

potential health problems from manifesting; the use of new biomonitoring techniques; and other advances such as a new generation of DNA vaccines. Together these tactics will allow:

- Early detection of illness and abnormal functioning;
- More accurate diagnosis of genetically defined subtypes of disease;
- Customized care in which therapeutic selection is more precisely tailored to individual biochemistry (more on this below);
- Disease management using a wide range of therapeutic tools, including lifestyle change, new generations of antibiotics, new forms of immunotherapy including CAAs that enlist and bolster the immune system and a dramatic increase in the number of available therapeutic agents/services;
- “Designing out” disease in some cases by gene therapy interventions in the underlying malfunctions in protein production; and
- “Designing out” disease by attacking the social and environmental risk factors in communities.

The Future of Health Outcomes: WHO’s “Health For All”

From our perspective at IAF and our for-profit consulting subsidiary Alternative Futures Associates, the most advanced and ambitious realization of the Forecast, Prevent and Manage concept is found in WHO’s vision of “Health For All.” We believe Health For All represents an emerging “gold standard,” not for clinical trials, but for defining health, and one which increasingly will guide outcomes. Health For All is, in itself, a moving target; WHO recognizes this and has revised and revitalized the vision in the last two years. But fundamentally, it represents a broad global perspective on “goodness” in health, and a blueprint for achieving that vision. Under Health For All, health includes conventional status measures but also social values which WHO argues are essential to achieving health, including *equity, solidarity, ethics, gender and human rights*.²⁸

Thus, our essential point in this section is that the definition of “health” is likely to broaden and that WHO’s vision of Health For All is IAF’s candidate for a “North Star” or compass for considering the broader contributions or outcomes of health care systems. To the extent this forecast proves accurate, the tools for measuring health outcomes, such as HEDIS for health system measures or SF-36 for measuring consumer satisfaction, will come to include measures of these broader values. And health care providers will be held accountable to this broader standard.

Population Health and the Healthy Cities/Communities Movement

The Forecast, Prevent and Manage paradigm will be applied primarily to individuals, but parallel approaches will be used at the community level. A worldwide movement for “healthy communities” is emerging to address poverty, crime, environmental damage and other social ills. The healthy communities movement is one of the most significant social inventions of the last 15 years, and the next 15 years will see an intensification of these redesign efforts.²⁹

In the United States, many regional and local health care systems have begun using healthy-community approaches. The American Hospital Association, the Department of Veterans' Affairs and the Catholic Health Association have united in a \$6 million effort to recognize and reward community-based health efforts. At the state level, the Colorado Trust has for several years been operating a statewide program of community-based health promotion. In addition, the local chapters of many national associations are encouraging their members to take part in these efforts.³⁰ And a national coalition of healthy-community efforts has been formed—Coalition for Healthier Cities and Communities (USA).³¹

Many experts feel we can design health care systems that produce dramatic health gains for all Americans at two-thirds or less of the cost of our current system. This, for example, was part of the original vision for the health care system in Celebration, Florida, developed by Walt Disney Co. and Florida Hospital. This approach leads to larger design questions. Leland Kaiser, for example, argues that as we design our “life spaces,” we can “design out” the elements in our communities that contribute to ill health. In the process, he argues, we will recognize that the “redesign of America is our primary social agenda for the next 100 years.”³²

Health care providers, including chiropractors, will have to work at two levels to promote community health. At the individual level, many will have to develop additional treatments or resources to help consumers address the sources of ill health (e.g., strengthening a person's emotional coping skills or developing a referral network to help consumers address these factors). In those communities with the will and capacity to redesign their health care delivery systems, practitioners will need to become part of the “design team”—in the process moving their own practices from a competitive to a collaborative model. Also, health care approaches may need to include family members or groups.

Outcomes-Driven Winners

The shifts described above, culminating in a Forecast, Prevent and Manage paradigm, will “shake out” the market for chiropractors as well as all other providers, conventional and CAA. For chiropractors, this shift has the potential to be the best or the worst of worlds. If the outcomes for chiropractic health care, discussed below, continue to show effectiveness for complaints such as headaches, digestive problems and asthma, for example, its patient base will expand. On the other hand, if efficacy studies show that chiropractic is not competitively cost-effective, an outcomes-driven health care system will have little room for the profession. Optimizing health gains should become the focus of chiropractors, both to best apply spinal manipulation, but also to deploy the other approaches, such as lifestyle and behavioral coaching, most effectively.

Beyond Health Care: Wellness Visits

Chiropractic (along with certain other CAAs, like homeopathy and Chinese medicine) has high potential for enhancing prevention and “wellness,” and hence for out-of-pocket purchases not tied directly to outcomes or, for that matter, to medical need. Rather, these services are sought as a repeat purchase of something the consumer has found to be valuable. Part of the demand for such wellness services is related to the “high-touch” nature of chiropractic and the degree of positive relationship between patient and provider. Allopathic providers, too, are showing a growing interest in providing wellness visits. Prominent news stories of physicians changing their practice to provide more CAAs and more “high-touch,” out-of-pocket care, reinforce this trend.³³

Many people view chiropractic or massage services as they would the services of a spa, gym or fitness club. As noted in Chapter 4 below, it is estimated that between 14% and 35% of current demand for chiropractic services are routine maintenance or wellness visits, not related to an immediate complaint.

This is a very different model than the one focused on “appropriate services” from a health care system. By analogy, the calculus a consumer uses to decide whether to buy a membership in a health or fitness club (another “wellness” decision) is different from the outcome measures used to rate health care. The capacity of consumers to make wise choices will improve in either case, but their calculus for “wellness visits” will remain fundamentally separate from that for their treatment choices.

For many chiropractors in 2010, wellness services will constitute a significant portion of their business. The questions that determine “appropriateness” in the managed care context should not be applied here. Yes, consumers should be protected from fraud, and they should know who the best providers are. But they should be able to spend their discretionary resources on wellness services of their choice, much as they choose to spend their discretionary income on health clubs. The trends toward smarter markets noted above will mean that consumers will be able to buy with greater assurance and will pay more attention to wellness. The “report cards” available to consumers will help them choose among local providers.

Significantly, level of demand for wellness services will be a key determinant of whether chiropractors face an oversupply in 2010 (see Chapters 4 and 6).

CONSUMER HEALTH CARE AND SELF-CARE

Above, we discussed the paradigm shifts shaking up health care. In this section we will focus on equally profound shifts in how consumers pursue health and health care.

As with the overarching systemic changes, consumer trends present both threats and opportunities for chiropractors. Table 2-6 summarizes these.

Table 2-6: Implications of Consumer Trends for Chiropractic

	Threat	Opportunity
Smarter markets: proof of efficacy; broader demands	Findings of low efficacy of chiropractic for conditions beyond lower back pain decrease demand for services	Proves competitive for a broad variety of conditions; providers leverage satisfied patient base as part of demonstrating efficacy
Dissatisfaction with all health care providers	Loss of business due to narrow view of chiropractic scope of treatment and negative image of profession	Consumers turn to chiropractic high-touch approach
Evolving demands	Chiropractors remain limited in scope of practice	Chiropractors meet wellness, public and community health needs
Changing demographic: aging population	Chiropractors are not viewed as contributing to aging	Chiropractors serve as primary care health coaches for the elderly

Source: IAF, 1997

Smarter Markets

Health care is a marketplace, but it has seldom operated very efficiently. Consumers are less informed or powerful than is organized health care. Consumers often find it difficult to make informed choices attuned to their values.

This will change. We are entering an era of “smarter markets,” in which consumers will be able to make very intelligent choices that accord with their values. As noted in the outcomes discussion above, broader values, such as equity, will be applied to the outcomes of efficacy and cost-effectiveness. And “report cards” on local providers will enable consumers to know both the “batting average” of each provider in treating disease, as well as the provider’s values in relating to his or her community, environment and employees.

This shift to smarter markets is being accelerated by numerous factors. The long era of “doctor as unquestioned authority” is coming to an end. Dissatisfaction with providers, concerns over access to managed care and innovations in health and information technology are shaping a new breed of health care consumer. Health care information and education are becoming so prevalent that lay people can educate themselves quickly and easily and conduct informed “comparison shopping” of treatments and providers. Increasingly, this information is becoming available on-line and/or through

expert systems designed to bring medical expertise to consumers in their homes. By 2010, the nationwide movement for better accountability and outcome measures—originally impelled by large health care buyers—will have raised consumer awareness and knowledge by another order of magnitude.

Consumers in our focus groups shared a high level of dissatisfaction with allopathic medicine. They viewed allopathic physicians as too expensive, having uncertain outcomes, neglecting the patient's overall health and well-being and having a low-touch, impersonal approach. HMO organizations especially were characterized as too impersonal and their doctors as failing to spend enough time with patients. HMOs' assembly-line approach to medicine is one of the chief reasons many Americans—roughly one-third in 1990—are using some form of CAA approach and have begun looking at alternative providers for their health needs.³⁴

From Consumer to Prosumer: Managed Self-Care

At least four trends are converging in favor of self-care:

- Consumers' own willingness to take charge of their health;
- Growing desire among providers to encourage self-care (so-called demand management);
- Political pressure from managed care organizations in support of self-care; and
- Growing, effective tools that enable successful self-care, e.g. books, telephone support, expert systems.

As a result, more and more consumers are providing their own care—becoming, as futurist Alvin Toffler terms it, “prosumers”: providers and consumers simultaneously.³⁵ The largest proportion of health care always has been self-care, but with the proliferation of knowledge and knowledge tools, consumers are closing in on the knowledge and sophistication of professionals. Within the provider community as well, expertise is moving from specialist physicians to general practitioners to nurses and other health care providers. These trends will have enormous consequences for health care by 2010.

Thus, that category of people who in the past were called “patients” will in the future be recognized as sophisticated health care consumers. The culmination of this model is the “patient as healer” concept, in which the patient directs her/his relationship with health care professionals. Physicians, including DCs, will need to learn to see the doctor-patient relationship as one element in a spectrum of resources used by the patient, and be ready to assist with coordination among providers and approaches.

Information Technology and Self-Care

By 2010 the information revolution will have permeated homes and workplaces even more than today. Home/self-care will be dramatically enhanced by electronic systems and devices provided to consumers by their health care practitioners. Likewise, companies such as Health Magic, described above, will sell packages of health care services, often tailored based on the data in the patient's lifelong health record and coordinated with his or her health care provider.

The implications of these converging forces are discussed in the forecast *Self-Managed Care 2010*, below in Chapter 3.

So far, information systems have made limited inroads into the practice of CAAs. CD-ROM databases for chiropractors, homeopaths and acupuncturists exist, but their use is limited. Most practitioners are in the early stages of computerizing their practices. This trend will advance considerably in the next ten years, reshaping delivery of professional services as well as self-care behavior. HealthCompass, Health Magic's product for lifelong health record keeping and related services, augurs this advancement. As noted, HealthCompass includes access to interactive software for stress management for use by health care providers. Once these systems are market-tested, versions for consumers will follow.

The expert systems designed to aid consumers with self-care will also link them to services that help select from among myriad CAAs. As with other aspects of health care, these home-based expert systems will allow consumers to customize the software to their genetic profile, personal preferences, health conditions and treatment experience.

ENDNOTES FOR CHAPTER 2

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Chapter 3

TRENDS: THERAPEUTICS, PREVENTION, PROFESSIONALS AND DELIVERY SYSTEMS

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INTRODUCTION

Chapter 2 considered some of the key trends shaping health care generally and chiropractic specifically from the perspective of demand, financing and delivery. This chapter continues the discussion of trends, beginning with a consideration of how advances in genomics, nanotechnology and high-tech information systems are radically altering conventional health care (in some cases, bringing it into line with time-honored CAA techniques for customizing preventive and therapeutic approaches).

Ultimately, we conclude, the future belongs to “integrated therapeutics,” combining new technologies, conventional medicine and CAAs, including chiropractic, in regimens custom-fashioned to the individual. We also consider managed care and its dynamic relationship with chiropractic and other CAAs.

This leads into a discussion of trends affecting health care professionals, conventional and chiropractic, including changes in training and credentialing—and, we posit, the danger of overproduction of chiropractors by 2010. Finally, we consider the important role of chiropractic beyond treating illness or health problems—as a form of wellness service, paid for by consumers largely out-of-pocket.

In the next chapter, we discuss the implications of the trends considered in Chapters 2 and 3 for the chiropractic profession.

TECHNOLOGICAL ADVANCES FROM THE CONVENTIONAL VIEW

By 2010, therapeutic and preventive practices will be dramatically different from today’s. In this section we review five of the most significant advances in therapeutics and prevention: genomics, nanotechnology, the information revolution in health care, the customization or personalization of health care and, finally, where chiropractic and other CAAs merge most visibly with conventional therapies—in integrated therapeutics.

As with the other trends discussed in this report, technological advances carry both threats and opportunities for chiropractors. See Table 3-1.

Table 3-1: Implications of Selected Technological Advances for Chiropractic

	Threat	Opportunity
Genomics	Health care becomes even more high-technology focused and reinforces the dominance of allopathic care	Musculoskeletal uniqueness can be proven, with implications for customizing manipulation; chiropractors are involved in identifying this and integrate its information into their practice
Information Revolution	Consumers have greater self-care capacity; this may reinforce CAAs that compete with manipulation; non-chiropractors (and DCs) can use virtual reality to learn manipulation more quickly; expert systems become effective “back health” coaches for consumers	Chiropractors can spend more time and cost-effectively expand their offerings beyond manipulation using expert systems; DCs use info technology to collect and to improve their outcomes; expert systems may be designed to alert patients to when they have a subluxation or other problem that would benefit from a visit to a chiropractor
Automated spinal manipulation	Technology evolves to the point where machines can accomplish spinal manipulation more cheaply than visiting the chiropractor	Spinal manipulation, including the value of the DC’s touch, cannot be done by a machine
Integrated Therapeutics, such as Dean Ornish’s program	Manipulation is less favored in the integrated packages; or it is co-opted by other, non-DC, providers	Manipulation is proven an important component, and DCs can prove they provide higher outcomes from their manipulation

Source: IAF, 1997

Genomics

Just as evolving health care markets and the expanding definition of health will present certain threats and opportunities to all health care providers, so innovations in biomedical knowledge, technology and telecommunications will change therapeutics and prevention.

The mapping of the human genome by 2005 or sooner will profoundly affect health care. Genomics—the study of genetics and its application to health care—has crucial implications for both conventional health care and CAAs. It will allow us to understand the genetic proclivities to many diseases, as well as how various genetic proclivities interact with a person’s current condition and environment.

Simultaneously, technology will make these advances far more accessible to individuals and their health care providers. For example, “gene chips”—computer chips that instantly analyze the distinctive pattern of genes active in a given disease or condition based on a small sample of blood or saliva—will come into play.

The related learning process will sweep aside traditional disease categories, replacing the old taxonomy with a far more powerful, complex one consisting of families of genetically defined subtypes of disease.

The first gene chips, designed to analyze certain cancers, will become available over the next several years. Soon individuals will be able to put a few of their cells on a gene chip scanner and quickly test for scores of different diseases. Looking ahead 20 or 30 years, it may be possible to build a “human model on a chip”—that is, a chip with DNA representing all of the approximately 100,000 human genes, allowing characterization of a broad spectrum of diseases.¹ This analysis will be complicated by our deeper understanding of the relationship between the “coding regions” which have been determined to carry the genetic instructions, the “control regions” which affect the expression of the coding regions and the “silent regions” of the gene, whose role has not yet been determined.

Gene chips will make individual genetic profiling, or genotyping, possible at reasonable cost. This will allow individuals to know, with some level of statistical precision, if they are predisposed to certain diseases. Several predispositional tests for individual diseases will become available over the next few years and our “DNA profile” or “genetic profile” will become an integral part of medical records within a decade.²

Between now and 2020, health care will evolve to a higher stage of customized care in which therapeutic selection will be precisely tailored to individual biochemistry. Today, for example, many physicians advise all patients with hypertension to go onto low-salt diets, even though this helps only a minority of patients. Myriad Genetics is currently evaluating a test for mutants of the AGT gene, which codes for a protein that regulates salt retention. If hypertension patients with AGT mutants are helped by a low-salt diet, physicians will be able to use Myriad’s AGT test to identify people who will actually benefit from salt restriction.³

The drug discovery and development process also will be accelerated and fundamentally redesigned over the decade ahead in response to progress in genomics (see Chapter 2 on Clinical Development). There will be a dramatic increase in the number of effective therapeutic agents.⁴ In fact, genomics will produce new generations

of antibiotics, potentially stemming a global health crisis caused by the proliferation of bacteria resistant to conventional antibiotics.⁵

Genomics will open up a new field of immunotherapy, based on novel methods for fighting diseases by enlisting the cells of the body's own immune system. For example, in February 1997 Professor David Wallack and his colleagues at the Membrane Research and Biophysics Department of the Weizmann Institute in Israel reported in *Nature* the discovery of a gene, called NIK, that helps remove a "molecular brake" that keeps the immune response in check. Wallack's team believes the discovery will lead to drugs that enhance and regulate the immune response.⁶

DNA vaccines will begin to be available over the next five to ten years and are likely to be universally adopted before 2020. They will be far superior to traditional vaccines: safer; more effective at conferring both humoral and cellular immunity; effective against a broader spectrum of pathogens and able to confer long-term immunity with a single dose. It will be possible to inject genes from multiple pathogens at the same time, creating new kinds of broad-spectrum vaccines.⁷ Some chiropractors and other critics charge that vaccines are already overused and effectively require people to put themselves and their children at risk, against their will. As with other therapies each will increasingly be forced to show cost-effective outcomes in order to be used. Assuming these vaccines are cost-effective, the side-effects question may also be able to be dealt with. Genomics will enable us to identify, for many drugs and procedures, who is most susceptible to particular side effects of medications.

Another emerging therapy that will be useful in the treatment and prevention of infectious disease is called "antisense." Essentially, antisense therapies are compounds designed to block selected gene functions by genetically engineering proteins that are opposite to the proteins needed for cell division. Antisense is anticipated to come into common use to attack bacterial, viral, cancer and other diseases driven by cells that replicate.⁸

Gene therapy will emerge between now and 2020 as one of the truly revolutionary developments in the history of medicine, comparable in its impacts to the introduction of microscopy, anesthesia, vaccination or antibiotics. The first concrete results are likely within the next few years, in the area of gene-based cancer immunotherapies.⁹ In all cases, these biotech-related advances will have to stand the tests of efficacy and cost-effectiveness.

Advances in genetics will create new interactions between chiropractors and conventional medicine. For example, chiropractors will need to discover how to utilize the information that a patient is predisposed to certain diseases, and how to work with other health care providers as well as their patients to maximize the new opportunities. Research on how herbs, biologicals and dietary supplements affect gene function and vice versa has already begun and is being used by some practitioners. The "Customization" section below considers some of these implications, including those areas where conventional health care will learn from CAAs.

Nanotechnology: A Wild Card in Health Care

In considering the future of health care, one of the biggest “wild cards” is the potential development of nanotechnology—ultra-tiny technology on the scale of nanometers, or billionths of a meter. If viable nanotechnology emerges over the decades ahead, its impacts on health care would be greater than any past technological development in the history of medicine.¹⁰

Nanomedicine applications are likely to begin outside the body. Noninvasive diagnostics, for example, is an area where nanotechnology is likely to be put to early use. A biosensor using a nano-scale ion channel as a transduction device has recently been developed in Australia; hand-held testing devices using this technology may be on the market by the year 2000. This could allow easy screening of body fluids such as blood for a variety of elements, similar to that now done in hospital labs. Another important early medical use of nanotechnology might be to radically increase the quality and cut the cost of pharmaceutical manufacturing.

While the earliest medical uses of nanotechnology will be outside the body, the most powerful uses will be within it. Nanodevices could give us very precise levels of control in interactions with tissues and even with individual cells. Immune machines are one of the most important potential applications. These nanodevices would travel through the bloodstream and supplement the natural immune system, finding and disabling unwanted bacteria and viruses. Imagine machines smaller than blood cells that have computer power comparable to today’s mainframes, huge databases of a billion bits or more, instrumentation to identify biological surfaces and devices for destroying the undesired viruses, bacteria or other foreign material they encounter. Unlike natural immune systems, which have to be exposed to invaders to develop defenses against them, nanotech immune machines could be programmed to protect against any viruses or diseases that have been identified in world medicine.

Another kind of device, cell herding machines, could be used to stimulate and supplement the body’s own tissue construction and repair mechanisms. Cooperating teams of cell herding machines could promote rapid healing of wounds, ensuring that cells form healthy patterns and surround themselves with the proper intercellular-matrix materials. Nanodevices could be designed to clean out and reinforce the structure of blood vessels, or to repair joints, strengthen bones, remove scar tissue or fill tooth cavities with natural dentin and enamel. It is conceivable that nanotechnologies could produce fundamental cures for many of the diseases currently facing conventional and CAA providers.

As nanotechnology advances, nanomedicine will move from tissue repair to operating in the interior of cells. Cell repair machines much smaller than a cell could work as “nanosurgeons,” sensing and repairing damaged parts of cells, closing them up and moving on to others. We would gain the ability to kill viruses, like AIDS, which attach to the genetic material within cells and remain dormant for long periods. We could repair

cellular damage caused by chemicals or radiation. Genetic surgery would become a simple procedure, possibly accomplished by swallowing a tiny pill.

Any forecast of the time when nanotechnologies will be effectively operating inside the body is at best an informed guess. The strongest proponents of nanotechnology believe it is about 20 years away, give or take 10 years. The strongest critics dismiss it as several generations away and perhaps an impossible dream. If the optimists turn out to be correct, nanomedicine could be changing every aspect of health care between 2010 and 2020. And, as other observers point out, nanotechnology is virtually certain to generate significant unintended consequences or side effects. There are also serious negative potentials from nanotechnology used as a weapon in the hands of terrorists.¹¹

If nanomedicine were possible, it is likely that some forms of reprogramming spinal problems could be developed. But such possibilities from nanotechnology, or from genomics for that matter, are questioned by some. For example, some readers familiar with CAAs may feel that acupuncture, chiropractic, homeopathic remedies or “remembered wellness” have a similar, if less breathless, role in stimulating the immune system or repairing damage, and that these modalities already have decades or centuries of experience from which to evaluate side effects. This observation raises an appropriate question about where priorities should be placed in health care innovation. Genomics and nanotechnology will be pursued and will need to be tested simultaneously and in parallel with CAAs and other avenues of innovation. Marketplace and government policy mechanisms do not yet effectively focus on the most encouraging and cost-effective approaches, though as the market becomes more focused on outcomes this is likely to change. However, as noted above in the discussion of outcomes, we will also increasingly judge health innovations in relation to broader outcomes, such as their ability to provide the greatest health gains in sustainable ways and to generate both greater health and greater health equity.

Information Revolution in Health Care

The “Information Revolution” is transforming our society and inevitably will have a major impact on the health care system. For example, as noted above, emerging information technologies will vastly improve the maintenance and dissemination of medical records, allow treatment outcomes to be evaluated systematically, enable new kinds of health information systems to support prevention and self-care in homes and help customize care to an individual’s biochemical uniqueness. A major new field of health informatics is developing to realize these possibilities.

Health services suitable to be performed in or delivered to homes or local health centers include:

- Information for prevention, self-diagnosis and self-care;
- Personalized “health coaching”;
- Body function monitoring;

- “Electronic house calls” for consultation between health care professionals and patients;
- Sophisticated management of chronic diseases;
- Support for convalescence from acute care;
- Support groups for patients with similar conditions;
- Supervision and training for home care workers; and
- Consumer information services rating health care providers, doctors and treatments.

Note that many of these services are already available. All will become commonly available for effective home use between 2000 and 2010.

The development of expert systems, extensive and easy-to-use knowledge bases, video interfacing and the Internet have already begun to impact health care.¹² Soon the Internet will allow medical records to be shared worldwide by authorized parties; better health information to be made accessible to more people; sophisticated expert systems to aid in diagnosing disease and managing health; and enhanced recruitment of volunteers locally and globally. Electronic search agents (“knowbots”) will be programmed to prowl the Net seeking specific information and continually updating their users on health topics of interest.¹³ Already companies such as Epic Systems Corporation of Madison, Wisconsin, offer Internet-accessible medical records. Health Magic, as noted, offers its HealthCompass service, which links an electronic medical record to a variety of other health services and information—creating a lifelong personal health record.

Consumers in the focus groups for this study expressed strong concern about privacy issues stemming from the application of information technology to health care. This is an instance in which technology could advance faster than society’s ability to deal with the changes it spawns. Protecting confidentiality is a key concern for developers of these systems and most are confident of the technical capacity to maintain privacy and security. Consumers, meanwhile, would prefer to err on the side of caution in this arena. And there has been some discussion in Washington about slowing down the availability of the “gene chip” tests described above until legislative protections can be enacted to ensure that genetic information will not be used to discriminate against individuals.

Expert Systems

Expert systems are software programs that, backed by databases, simulate the judgment of experts. They will play an increasing role in both synthesizing and decentralizing information for health care professionals, e.g., from specialist physicians to general practitioners or nurses. For consumers, expert systems will take the best medical knowledge and make it available for home use. Ultimately, they will customize and personalize the material they present to fit the learning style, interest and knowledge levels of each user. Furthermore, the software will be linked to personal biomonitors as well as the consumer’s own medical records, including alert systems that kick in when the biodata suggests something needs attention. Consumer and professional training and learning, too, will be accelerated.¹⁴

Automated Electronic Health Coaches

As mentioned above, expert systems will make it possible for anyone with a computer to have a virtual “health coach.” These expert systems could be programmed with a “personality” that suits the individual user. For example, a family’s health coach could speak and interact differently with each member of the family depending on his or her age, level of understanding and personal preferences. These coaches will monitor users’ health status and help keep them on track with their specified health goals (such as training for a marathon or losing ten pounds). Health coaches could be designed to interact with other electronic functions in a smart house—for example, with the ingredient information on a person’s grocery purchases, checking to make sure it is consistent with the buyer’s tastes, health preferences and diet plan. They could also provide more immediate coaching—for example, cautioning a dieter if he or she opens the freezer and starts to remove an ice cream bar!¹⁵

Biosensors/Biodata

In two to five years, inexpensive hand-held biosensors will go into commercial production. These will allow simple detection of a wide range of diseases, within minutes, from a small sample, even a drop, of blood or saliva.¹⁶ The devices will proliferate rapidly in all health care settings and be used for a wide variety of applications, including cell typing and the detection of viruses, antibodies, large proteins, electrolytes, drugs, pesticides and other environmental contaminants. Hand-held biosensors will permit sophisticated analytical measurements to be undertaken at decentralized locations, from the hospital bedside or the physician’s office to the home.

Within five to ten years, minimally invasive biosensors that do not require blood samples or IV insertion, combined with the use of hand-held sensors, will significantly impact the design and operation of hospitals and other health care facilities. Biosensors will eliminate the need for large laboratories, transporting samples within facilities or sending samples out for analysis.

By 2010, a variety of inconspicuous, wearable biomonitoring tools will be available, such as wristwatch devices that monitor body functioning and communicate those data to local or remote data storage systems. The Defense Department’s Advanced Research and Projects Agency (DARPA) has already developed prototypes of this kind of device, which they call a Personal Status Monitor (PSM), for monitoring the location and physical status of troops on the battlefield. The ability to perform complex biomedical analyses, administer appropriate medications and monitor responses will eventually turn PSMs into virtual “Hospitals-on-the-Wrist.” As portable biomonitoring devices become more sophisticated and reliable and are integrated with electronic medical records and expert systems, HMOs and other providers are likely to routinely provide them to their patients.

Sophisticated monitoring devices will generate interesting challenges for some CAA modalities that do not rely on conventional biochemical markers in understanding body

function, or that disagree with the treatment protocols suggested by these devices. At minimum, CAA practitioners will need to learn how to interpret the information generated by these devices or when to consult a practitioner who works with this technology. As noted in the “Customization” discussion below, the lessons on phenotyping which some CAAs have developed over the centuries are likely to be utilized in interpreting the results of this biomonitoring.

Telemedicine

Telemedicine is the application of information technology to the practice of medicine, eliminating the barriers of distance. Applications include remote surgery, where a doctor performs surgery via a robotic arm that is controlled by a computer, and distance diagnosis. Remote chiropractic using robotic arms is not out of the question. Distance diagnosis will enable chiropractors and other doctors to confer with patients via interactive video screens. The doctor will not only have access to the patient’s electronic medical records, but will be able to talk to the patient in real-time no matter where that patient may be.

In the years ahead, “virtual medical centers” may use telemedicine to deliver sophisticated medical services to persons in remote areas. It will also become feasible, using “data gloves,” for a physical exam—or, in theory, a spinal manipulation—to be conducted remotely.

Telemedicine provides significant opportunities—although part of the backlash against managed care stems from the insufficient personal contact it affords between health care providers and patients. The rising use of CAAs is partly due to the enhanced personal, hands-on, contact consumers receive from chiropractors and other CAA providers. Thus, telemedicine will compete where it is most effective, and hands-on and face-to-face care will do likewise. Consider the analogy of ATM machines: some people still miss seeing the bank teller or don’t trust the machines, but for most people ATMs have become the first stop for cash.

Customization of Health Care

A major trend within conventional health care springs from the concurrent arrival of genomics, longitudinal data banks and integrated health care—namely, the customization of care to subgroups in the population and, ultimately, personalization to each person’s unique biochemistry. Over the years, medical science has had scattered and incomplete awareness of the great physical difference between one human being and another. Roger Williams, a professor of chemistry and Director of the Biochemical Institute at the University of Texas, who coined the phrase “biochemical uniqueness,” spent 40 years—before the advent of genomics—studying individuals’ responses to nutrients and medications.¹⁷ Williams discovered that multiple factors shape a person’s response, including diet, previous illnesses and even where he or she grew up. Williams’ work led to the observation that each of us has a “chemical factory” in our

body whose operation is as unique as our fingerprints. Yet most conventional practice of medicine uses relatively little of this information for personalized care.

Now we are adding genomics to this search for the causes and patterns of uniqueness. And medical science is beginning to discover how genetic variations can play a role in therapeutics. For example, the p450 gene regulates enzyme production, which in turn affects how pharmaceuticals are metabolized and made available through the bloodstream. As these variations become known, therapeutics, particularly drug dosing, will be guided more precisely.

Why might this be important? The answer is two-fold: to increase the chance that therapeutics will work and to reduce the chance that they will harm. The potential for harm is commonplace in the current system of medication use in the United States, according to several leading researchers:¹⁸

- Four times as many Americans die each year from medication-related problems (over- and under-dosing of prescribed medications, adverse reactions, non-compliance, etc.) than die in automobile accidents;
- For every dollar spent on medications for ambulatory patients, an additional dollar is spent in treating preventable medication-related problems;
- On average, 10 of every 100 hospitalized patients at any given moment are there because of medication-related problems; and
- For every dollar spent on medications for patients in nursing homes, \$1.33 in additional resources is consumed in treating medication-related problems.

Some portion of these costs can be traced to our current inability to forecast for whom medications are most likely to work and for whom they are likely to generate side effects. Williams discovered from his observations that we are biochemically unique. Genomics will help us better understand these differences. And companies are preparing to take advantage of this learning—major new sectors of the biotechnology and pharmaceutical industries are growing up around the insights afforded by genomics.¹⁹

The new customization and personalization will be based on genotype and phenotype. “Genotype” refers to one’s particular gene sequence. “Phenotype,” meanwhile, refers to physical, biochemical or behavioral characteristics, as they are determined genetically and environmentally. Thus, genotype describes whether an individual or group has a specific gene or set of genes, while phenotype describes the expression of genes through the process of interaction with the environment.

As customization and personalization evolve, it is important to identify their potential and limitations vis-à-vis other approaches. As Table 3-2 demonstrates, “customization” can refer to the blending of multiple therapeutic (or preventive) approaches into a combination tailored to the needs of a particular individual. But the term can also refer to the development of a new remedy or drug. In the years ahead we may see “designer

gene machines” which allow individual drugs to be easily created for individual patients. This form of customization—of specific products or drugs—will appear much further down the road than the customization of a package of therapeutic approaches to an individual, using existing components. Thus, “customization” could also be called individualizing, personalizing or tailoring. As indicated in Table 3-2, each of these three terms could also be applied to the use of existing remedies or drugs in ways which are more sensitive to the individual than is typical in therapeutics based on "normal" or parametric statistics.

Table 3-2: Terms for Developing More Individually Focused Preventive and Therapeutic Approaches

	Developing personally focused combinations of approaches	Tailoring the nature, dose of an existing service or remedy	Creating a new unique remedy or pill
Customize	x		x
Personalize Individualize Tailor	x	x	

Customization and personalization will be driven by ever-growing knowledge banks of the clinically relevant differences among us (genes, behavior, physical or biochemical manifestations). This knowledge growth will be aided by the incorporation of time-honored CAA techniques for personalizing or individualizing therapies.

Customization and CAAs

The growing interest in customization by conventional medicine stems in part from its own tradition as a primarily empirical science—focusing on specific and measurable dimensions of the human body and its reactions to internal and external stimuli. This focus led to, among other things, the discovery of DNA and the rise of genomics with its implications for treating individuals.

Comment: Does chiropractic offer any system of customized diagnostics or therapeutics? If not, perhaps delete most of this section.

In certain CAAs, by contrast, the ability to customize diagnostics and care to individuals or groups of individuals has been a long-term, systematic focus. In fact, some CAAs have studied the diagnostic and therapeutic significance of phenotypic differences for, not centuries, but millennia! Most leading CAAs have developed elaborate “phenotypic” approaches for differentiating among individuals. These represent evidence-based observations over long periods of time: in Oriental medicine, for example, as much as 2,500 years.

Ayurvedic approaches, most common in India, use the “dosha” system to characterize individuals. Doshas can be thought of as beginning with body types (ectomorph, endomorph and mesomorph) and adding layers of information about emotional tendencies, intellectual styles and spiritual inclinations.²⁰ Likewise, Oriental medicine

and homeopathy have complex approaches to sub-grouping individuals phenotypically, apart from their specific disease diagnosis. Homeopathy considers persons having similar syndromes, e.g., migraine headaches, not as having the same disease, but as having similar symptoms pointing to deeper conditions that might be radically different. Those deeper conditions usually cannot be treated by suppressing the symptoms, according to homeopathy. Thus, homeopathy incorporates individualization of care by, for example, tailoring the migraine remedy to various phenotypic characteristics of the individuals being treated.²¹

Insights from mind/body approaches will also contribute to customization. One of the most popular discriminators, or phenotypic groupings, the MBTI (Myers-Briggs Type Indicator), is based on Carl Jung's observation that we all have different "gifts" in the way we process information and come to decisions. Some people focus on details, others on larger patterns; some operate analytically while others are more influenced by their values and beliefs; some tend to make judgments swiftly while others "perceive," often waiting for more information before coming to a decision. The resulting differences have been shown to be important in how individuals operate at work and in their relationships. They are also likely to be shown to have clinical relevance in a range of diseases or health conditions.

The bottom line? Conventional health care increasingly will use "customization" or personalization of preventive or therapeutic approaches, based on genotype and phenotype, to win the greatest benefit and cause the least harm. Research into clinically relevant differences is likely to include approaches already present in CAAs. This will raise the complexity of our understanding, and challenge current regulatory approaches. For example, how should drug regulation change if we can identify various factors, say from the phenotypic categories of Oriental medicine, that consistently predict if a medication will be successful? How do you conduct clinical trials where the population universe of a given genotype or phenotype, thought to be relevant for that trial, is relatively small? It will also make the development of outcome measures even more complex.

Integrated Therapeutics: Dean Ornish and Heart Disease

More will be said on CAAs and their growing role in health care below, but before we leave this section on therapeutics in conventional health care it is essential to note that by 2010 effective therapeutics will integrate conventional modalities and CAAs for both treatment and prevention. "Integrated therapeutics," melding the most appropriate techniques of conventional medicine and CAAs, will be well on their way to becoming the norm.

In the 1990s this trend is already visible. For example, in the area of heart disease, one of the most important advances in conventional medicine is the growing acceptance of "integrated therapeutics" through the work of physicians such as Dean Ornish, a physician and professor at the University of California at San Francisco. Ornish has developed a program for reversing heart disease which integrates diet and lifestyle,

including personal growth or spirituality. The program is not anti-pharmaceutical, but generally uses few or none.²² Ornish argues that his program can reverse cancer, although this possibility is not yet confirmed.

Many CAAs include a range of diet, exercise and mental or spiritual work similar to Ornish's. Ornish's program is a likely future paradigm for treating and preventing heart disease and, if his expectations are borne out, cancer. His success is likely to spur the advancement of integrated therapeutics. Awareness of his approach in the health press, and even the popular press, is growing: Ornish was featured on the cover of *Newsweek* in February 1998. He is bringing out a line of foods consistent with his low-fat dietary recommendations.

Ornish Program for Reversing Heart Disease

The Mutual of Omaha Insurance Company made Dr. Dean Ornish's program for reversing heart disease a reimbursable benefit for patients with coronary disease covered under its major medical policy in 1993. The program uses diet, meditation, exercise and support groups to reverse heart disease. Fifty percent of patients who have been through the program have avoided bypass surgery altogether. Mutual of Omaha is currently funding a three-year, \$500,000 study of the outcomes of the program to determine its cost-effectiveness.

Source: Nancy Moore, "A Review of Reimbursement Policies for Alternative and Complementary Therapies," *Alternative Therapies in Health and Medicine*, Vol. 3, No. 1 (1997), pp. 20-27.

As with most therapies, some aspects of Ornish's program may not work for everyone and side effects are possible. A recent *NEJM* "Clinical Debate" documents the current level of disagreement regarding low-fat diets, for instance. While most researchers agree that reducing saturated fat intake is wise, some disagree over whether the decrease in saturated fat intake should be replaced by a parallel increase in other fats or by an increase in non-fats such as carbohydrates. Scientists disagree on the impacts of these types of diets on the blood level of LDL cholesterol.²³ In the end, it is likely that genotype and phenotype revelations will help us understand who is most likely to benefit from therapies like these, and for whom they might be useless or even harmful.

Customization and Integrated Therapeutics

Meanwhile, experiments in integrated and customized therapeutics are expanding. Nutritional expert Jeffrey Bland, founder and CEO of HealthComm International in Gig Harbor, Washington, has developed a product for nutritional modulation of liver detoxification. Interacting with each user's "biochemical uniqueness," the product contains macro-, micro- and accessory nutrients that support the restoration of functional detoxification capabilities in each user.²⁴

In the cancer arena, Keith Block, a Chicago-area MD, has created a program that enables him to better individualize treatment regimens for his patients. Before developing a treatment program, Block creates a biomedical profile, psychosocial profile

(including a patient-needs profile, attitudinal profile, stress level profile and learning profile), biochemical profile and biomechanical profile. Based upon the outcomes of these detailed studies of his patient, Block individualizes a nutritional program including diet change and nutritional supplements. According to Michael Lerner, Block's approach is a "model that could fit easily into the mainstream practice of hematology-oncology."²⁵

By 2010 we will be much farther along in understanding how to integrate CAAs with conventional medicine and to customize and personalize the resulting mixtures to the individual.

COMPLEMENTARY AND ALTERNATIVE APPROACHES IN US HEALTHCARE

Many HMOs are changing the definition of "traditional" providers to include CAA providers, including chiropractors, acupuncturists and homeopaths. As these so-called alternative therapies and professionals become more mainstream, they will in turn broaden and change the conventional definition of health care. In medical education, 34 of the nation's 125 medical schools currently offer programs in alternative therapies; 23% of all family medicine programs have courses in alternative therapies.²⁶ In 1997 over \$10 million in research funds was available for interdisciplinary studies on alternative therapies from the Office of Alternative Medicine (OAM) at the National Institutes of Health.

Insurers, Managed Care and CAAs

Insurance companies are seeking to meet consumers' interest in CAAs. A recent assessment of the status of managed care and insurance coverage of CAAs, and the integration of such services at hospitals, found a majority of the insurers offering coverage for one or more of the following modalities: chiropractic, nutrition counseling, biofeedback, psychotherapy, acupuncture, preventive medicine, osteopathy and physical therapy. Some of the insurers indicated that market demand was a major factor in their decision to provide this coverage. But continuation of the coverage depends on the cost-effectiveness of these therapies based on consumer interest, demonstrable efficacy and state mandates.

Some hospitals are also responding to consumer interest in CAAs, although they can only offer those therapies for which local, licensed practitioners are available. Among the most common obstacles listed to incorporating CAAs into mainstream health care were lack of research on efficacy, economics, ignorance about CAAs, provider competition and divisiveness and, finally, lack of standards and practice guidelines.

The authors of this recent assessment, led by Kenneth Pelletier, concluded that outcomes (for both allopathic and CAA therapies) "are needed to help create a health

care system based upon treatments that work, whether they are mainstream, complementary or alternative.²⁷"

Managed care programs are providing access to more CAAs, as consumer choice becomes a driving force in that industry.²⁸ For example, United Health Care, which insures 5% of the US population and controls over 20% of the managed care market, recently announced the launching of a pilot program to offer limited acupuncture benefits and a cafeteria-style approach to chiropractic care. United is striving to integrate CAAs into their benefit offering via limited clinical integration and the development of alternative medical procedure codes.²⁹ Oxford Health Plans has likely made a major commitment to including CAAs, based on the demands of their customers.

Purchasers/Employers and CAAs

Health care purchasers, particularly employers, will continue to focus on ensuring that appropriate care is delivered to the individual in a cost-effective manner. Benefits managers will compare outcomes across different health plans and include those plans that offer the services and practitioners their employees are demanding, and which have appropriate outcomes and costs. Many employers are already demanding that plans cover acupuncture and chiropractic care.

According to health care experts, enactment of the Kennedy-Kassebaum Bill of 1997 might change how some employers approach employee health benefits. The portability of health coverage may force providers to be even more responsive to consumer demands and may allow employers to offer a broader array of health benefit packages.

Integrating Insurance Coverage

Chiropractors could be strongly affected by the integration of medical, occupational and auto accident insurance, which some experts believe will be a reality by 2010. Currently, injury from an auto accident or a job-related accident relevant to worker's compensation is handled differently than injuries that occur in other venues. In reality these injuries are not different; they are just treated differently, in part because of the different insurance coverage for each. In an integrated model, the insurance company (or managed care provider) would assume payment for treatment of any injury regardless of where or when it occurred.³⁰

Given the role of auto and occupational injuries in chiropractic patient load, this could have a negative effect on the demand for chiropractic services. Alternatively, if chiropractic can demonstrate its cost-effectiveness, it has an opportunity to maintain or enlarge its work in these areas.

PRIMARY CARE

A recurring question facing chiropractors, along with certain other CAA providers, is whether they should be considered primary care providers, by health insurers and managed care organizations as well as by patients. Primary care has multiple meanings and is itself evolving. It is important to consider where the concept of primary care is headed.

A good place to start is the 1994 definition of primary care developed by the Institute of Medicine (IOM):

Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health needs, developing a sustained partnership with patients and practicing in the context of family and community.³¹

Several components of this definition represent change in conventional health care, which has strong implications for the role of chiropractors in primary care:

- Use of the term *clinicians*, rather than physicians—This recognizes the relevance of non-physician providers and the need for all providers to be able and willing to work as a team.
- *Accountable*—Primary care providers will be responsible for addressing the majority of the individual's health needs, and their outcomes will be monitored.
- *Developing sustained partnerships with patients*—The nature of partnerships between patients and their health care providers has received much greater attention in recent years, not only in this IOM definition but also in the work of the Fetzer Institute and the Pew Commission on the Health Professions. The Pew Commission's reports, *Health Professions Education and Relationship-Centered Care*, note that the practitioner/patient relationship should reinforce the patient's sense of coherence, including the understanding of how illness fits into the patient's life story. These reports provide guides for enabling relationships with both patients and the community.³² This discussion includes a concern for inequalities in knowledge; for example, Daniel Redwood, a chiropractor, notes that in the chiropractic context doctors should offer "patients opportunities for empowerment so that the inequality created by their specialized knowledge is not generalized to all aspects of their relations with patients."³³
- *Practicing in the context of family and community*—The World Health Organization (WHO) and the movement in the United States to recognize community-oriented primary care (COPC) are reflected here. WHO launched "Health For All" in 1978, in a call that soon after was translated into a broad definition of primary care. As noted in the discussion of outcomes in Chapter 2, since 1995 WHO has undertaken a fundamental revision and revitalization of Health For All. As such, it is the most significant global health vision. The vision now includes explicit commitments to social values such as equity, solidarity, ethics, gender and human rights. In terms of

Health For All, primary care includes a concern with the patterns of health status for the individual and the community, the state of the community's health services system and the delivery of appropriate services.

With these broader definitions of primary care provided by IOM and WHO, chiropractors are challenged to incorporate epidemiological knowledge and approaches as they work on their individual patients, and to address the patient's family health and community health.

The usual discussion about chiropractors and primary care has revolved around the legitimate issues of whether consumers, through their insurance plans, should have direct access to chiropractors, and whether chiropractors are able and willing to handle the range of complaints that typically characterize ambulatory, primary care visits. Many chiropractors already do consider themselves primary care providers, a perception that is shared by many of their patients. However, non-users of chiropractors focus on them as back specialists and the practice style of most chiropractors reinforces this. Chiropractors could make a concerted bid to be recognized as primary care providers, but would first need to ensure that they could deal with a broad range of patient complaints and were capable of and comfortable in referring patients to specialists as needed.

As we look toward the 21st century, primary care will also be affected by the shift to a "Forecast, Prevent and Manage" paradigm in health care. This paradigm poses a challenge to broaden the outcomes of primary care to encompass family and community, to minimize costs and to operate in an enriched information environment that enables customized and personalized therapeutic approaches and dramatically enhanced self-care. Enhanced informatic capacity alone will give certain providers the chance to operate effectively as primary care providers, with appropriate expert system backup allowing better knowledge of how to deal with typical primary care conditions and when and how to refer patients to others.

Simultaneously, consumers will be able to—and many will—have this advanced informatic capacity at home. Many consumers who do their taxes or financial planning on their home computers, by comparison, have changed their relationship with their tax preparer and financial planning consultant. Consumers like these often seek a long-term coaching and review relationship with experts. In health care, as consumers become better-equipped, many will likely seek the same type of long-term relationship with their health care providers.

Under our more positive long-term forecasts (see "Health Care 2010," below), primary care providers will share accountability for the broad social outcomes envisioned in WHO's Health For All and IOM's definition of primary care. In the meantime there will be significant competition—in the near term, often on the basis of cost alone.

HEALTH CARE PROFESSIONALS

Momentous career issues face chiropractors today, especially how to face up to and contend with a looming oversupply of chiropractors, and the decision of whether to more purposefully and clearly position themselves as primary care providers. Development of a shared vision, and preparing for changes in licensure and credentialing and the impingement of both conventionally trained MDs and non-MDs into spinal manipulation services, are other critical challenges.

Potential Oversupply—Physicians, Nurses, Pharmacists

All health care professionals will face increased competition for patients and clients in the future. The evolution of smarter markets, empowered health care consumers and surpluses in key medical professions (e.g., MDs, nurses) will all contribute to this increased competition.

Briefly, the size of any health profession is driven by the combination of student interest and demand (based on the attractiveness of the profession to students), and the size of the academic pipeline leading into the profession. Both attractiveness and the size of the pipeline have grown to the point where the United States faces major potential surpluses of physicians, nurses and pharmacists. The Pew Commission Report on the Health Professions forecasts, by 2010, “[over] supply of physicians of 100,000 to 150,000 as the demand for specialty care shrinks; nurses—200,000 to 300,000 as hospitals close; and pharmacists—40,000 as the dispensing function of drugs is automated and centralized.”³⁴ Current trends in medical school enrollments suggest that by 2010, the supply of physicians will rise 16%, contributing to the surplus of physicians forecast by the Pew Commission. Furthermore, during the same period the number of alternative clinicians (chiropractors, naturopaths and doctors of Oriental medicine) will grow 88%. (Incidentally, as these shifts occur the ratio of alternative clinicians to total physician supply will increase from 11% to 17%.)³⁵

Potential Oversupply of Chiropractors

The oversupply of other types of providers, both conventional and CAA, is very relevant for chiropractors because many of these medical professionals are choosing to study and offer spinal manipulation, either as a standalone service or to add a competitive edge to their repertoire of services.

Chiropractic itself is expected to grow from 55,000 to 103,000 DCs in the United States by 2010. Demand for chiropractic services is likely to rise too, as evidence of its efficacy and cost-effectiveness accumulates—and, beyond the health care model, as demand for “wellness visits” (already a significant percentage of visits to chiropractors) grows.

But managed care could slow this demand or even reduce it from current levels, at the same time that it expands access.

To avoid an oversupply and absorb the projected rise in new chiropractors, demand for chiropractic will need to double by 2010. Can this occur? Some scenarios say yes; others no.

Thus, the profession faces the serious possibility that, by 2010, DCs may experience underemployment or unemployment. If the figures given above are supported by other estimates, the chiropractic profession might be well advised to reduce the number of new graduates, and soon. Dentistry and gastroenterology are two health professions that have consciously and, to some extent, successfully self-regulated their numbers in the face of oversupply, by discouraging new enrollments.

Education and Training

In most professions, surpluses result from overproduction by schools, colleges and universities and are exacerbated by slowing growth or even declines in demand in the marketplace. Medical and health professional schools seek to sell more of their “services”—i.e., months or years in school—both by producing more graduates and by requiring more training or schooling before the person begins practice. Degree inflation has occurred in fields such as pharmacy and nursing. While the complexity of pharmacists’ and nurses’ roles certainly has grown, there is no evidence that a pharmacist with four years (BS degree), five years (for many RPh degrees) or six years (PharmD degrees) of training is made any more effective by more years of schooling.

Problems of surplus are exacerbated by federal support for Graduate Medical Education. And “official” analyses often ignore the issue of potential surpluses. Federal and some state policies support training for the health professions (though seldom for CAAs).

It is appropriate and fair that schools of chiropractic and other CAAs produce appropriate numbers of graduates. Schools should give their graduates an accurate picture of the career landscape awaiting them. In order both to instill an academic awareness of the potential for surpluses, and to give students a better sense of the future demands on their profession, health professional schools should routinely forecast key aspects of their environment and alternative scenarios for their profession. Equally important, according to IAF’s experience with the health professions, they should commit to using these forecasts and scenarios both in coursework and in strategic planning for the institution and the profession.³⁶

Students should be aware of the most likely futures or scenarios for their profession for a period roughly equivalent to one professional lifetime: 20-50 years. Students and schools should have the capacity to monitor these forecasts in an ongoing way.

Changes in Approaches to Learning

In addition to forecasting change in the health professions themselves, education and training approaches for health professionals will evolve. In the future, learning increasingly will be structured around the needs of the individual student. Also, a shift to problem-based learning is occurring in different types of health professional schools, including several CAA colleges. This style of learning focuses on the knowledge needed to perform specific functions or solve specific problems, relaying theoretical knowledge in the context of its use. Problem-based learning often involves teamwork, reinforcing students' capacity later to work in teams.

By 2010, learning will make significant use of interactive simulation technologies. Health professionals of all types will be able to “practice” their craft in very realistic simulations.³⁷ Surgeons, chiropractors, psychologists and homeopaths all will have the opportunity to learn and practice as effectively as pilots now do in flight simulators.

New learning technologies such as distance education, simulation and problem-based learning also can be used to prepare providers who traditionally have practiced solo—like chiropractors—to work in teams. Alternatively, information technology may allow solo practitioners to operate as part of “virtual groups,” reducing their overhead. These training technologies and related practice tools will make it easier for CAA and conventional practitioners to know when and how to access a wide range of approaches.

Licensure, Certification and Credentialing

Each state has elaborate systems for licensing its health professionals. Licensure of physicians became common in the 1920s, in the 20 years after Abraham Flexner issued his report on US medical schools. Flexner argued, and the states agreed, that there were enough poor-quality schools of various modalities producing poor-quality physicians that the states should allow only students trained at medical schools of the more rigorously scientific type (such as Johns Hopkins) to take state licensure tests.

Since the 1920s, licensure has evolved for many fields into a form of “guild protection.” In each state, practice acts typically define a specific range of services that each provider group can legally perform. Licensed providers can use the state to prevent others from performing those designated services. The National Association of State Attorneys General (NASAG) has argued against this tradition in both the legal and medical professions. It is likely that the questioning of licensure procedures will increase and that other approaches to ensuring quality in health providers will emerge.

High-tech and low-tech training and testing tools that simulate real practice experiences will continue to evolve and be used in training and education programs. In “standardized patient” programs now in use at several medical and other health professional schools,

for example, paid individuals are trained to act as if they have a particular medical condition and to present that condition in a standard manner. This eliminates communication biases or other variables that can temper the patient encounter experience, allowing the students to be evaluated purely on their skills. Beyond these human simulators, sophisticated virtual reality tools for teaching and testing health care providers will probably become a reality within 10 to 15 years. Simulations and simulators are likely to be used for state government testing for licensure, as well, in the years ahead.

Licensure and certification also will be affected by the “smarter markets” that will evolve in most communities. “Report cards” on providers will provide an additional quality check. In addition to marketplace report cards, some associations may attempt to provide more visible certification, impacting which providers consumers choose.

Report card preparation will be aided by the fact that once a chiropractor or other health care provider begins practicing, their outcomes will be rated in an ongoing way. Electronic medical record-keeping and increased linking of medical databases will enable wider access to these outcome measures. States may tie the continued right to practice to appropriate outcomes. Alternatively, as the market becomes smarter, a provider’s professional success or even survival will depend on her or his performance against a range of sophisticated outcome measures, including consumer satisfaction. As noted earlier, consumer groups already are rating doctors, hospitals, HMOs and specific medical procedures.³⁸

Training in and Use of CAAs by Conventional Health Care Providers

As the popularity of chiropractic grows, so will the number of conventional health care professionals who provide it. While earning a DC degree requires two to four years of advanced education, it could be that limited spinal manipulation techniques³⁹ could be mastered in just three to four weeks with the help of expert systems and possibly of special equipment. Co-option by other kinds of practitioners is a very real forecast that will affect all CAA providers, not just chiropractors.

Some physicians have made manipulation an integral part of their practice for some time. James Gordon, a physician, author and CAA practitioner, acts as a primary care physician for his patients. He integrates a range of approaches, including manipulation, Oriental pulse diagnosis, acupuncture, Oriental herbal remedies and nutritional therapies. Gordon begins each patient visit with a long conversation to try to determine what non-physical problems are contributing to health conditions. He then tailors the course of treatment to the individual’s specific needs and circumstances. A psychiatrist by training, Gordon has become a leader within the CAA community and is president of the Center for Mind/Body Medicine and author of *Manifesto for a New Medicine*, among other books.

Nearly a third of medical schools now offer courses on CAAs. Gordon has been teaching such a course at Georgetown University Medical School for several years. His course addresses the ways in which CAAs, and the worldviews on which they are based, can be integrated into medical care. Gordon also provides a training course for established physicians and other health care providers. Called "The Spirit of Self-Regulation," this course seeks to train health and mental health professionals in mind/body skills both for supporting optimal wellness and for aiding people living with chronic illness. After an intensive week of introduction and basic training, participants return to their practices for six months to consider and begin applying what they learned, then return for a final four days at Georgetown.

As surpluses of physicians and nurses increase and demand for CAAs also increases, many conventional health care providers will learn CAA tools and techniques and add them to their basket of therapeutic offerings. Those CAAs that prove most efficacious will be the first to attract the interest of conventional providers. Thus, while many CAA providers may feel they have a monopoly on their particular treatment approach, they should be aware that conventional physicians will become less conventional. Co-option is a very real forecast that will affect all health providers. Those providers who can provide the kind of treatment in the kind of setting that shows the best efficacy and the highest levels of consumer satisfaction will be the winners in the next century.

Outside the United States, conventional physician groups are already dealing with CAA integration by their members. The largest physician self-regulatory body in Canada, the College of Physicians and Surgeons of Ontario (CPSO), recently issued a report arguing that its members can appropriately practice CAAs but should recognize that these modalities have "established a historical and respected role in healing, and require arduous training and evaluation. Assuming that they have obtained such training and expertise... physicians practicing in this area should regard and maintain the standards of those disciplines."⁴⁰ And, significantly, even when physicians do not learn these techniques themselves, the CPSO report advised physicians to learn enough about them to be able to help their patients recognize the risks of mixing CAAs with conventional therapies.

Table 3-3, below, illustrates the range of time it can take for a physician to master various CAAs, as well as the amenability of each approach to consumer self-care.

Table 3-3: Physician Training Time and Self-Care Capability for Selected CAAs

	Estimated time for a physician to be trained to provide a CAA	Self-care capability
Chiropractic care (manipulation plus full range of approaches)	2 to 4 years	N/A
Spinal manipulation (limited) ⁴¹	3 to 4 weeks	With the help of expert systems, by 2010, possibly with the aid of equipment
Oriental medicine (full range of approaches)	2 to 4 years	Some aspects now; many by 2010
Acupuncture (limited)	10 to 20 weeks	History and pulse diagnosis; some acupuncture by 2010
Homeopathy (full, customized treatment, deep-acting remedies)	1 to 2 years	Possible expert system assistance in the future
Homeopathy (specific remedies for specific conditions)	Several weeks and/or use of available guides, expert systems	Available now from books, CD-ROMs; some remedies indistinguishable from non-prescription pharmaceuticals in their availability and use

Source: IAF, 1998

Models for CAA Health Care Provider Practices

Chiropractors increasingly are working with both conventional and other CAA providers. The chief practice models include⁴²:

The Real Estate or "Corridor" Model

A group of practitioners is clustered in one building and patients decide whom they want to see. There is some internal referral but practitioners mainly compete rather than cooperate. This model is problematic for patients if they are unclear on which practitioner they should visit. Also, patients may not receive coordinated care.

The Conference Table Model

The patient meets with, or is discussed at, a practitioner conference to determine which therapies might be most useful. More expensive than the other models, this requires practitioners to develop basic templates for each practice and how to approach each case. In this model, CAA (and conventional) practitioners work together closely and patients could receive more integrated care.

The Health Guide Model

The patient first sees a "health guide" who counsels the patient on his or her health options and coordinates the intake process. The model is patient-centered rather than practitioner-based and has a heavy emphasis on health education versus medical care.

The Integrative Solo Practitioner

A clinician, either an allopath or a CAA provider (but at this point often a broadly trained physician), consistently uses a range of CAAs in his or her practice, and frequently refers the patient out for conventional or complementary services from other providers.

Appendix C identifies additional settings in which CAAs are being applied or have become the focus of public and group education, in addition to the CAA provider models listed here and the evolving mix of conventional health care models.

Health Care Professionals: Vision and Value-Added

It is the best of times and the worst of times to be a health care professional. The opportunities to be a healer are growing. The opportunity to provide consumer-friendly services that optimize health gains is growing. The definition of health is likely to broaden to include community as well as individual health, opening up new avenues for contribution. Yet cost pressures are making it difficult, especially for allopathic physicians, to provide as much personal contact as their patients want. For chiropractors, meanwhile, demand is growing in most regions—but perhaps not quickly enough to keep up with the looming oversupply of practitioners. And will the economics of health care allow chiropractors to retain the high level of integrity most have brought to their practice?

We will explore these prospects in more detail in Chapter 4. However, given the forecasts for expert systems and other tools, and the pressures of managed care for better cost-effectiveness, it is safe to say that some health professionals will likely be replaced by less-expensive providers. For example, 60-70% of primary care contacts can be handled more cost-effectively by a nurse or nurse practitioner than by a physician. In the years ahead, expert systems will let nurses or nurse practitioners handle an even greater percentage of primary care visits, as well as provide some services now performed by specialists.⁴³ In this setting, many physicians will need to continually reinvent their "value-added" role.

It takes vision and courage to imagine and to create enhanced roles. It also takes vision and a strong identity for a professional to be able to accept as appropriate the displacement of some of his or her functions by a less-trained person or a computer. There were probably many bank tellers whose employers could not discover new "value-added" roles for them when ATMs pervaded America. Many lost their jobs or


suffered from depression. Today many physicians are similarly depressed about the environment they find themselves in. Physicians are taking disability in higher numbers than ever before, arguably because of lower levels of satisfaction with their jobs.⁴⁴ Physicians need to explore their opportunities to provide value in relation to their personal visions.

Chiropractors will face parallel challenges. Generally those who choose to become chiropractors were committed strongly enough to the chiropractic approach to healing that they could face the attendant difficulties. It will be even more important for chiropractors to have a clear and strong vision for their role in the larger health care system.

Vision is an important personal and organizational tool that establishes both personal and organizational identity. Vision is a shared commitment to creating a preferred future. Vision is also a powerful way to identify one's value-added contribution, and it gives the owners of the vision the courage to let go of roles that are no longer defensible.

Vision has been used in many industries to determine where the contribution of an organization or the field should head. Vision is both a skill and a shared commitment. Table 3-4 identifies trends in value-added visions across sectors as diverse as major local newspapers, quality consulting, health care and military medicine. Table 3-4 is drawn from IAF's work in these fields and reveals consistent patterns of adding value. The implications are that health care will increasingly pursue larger outcomes—ultimately, syndrome prevention, health design and social values such as equity.

Table 3-4: Trends in Value Added

Wisdom, Co-Creation, Vision: Trends in Value Added/Visionary Directions						
Value-Added	Journalism	Corporate Activities	Electronic Messaging	Quality Consulting	Health Care	Military Medicine
	Civic journalism	Visioning, co-creation	Wisdom	Vision	Syndrome prevention, design, equity	Anti-war, health/sustainability
	Providing what is significant	Community services, collaboration	Knowledge	Strategies	Community health	Community health
	Providing what is news		Information		Disease prevention	Personal prevention, fitness
	Accurate facts	Profits, efficiency operations	Data	Operations	Disease treatment	Disease and combat casualty treatment

Source: IAF, 1997

In terms of marketplace challenges for chiropractors, the situation is likely to be riskiest where core aspects of their work are amenable to incorporation into an expert system (e.g., some of the diagnostics). Where touch is necessary, as in manipulation, expert systems will be less of a threat.

The point is that each health care professional needs to have a strong vision, a "North Star," so to speak, to serve as guidance. Each health profession needs to do the same. Professional groups could inadvertently turn their guns on themselves by neglecting to forge a shared set of goals. Health professional groups that become self-serving (as, many would argue, the American Medical Association did in the past in the name of "protecting" physicians) can fail to rouse their members to threats or—even more important—to opportunities for enhanced service and moving up the value-added ladder. In either case, in the absence of strong shared vision the organization leaves its members more vulnerable to becoming "victims" of their circumstances and environment.

As chiropractic develops and pursues a shared vision, its practitioners should start by studying the influential health care visions already on the table: WHO's Health For All; visions for US health care like the Belmont Vision Project; and the localized visions developed by communities and health care providers around the United States. From

visions like these, they can both draw inspiration and creatively explore the value added the profession can provide.⁴⁵

MANAGED CARE

Health care plans large and small are integrating CAAs into their offerings. Many are adding chiropractors, acupuncturists and homeopaths to their definition of “traditional” providers; in a member survey of the Medical Group Management Association (MGMA), 8.8% (or 72) of the 815 respondents reported their group has an arrangement with an alternative provider. Descriptions of some of these plans are found in Appendix C: Examples of CAA Integration into Health Care in 1997.

Growth of Managed Care

Managed care picked up steam in the 1980s and became a juggernaut in the 1990s. The table below shows the growth in the number of managed care plans and in the enrolled population. Note that the November 1997 figure represents 150 million enrolled Americans out of the total US population of 269 million, or 56% of the whole population.

Table 3-5: Number of Americans Using Managed Care

Year	Enrolled Population	Number of Plans
1970	3 million	33 Plans
1980	9.1 million	236 Plans
1985	20 million	350 Plans
May 1996	100 million	1,200 Plans*
May 1997	140 million	1,000 Plans*
November 1997	150 million	1,000 Plans*

* These are the number of plans claimed as members by AAHP

Sources: HCFA and the American Association of Health Plans (AAHP) and Michael L. Millenson, *Demanding Medical Excellence* (Chicago: University of Chicago Press, 1997).

Managed care is evolving into numerous forms. In the classic “staff model” HMO, physicians are employees of the HMO. In group and network models the physicians own the organization or have a loose arrangement among themselves. “Point of service” (POS) models allow consumers to choose, at the point of service, between providers who are in the network and deliver care at a fixed fee (which represents either no additional cost or a set low cost to the consumer), or physicians who are outside the network, in which case the consumer may get some or none of their expenses covered by the HMO. As many consumers express a strong preference for controlling their own

access to specialists, many HMOs are abandoning “gatekeeper” models, in which a general practitioner decides whether to refer a patient to a specialist, in favor of point of service models. Finally, Preferred Provider Organizations (PPOs) allow providers to be designated by an insurer as “preferred providers”; the provider in turn agrees to the insurer’s fee schedule.

As consumer demand for chiropractic and other CAAs increases, MCOs are moving quickly to include coverage for them in order to be competitive. For MCOs, the key question is whether CAA services and providers can lead to more cost-effective, higher-quality health care and better health outcomes.

In setting up our forecasts for managed care in relation to CAAs, it is relevant to keep in mind three prominent features of managed care regardless of its form:

- It is capitated (for a set fee per month or year per person, the managed care organization takes financial responsibility that appropriate care will be delivered).
- It seeks to manage (by trying to bring efficiency and efficacy to each encounter—eliminating whatever is unnecessary and ensuring appropriate delivery of what is necessary). In this respect, managed care can be said to represent “atonement for the sins” of fee-for-service care, particularly its excesses in the 1970s and 1980s.
- It is evolving along a spectrum from managing cost to managing care to managing health.

By 2010, many experts forecast, managed care will take over 80-90% of the insured health care market in the United States. This is a base forecast; other scenarios include a much lower percentage of managed care penetration due to either consumer dissatisfaction with managed care, dramatically enhanced self-care, and/or the ability of independent providers and groups to deliver better care and prevention less expensively.

However, given the constellation of trends discussed in Chapter 2 and this chapter, regardless of its percent of penetration into US health care, managed care will look very different in 2010. CAAs, including chiropractic, will be integrated into managed care and CAA providers will continue to provide care outside of the managed care system to both insured patients and out-of-pocket customers.

FORECAST FOR MANAGED CARE AND SELF-MANAGED CARE

Putting the trends in these two chapters together, and relating them to the scenarios for US health care identified in Chapter 1, what are plausible forecasts for managed care in 2010? If vision and value-added planning are used, we could see something like the

first forecast below: Healthy Managed Care 2010 (which corresponds roughly to Scenario 4—Healing and Health Care, described in Chapter 1).

A second image, which we call Managed Self-Care 2010, explores the growth of sophisticated self-care and the capacity for consumers themselves to better manage the professional care they purchase—in effect moving the risk management aspect of health care back to consumers. (This image corresponds roughly to Scenario 3 in Chapter 1.)

Note: Italicized text is written from the point of view of an observer in 2010.

Forecast 1: Healthy Managed Care 2010

- *The Pew Commission on the Health Professions was accurate: in 2010, 90% of the insured US population receives care through integrated managed care delivery systems. These systems are characterized by a high degree of consumer satisfaction, significant improvement in individual and community health and a broader array of preventive and therapeutic choices, all for relatively far less cost than in the 1990s.*
- *While there are many variants, the defining characteristic of managed care remains payment of a monthly fee by the employer or individual in exchange for a relatively comprehensive set of health care services. In effect, managed care continues to assume responsibility for the management of health care and the risks of costs for the individuals covered.*
- *The information revolution has been profound. Telemedicine allows sophisticated health care to be delivered virtually anywhere; expert systems have decentralized much expertise and decision-making to less formally trained providers—from specialist physicians to general practitioners to nurses and other formerly complementary and alternative providers. Also, the managed care organization has provided all of its members with very sophisticated personal biomonitoring and home health management systems. This equipment and the advanced state of videophones mean that only rarely do patients need to meet with their providers, except to establish or renew their personal relationships and to receive therapy involving touch or high-tech equipment.*
- *Most health care systems, individual providers within systems and provider teams routinely generate outcome measures that, when aggregated (with appropriate privacy safeguards), are publicly evaluated, allowing comparison of managed care organizations, health care teams, specific providers and specific therapies. These “report cards” on community providers also provide the “batting averages” of providers in relation to both major conditions and the most common genotypes and phenotypic groupings in the community.*

- *The bargain between consumer and provider has shifted. Given the Forecast, Prevent and Manage paradigm now in widespread use, health care providers agree and are held accountable to lower a person's life-course morbidity, with the person's active participation. Thus the job of the managed care organization is not simply to treat well, but to forecast problems that might arise for the individual, prevent as many of them as possible and optimally manage any illness that does arise.*
- *The US health care market continues to consolidate. Between 2002 and 2005 the information revolution allowed small organizations to compete effectively with large organizations. Also, local and regional managed care players cooperate in region-wide "virtual organizations."*
- *Some of the most successful managed care organizations were developed by CAA groups, such as chiropractors and Oriental medicine providers, using information technologies to integrate a variety of approaches into a package of optimal care customized to each patient.*
- *Managed care, to be cost-effective, focuses on where it can leverage health gains in both prevention and treatment. Behavioral approaches are very important.*
 - *Most managed care organizations ensure that their subscribers or members have personal health coaches. These are likely to include both human coaches (the 2010 equivalent of a primary care physician—although they may be nurses, who take an ongoing, personal and very effective interest in the individual and ensure periodic personal contact) and electronic coaches that can be accessed at home or anywhere, anytime.*
- *Dramatic therapeutic advances have occurred. Many diseases are preventable or curable, or their progression can be significantly slowed. This includes most cancers and heart disease. As research develops on the latest modalities—including customization based on the individual's phenotype and genotype, the stages of their disease and related factors—this information is built into the protocols of managed care providers.*
- *The shift of managed care organizations to aggressive outcomes research was aided by sophisticated patient/consumer groups who work actively with the research community and health care providers to ensure that promising leads are pursued and utilized effectively.*
- *There remain more options for health care than can be paid for. Protocols help focus on cost-effectiveness, but the need for more conscious priority-setting remains. In most states priority-setting follows Oregon's model. There is universal access to a basic package of health care. States are allowed to*

determine what will be included in that basic package. Sophisticated analysis of the cost-benefit of a much broader array of approaches factors in the subgroups for which these approaches will truly work. Priorities are then set for the publicly available benefits package.

- *Individuals can “buy up” to other options, and managed care plans as a whole can choose to raise their fees and reset priorities within the broader fee structure.*
- *Managed care organizations, as well as their individual providers (especially CAA providers), routinely provide “wellness” services which go beyond the health care benefit package and are paid for out-of-pocket by individuals.*
- *As the contribution of managed care to health gains was identified and measured by outcomes, the definition of “health” broadened. Managed care providers focused on where they could get the greatest long-term leverage. Not only lifestyle but also broader issues, such as environmental pollution and poverty, came to be seen as elements in retarding or enhancing health. Health care providers now share in the responsibility for the health of the communities they serve and community report cards show how well they are contributing. Managed care providers became creative in enabling communities to attack the causes of illness.*
 - *Prevention and the focus on causes will lead to health care’s participation in the process of designing health care systems and societies to “design out illness” wherever possible.*

Forecast 2: Self-Managed Care 2010: A Competing Forecast

- *By 2010, who needs ‘em? Individuals and families have largely retaken responsibility for their risk management. Expert systems, personal biomonitors and disease forecasting systems based on a person’s genetic profile enable families to self-manage much of the care they sought from HMOs in the 1990s.*
- *Medical Savings Accounts (MSAs) and other policies encouraging consumers and rewarding them for effective use of health care reinforced this drive to less reliance on professionals.*
- *Support for public policies relying more on the marketplace grew in the late 1990s and early 2000s as the public became aware of the high cost of professional development for health care providers, particularly physicians, yet only contributed to provider surpluses. “Enough!” said consumers.*
- *Public policies funded universal access to catastrophic insurance, providing very frugal backup care to the unemployed, and ensured that all individuals and families could access powerful home health management tools. These tools include*

behavioral coaching for each family member, sophisticated biomonitoring and interactive lifelong health records.

- *Policy also ensured quality standards for the competing protocol developers whose knowledge bases are used by health care systems and individuals.*
- *While demand has declined significantly for health care providers whose services could be automated, or curtailed by prevention, a large market remains for those primary care providers who are ready to seriously share responsibility for their customers' health. In addition there remains a significant demand for services, such as manipulation, which are not amenable to self-care by consumers.*

CAAS BEYOND HEALTH CARE

Like Using AAA, AARP, the YMCA or Bally's? Seeking CAAs As Wellness Services

Before we leave this chapter addressing trends and forecasts affecting CAAs, particularly chiropractic, it is important to note that much of the demand for CAAs does not conform to the medical or health care approach. Some people view acupuncture or chiropractic or massage services as they would the services of a spa, gym or fitness club. As noted in Chapter 4 below, it is estimated that up to 35% of visits to chiropractors are "wellness visits," not related to an immediate complaint.

This is a very different model than the one focused on "appropriate services" to be provided by a health care system. Recall that health care systems have shown themselves liable to generate overspending for unnecessary or inappropriate services. Individuals choose to buy services, as well as guides to services and discounts, based on recommendations from groups such as AAA or AARP. Likewise individuals choose to join for-profit health and fitness clubs such as Bally's or non-profit groups such as the YMCA.

For many CAA providers in 2010, these wellness services will be a significant portion of their business. The questions that determine "appropriateness" in the managed care context should not be applied here. Yes, consumers should be protected from fraud; they should know who the best providers are. But they should be able to spend their discretionary resources on wellness services of their choice, much as they choose to spend their discretionary income on health clubs. The trends toward smarter markets noted above will mean that consumers will be able to buy with greater assurance of quality. The "report cards" available to consumers will help them choose among local providers.

As we shall see in Chapter 4, on chiropractors, this demand for wellness services will play an important role in determining if there is a surplus of chiropractors in 2010 as their number doubles. Demand from consumers for wellness services from other CAA providers will also play an important role in determining overall demand for chiropractic services.

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⁴¹ "Slower (low-velocity) techniques in which the joint remains within its passive range of movement. The treatment can be monitored and resisted by the patient, who therefore has final control." As defined in D. Chapman-Smith, op. cit.

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Chapter 4

ISSUES, TRENDS AND FUTURE DIRECTIONS

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KEY OBSERVATIONS

- Over the last 100 years, chiropractic has developed, despite repeated efforts by conventional medicine to suppress it, into a treatment and wellness modality used by roughly 10% of the population in the United States.
- There are 55,000 licensed chiropractors, the largest CAA provider group. Interest is growing and the number of chiropractors will nearly double to 103,000 by 2010.
- Chiropractors are uniquely positioned to act as gatekeepers to holistic and integrative care, and possibly as primary care providers generally. Assuming this role, however, would require most chiropractors to reconsider and revamp their practice style.
- Patient support for chiropractic is very high and most clients are satisfied with their treatment. However, many non-users have very negative impressions of chiropractic care and chiropractors.
- Key challenges to the profession include:
 - Low consumer awareness of the potential for wellness/primary care services;

- Scope-of-practice questions (whether and how far chiropractic should extend beyond back problems);
- Lack of professional solidarity;
- Variations in practice;
- Reimbursement restrictions; and
- 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 customers;
 - Increased evidence for the value of wellness or maintenance visits, and increased consumer willingness to pay for them (often out-of-pocket);
 - Effective integration of other CAAs by chiropractors, including enhanced health coaching roles; and
 - Enhanced chiropractor contributions to community health.

BACKGROUND ON CHIROPRACTIC

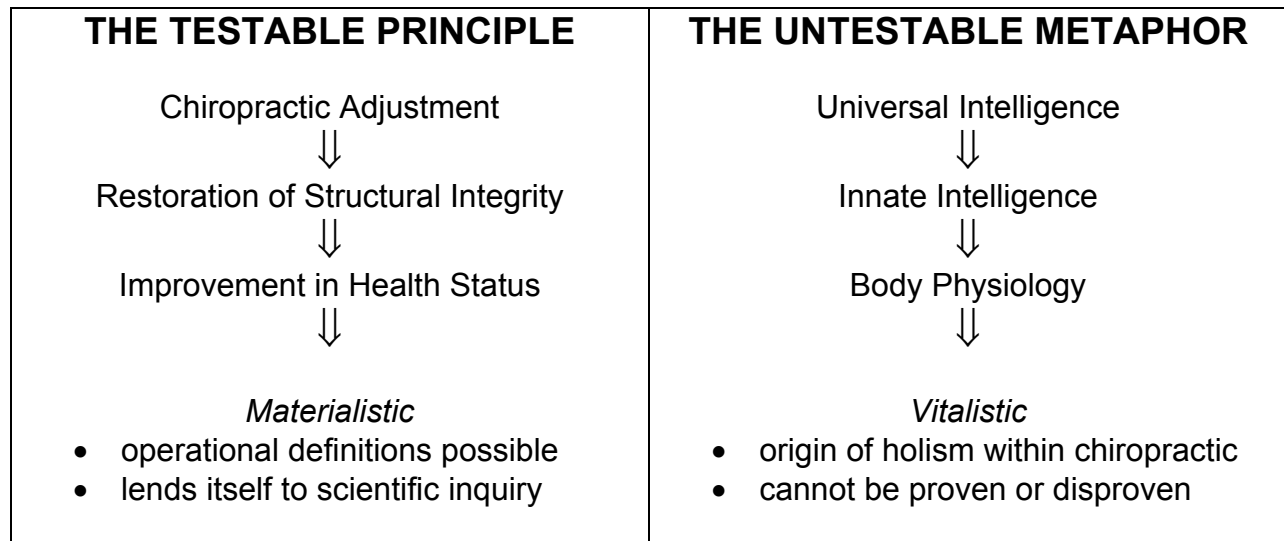
While musculoskeletal manipulation dates back as far as 2700 BC in China, modern chiropractic is thought to have been founded by D.D. Palmer when he adjusted a neighbor's spine in 1895, restoring his hearing. D.D. and his son, B.J. Palmer, went on to establish a flourishing practice and school, centered on achieving health through manipulation of the spine. D.D. is credited with the philosophy of chiropractic: the notion of "vitalism" or innate healing force and the enhancement of health through adjustment of the spine and joints.

Today chiropractic blends this metaphor of a vital healing force with more testable principles:

“Contemporary chiropractic belief systems embrace a blend of experience, conviction, critical thinking, open-mindedness and appreciation of the natural order of things. Emphasis is on the tangible, testable principle that structure affects function, and the untestable, metaphorical recognition that life is self-sustaining and the doctor's aim is to foster the establishment and maintenance of an organism-environment dynamic that is the most conducive to functional well-being.”¹

Figure 4-1 illustrates this blending of principle and metaphor.

Figure 4-1: Two Chiropractic Belief System Constructs



Source: R. B. Phillips and R. D. Mootz, "Contemporary chiropractic philosophy," in *Principles and Practice of Chiropractic, 2nd Ed.*, S. Halderman, ed. (Norwalk, CT: Appleton & Lange, 1992); cited in Mootz and Phillips, "Chiropractic Belief Systems," Chap. 2 in D. C. Cherkin and R. D. Mootz, eds., *Chiropractic in the United States: Training, Practice and Research* (Washington, DC: Agency for Health Care Policy and Research, US Department of Health and Human Services, 1997).

Since its inception, chiropractic has weathered continual challenges to its validity, starting with the 1910 Flexner Report. A critical rating of 155 American medical schools, the Flexner Report favored a scientific, allopathic approach to medical education modeled on that of Johns Hopkins University (which funded the report). By recommending state licensure only of graduates from those schools that used this approach, the report helped make allopathic medicine the de facto standard of care in America. The American Medical Association (AMA), as the lead association of allopathic physicians, spent much of the rest of this century working to suppress chiropractic practitioners. In 1981 the US Supreme Court curtailed these assaults in the *Wilk* decision, finding the AMA guilty of trying to illegally boycott the chiropractic profession through "restraint of trade."

The Flexner Report helped trigger other fundamental changes in health care: adoption of an allopathic orientation by federal research and development policy, particularly in the creation and direction of the National Institutes of Health (NIH), and federal funding of allopathic graduate medical education (GME) through a variety of agencies—to the exclusion of funding doctors of chiropractic and other CAA doctoral training programs.

Despite these challenges and lack of equity in federal policy, the chiropractic profession today enjoys widespread recognition and use. In the United States, 55,000 doctors of chiropractic (DCs) are consulted by anywhere from 3.6% to 16% of the US population, according to various estimates (for this report we will use 10% as our approximate estimate for 1997).² Chiropractic care is licensed in 50 states; 45 states require insurers

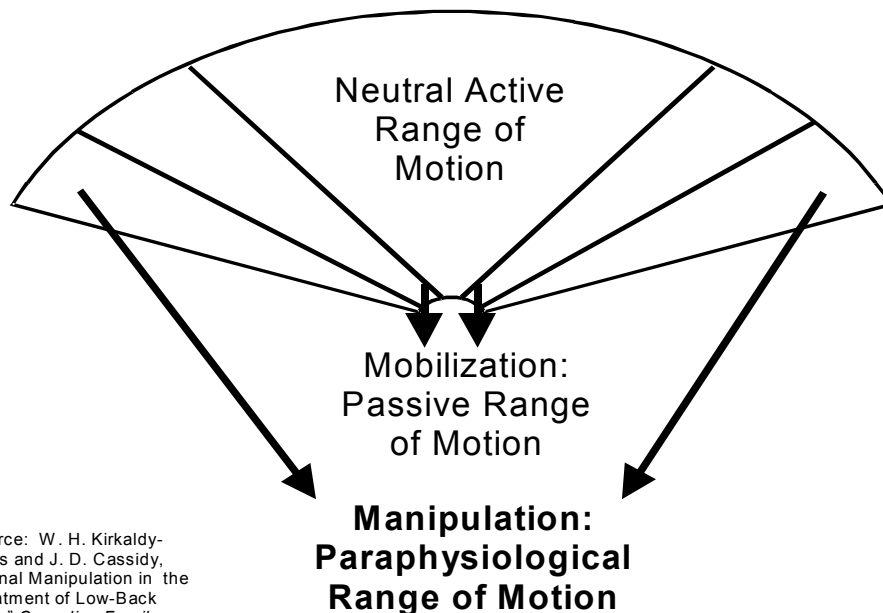
to include it in their plans. Consumer awareness of chiropractic is growing and hospitals and HMOs are including chiropractic in their services.

Considerable research has been done on patient satisfaction; the focus groups for this project, as well as major polls conducted by the Harris and Gallup organizations, have consistently shown that patients' support for and satisfaction with chiropractors is high.

What does chiropractic do? While chiropractors are trained to use a range of approaches including nutrition, and some have made a point of learning other CAAs such as acupuncture, the prime component of chiropractic care is spinal manipulation. Essentially, manipulation involves kneading and adjusting the components of the spine to achieve a therapeutic effect—often to relieve back pain, but also facilitating the transmission of nerve signals along the spine from the brain to other parts of the body.

Chiropractors achieve their therapeutic benefit by manipulating the joints of the spine beyond what an individual could do alone. Figure 4-2 below illustrates the range of motion culminating in called “paraphysiological,” where the therapeutic effects are thought to occur.³ In normal activity, the spine has a “neutral active” range of motion as we move through the day. Beyond this is a range of “passive motion” which individuals can mobilize themselves. However, the greatest therapeutic effect is believed to come from manipulation beyond this passive range—hence, paraphysiological. Manipulation in the paraphysiological range of motion is thought to stimulate the body's innate curative powers. In the area of pain relief, for example, studies have shown that chiropractic spinal manipulation facilitates the release of beta-endorphins. Since it is believed that pain sufferers have become endorphin-deficient, chiropractors claim that chiropractic manipulation can play a large role in pain management.⁴

Figure 4-2
JOINT MOBILIZATION and MANIPULATION



Source: W. H. Kirkaldy-Willis and J. D. Cassidy, "Spinal Manipulation in the Treatment of Low-Back Pain," *Canadian Family Physician*, Vol. 31 (March 1995), p. 537.

Chiropractors vary widely in how they practice. Some chiropractors have been criticized for over-treating.⁵ To address the variability issue, in 1992 chiropractors met to develop the Guidelines for Chiropractic Quality Assurance and Practice Parameters (the Mercy Guidelines), an effort to establish consensus on treatment approaches and outcomes. These Guidelines recommend, for example, that for uncomplicated cases (acute episodes) treatment should achieve "significant improvement within 10 to 14 days" based on "three to five treatments per week." To "return to pre-episode status" should require "six to eight weeks" based on "up to three treatments per week."⁶

Currently, chiropractors provide 94% of manipulation in the United States, while other providers (mostly osteopaths) provide the other 6%.⁷ As outcomes research confirms spinal manipulation's value, however, many other types of health care providers are likely to seek training in its techniques. In the near future, physical therapists, osteopaths, massage therapists, physicians and nurses trained in manipulation will compete with chiropractors.

Chiropractors have traditionally practiced solo. Because of the various competitive pressures, however, chiropractors will face strong incentives to work in or for groups, and to be able to work on multidisciplinary teams.

USE IN THE HEALTH CARE MARKETPLACE

Demand for Services and Efficacy

What do consumers seek chiropractic services for? Of the estimated 27 million Americans who visit a chiropractor each year, most (70% to 80%) seek treatment for lower- or other back pain; 10% want relief from headaches; and 10% seek treatment for other conditions.⁸ In 1995, chiropractors reported that the vast majority (86.5%) of their patients received treatment for neuromusculoskeletal conditions. Other conditions treated were viscerosomatic (11.3%) and vascular (5.5%).⁹

Back pain and back problems are a significant cluster of conditions in the US population. Twenty percent of Americans have some type of back problem in a given year while 80% experience back problems at some point in their lives.¹⁰ Back pain is a recurring condition which, in 1990, cost Americans an estimated \$24.3 billion in direct costs and \$50-\$100 billion in indirect costs. The prevalence of back pain is increasing as women enter the work force. Workers' compensation for back problems was estimated to be \$30 billion in 1990.¹¹ While the data is currently insufficient to track these costs over time, according to chiropractic experts, the costs may increase as people stay in the workforce longer or more people seek treatment for the first time.

Spinal manipulation has been recognized by the Agency for Health Care Policy and Research (AHCPR) as an effective treatment for acute lower-back pain based upon appropriateness criteria developed by a multidisciplinary expert team.¹² AHCPR's outcomes research enjoys a high degree of credibility, making this study a significant resource. This proof-of-efficacy and validation of chiropractic from a respected government agency could serve as strong endorsement for including chiropractic treatment in managed care.

The fact that some indications have already been shown to respond to chiropractic has led to a situation where consumers and chiropractors often report the conditions treated as reimbursable conditions. This is one reason that 80% of demand for chiropractic services is usually described as being for back pain or problems. More will be said on efficacy research below, but one summary has argued that chiropractic has the following levels of effectiveness for musculoskeletal conditions: for lower-back pain without neural deficit—proven effectiveness (as noted by the ACHPR study); for neck pain—limited evidence for effectiveness; and for headache—promising though unconfirmed evidence for effectiveness.¹³

Apart from reimbursement issues, the National Board of Chiropractic Examiners (NBCE) presents a much more detailed list of the presenting or concurrent conditions for which patients seek chiropractic care. This list is shown in Table 4-1.

Table 4-1: Frequency of Presenting and Concurrent Patient Conditions for Chiropractic

ROUTINELY SEEN	Spinal subluxation/joint dysfunction Headaches
OFTEN SEEN	Muscular strain/tear Osteoarthritis/degenerative joint disease Peripheral neuritis or neuralgia Tendonitis/tenosynovitis Radiculitis or radiculopathy Vertebral facet syndrome Intervertebral disc syndrome Sprain or dislocation of any joint Extremity subluxation/joint dysfunction Hyperlordosis of cervical or lumbar spine Scoliosis Bursitis or synovitis High or low blood pressure Allergies Obesity
SOMETIMES SEEN	Kyphosis of thoracic spine Osteoporosis/osteomalacia Carpal or tarsal tunnel syndrome Systemic rheumatoid arthritis or gout Occupational or environmental disorder Muscular atrophy Nutritional disorders Menstrual disorders Asthma, emphysema or COPD Upper respiratory or ear infection Pregnancy Respiratory viral or bacterial infection Acne, dermatitis or psoriasis Loss of equilibrium Diabetes Psychological disorders Eating disorders Ear or hearing disorders Eye or vision disorders Hiatus or inguinal hernia Gastrointestinal bacterial or viral infection Infection of kidney or urinary tract Colitis or diverticulitis Thyroid or parathyroid disorder Hemorrhoids

Source: M. Christensen and D. Morgan, eds. *Job Analysis of Chiropractic: A Project Report, Survey Analysis and Summary of the Practice of Chiropractic within the United States* (Greely, CO: NBCE, 1993); cited in D. C. Cherkin and R. D. Mootz, eds., *Chiropractic in the United States: Training, Practice and Research* (Washington, DC: Agency for Health Care Policy and Research, US Department of Health and Human Services, VIII-2, 1997).

The number of chiropractic visits varies from patient to patient depending on the health and desired outcomes of each. For acute episodes of care clients average 12.9 visits.¹⁴

Beyond the diagnosis-based, targeted visits are wellness or preventive visits. This is a difficult area to quantify because of the lack of literature-based evidence for its significance. However, based on the expert opinion derived from our interviews, it is clear that the majority of chiropractors provide wellness and/or preventive visits for their patients, and this kind of care accounts for an estimated 14% to 35% of visits to chiropractors. Some chiropractors schedule these visits on a quarterly or even monthly basis, including some leading practitioners. And some have built much or all of their practice around such monthly wellness visits by patients. This appears to represent a significant consumer demand for preventive care and experts interviewed indicated that it is common for chiropractic patients to request periodic chiropractic office visits because they feel better when they receive them.

As noted in Chapter 3, 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. This is an economic calculus by individual consumers. Studies have started to explore whether these wellness visits lead to less use of other health services. And consumers need ongoing and reliable information sources to judge consumer satisfaction (in addition to their own personal assessment) with the value of wellness visits.

Overall, the chiropractic market promises significant growth in demand for manipulation services: back problems (including for the aging population); wellness visits; and a long list of other conditions such as those in Table 4-1 above, which, research is beginning to show, might be aided by manipulation.

In summary, demand for chiropractic, while focused on back problems, includes a wider range of problems or conditions. In addition, there is significant demand for wellness or preventive chiropractic services. Future levels of demand will be affected by: managed care; the supply of chiropractors and their role in primary care; research on efficacy; and policy and reimbursement issues—all discussed in the following sections.

Supply of Services

The current population of US DCs—55,000—is forecast to expand to 103,000 by 2010.¹⁵ This indicates an increase in the ratio of chiropractors to the general population from 19.2 per 100,000 in 1994 to more than 33 per 100,000 in 2010.¹⁶ Chiropractic graduates will increase to about 5,000 per year by 2010, based on current projections.

Table 4-2: Forecasted Supply of Chiropractors in the United States through 2010

	1980	1990	1995	2000	2005	2010
# of chiropractic colleges	13	14	16	16	18	18
Graduates per year	1,500	2,200	3,000	3,750	4,500	5,000
Total number of DCs in practice	30,000	44,450	55,000	68,160	84,700	103,000

Source: Forecast for number of chiropractic colleges based on interviews with chiropractic experts; forecasts for chiropractic graduates and total number of DCs from R. Cooper and S. Stoflet, "Trends in the Education and Practice of Alternative Medicine Clinicians," *Health Affairs*, Fall 1996, p. 229.

Meanwhile, as mentioned in Chapter 3, the Pew Commission Report on the Health Professions has forecast an oversupply of hundreds of thousands of physicians and nurses by 2010.¹⁷ If this occurs, the competition for patients will be fierce.

Whether the increase in chiropractors to 103,000 by 2010 exceeds consumer demand will depend on variables such as integration trends in managed care, consumer demand for wellness visits, increased consumer self-care and the rise in competing manipulation services from other health professionals. The scenarios in Chapter 5 explore how these might play out, including the prospects for high levels of underemployment and unemployment for chiropractors. On the other hand, the number of persons entering the profession could slow significantly if unemployment or underemployment become visible, or if chiropractic schools voluntarily limit enrollment (as dental schools did after fluoride and other prevention approaches lowered the demand for their services).

PRACTITIONER EXPERIENCE

Chiropractic doctors, like allopathic physicians earlier in this century, have predominantly been solo practitioners. In a 1995 survey of its members, the ACA found that a majority (76%) reported they were in solo practice.¹⁸ Many experts feel this is changing. Researcher Cheryl Hawk, for example, argues that:

"The day of the solo practitioner, dealing with the patient in isolation from other practitioners, is past. Chiropractors, whether they function in horizontally or vertically organized systems, as gatekeepers of specialists must develop firmer ties with other practitioners and with community services and organizations."¹⁹

Other experts interviewed for this study concurred generally, but added that while solo practitioners could decrease to 25-35% of the profession within 20 years, they will not disappear altogether.

This shift away from solo practice includes partnering with other providers, a trend that is being encouraged by the Association of Chiropractic Colleges (ACC). A health care

model recently developed by the ACC links spinal health to overall health within the context of evidence-based, cost-conscious care.²⁰

The experts also report that referrals from medical doctors, particularly orthopedists and neurologists, represent an estimated 11% of chiropractic demand.²¹ Some experts feel this number represents a slight increase over the last 10 years.

While this increase is important, and is likely to grow as outcomes reinforce the value of manipulation, many in the health care arena are pushing for integrated, multidisciplinary teams to expedite care and provide appropriate services. Some experts recommend increased collaboration with MDs.

In most of the integrated health care models described in Chapter 3, multidisciplinary teams are led by allopathic doctors who refer patients to chiropractors and other specialists. For example, at the Center for Complementary Health at California Pacific Medical Center, an MD trained in one or more complementary therapies acts as a gatekeeper who moves patients on to the appropriate specialist within a team of practitioners. Some experts interviewed for this report felt that chiropractors, as the largest and most accessible group of CAA providers, are effectively positioned to play the role of primary care provider and gatekeeper to other CAAs. And many chiropractors are themselves trained in the use of other CAAs, such as homeopathy and Oriental medicine.

Chiropractors who choose to position themselves as primary care providers and/or gatekeepers will face some challenges, however. One is the targeted nature of chiropractic manipulation, which allows practitioners to spend a relatively short amount of time with a patient and yet yield beneficial effects. Using or dealing with other CAAs would inevitably take more time. Also, chiropractors will need to work as team players if they are to be considered captains of health care teams. Below, we discuss in detail the potential and challenges for chiropractors becoming primary care providers.

Scope of Practice

A large portion of the American public regards chiropractic as the first line of defense and treatment for back problems. DCs see roughly 40% of those Americans with back problems each year—an impressive figure, given systematic efforts by the AMA throughout this century to constrain the public's access to chiropractors. Among those who view chiropractors favorably, however, many consider them *only* back specialists—a surprising fact given that chiropractors are trained and licensed to treat a broad array of conditions, and that most DCs see themselves as primary care providers. As a consequence, most chiropractors actually do little if any health promotion or wellness activity beyond spinal manipulation, according to some studies. Meanwhile, another group of the public, which we encountered in the focus groups for this project, has strongly negative opinions of chiropractors, reinforced by medical hostility and in some cases by reports of bad experiences with chiropractic from people they know.

From a legal perspective, state laws define the scope of practice. A recent survey of chiropractic licensing boards in the United States and Canada showed that a few states allow the chiropractor to do very little beyond spinal manipulation, while other states permit a number of diverse procedures such as acupuncture, electromyography and laboratory diagnostics.²²

Beyond the narrow legal scope of practice, the statement of the National College of Chiropractic typifies what chiropractors are prepared for:²³

- Recognition of a diversity of factors that impact upon human physiology, among them biochemical dysfunction, genetics, trauma, hygiene, microorganisms, nutritional status, exercise, motion, posture, environment, stress, emotion and human relationships;
- Primary care based upon diagnostic evaluation including patient history, physical examination, clinical laboratory data, diagnostic imaging and other measures, as well as procedures unique to the chiropractic evaluation of human spinal and structural balance and integrity;
- The application of a diversity of spinal and other adjustments and manipulations for the treatment, correction and prevention of neurologic, skeletal or soft tissue dysfunction and the production of beneficial neurologic effects; and
- The use of other conservative means including, but not limited to, nutritional counseling, physiologic therapeutics, meridian therapy/acupuncture, trigger point therapy, lifestyle counseling, emotional support and stress management.

Most states allow chiropractors to utilize a broad range of diagnostic and treatment approaches beyond manipulation, such as clinical lab tests, routine physical exams and pelvic exams, needle acupuncture, nutritional intervention and homeopathy.²⁴

Primary Care

Does DCs' scope of practice include primary care? This is less a question of state licensure laws than it is a combination of 1) what insurers and managed care allow; 2) how DCs provide care; and 3) whether consumers think of DCs as primary care providers and utilize them as such.

Exploring this topic is made more difficult since, as noted in Chapter 3, 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. Here, we will start with the question of whether DCs can appropriately function as first-contact health care providers, responsible for the bulk of a person's health and medical care and for referring the person to other providers as needed.

DCs today are trained as primary care providers. Arnold Cianculli, DC, Past President of NCMIC, points out that the Council on Chiropractic Education has said the "purpose of chiropractic education is to prepare the Doctor of Chiropractic as a primary care

provider.”²⁵ And according to a 1993 national survey, 90% of chiropractors considered themselves primary care providers.²⁶

The ACA’s definition likewise argues that: “in a primary health care delivery system [chiropractors are] a first contact gatekeeper for neuromusculoskeletal conditions characterized by direct access, longitudinal, vertically integrated, conservative ambulatory care of patients’ health care needs, emphasizing neuromusculoskeletal conditions, health promotion and patient-centered diagnosis and management.”²⁷

Some chiropractic colleges see training DC’s in this primary care role as a core part of their mission. For example, the mission statement of the Northwestern College of Chiropractic (NWCC), reads “To graduate Doctors of Chiropractic as primary health care physicians who are educated in the basic and clinical science, and trained to care for the whole person in health and disease, as well as to consult, refer, and collaborate with other health care providers” and “To instill essential values of health care physicians, including an understanding of the healing process and the importance of a strong alliance between the doctor and the patient...” . And NWCC’s sense of primary care extends to a focus on health promotion and health education for the individual and the community. NWCC’s report on Preparing Doctors of Chiropractic for the Twenty-First Century includes health promotion as part of the DC’s task: “Chiropractic doctors will provide health promotion services and will work more closely with patients with a view toward mitigating risk factors and preventing illness.” And the two hundred plus competencies identified by NWCC as required for the [effective] practice of chiropractic include the capacity to: “demonstrate an ability to educate and inform patients, and the community, about health-related issues and topics;” as well as capacities for risk assessment and prevention of cardiovascular disease, diabetes, osteoporosis, cancer and substance abuse.

While parts of the chiropractic community and colleges such as NWCC are moving chiropractic toward being primary care providers, in practice, most chiropractors typically function as first-contact, port-of-entry providers for musculoskeletal problems only. While they may aspire to be primary care providers, they seldom practice that way. Likewise, many of the managed care executives we interviewed did not see chiropractors as a natural choice for the primary care role.

A number of other obstacles hinder chiropractors from expanding into primary care:

- *Public perception.* As noted above, our focus groups—and many other studies—have shown that consumers and health care administrators regard chiropractors as back doctors, not as primary care providers²⁸;
- *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 DCs thinks the profession should remain focused on its chief strength, spinal adjustment. Most of these practitioners deliberately limit their practices to manipulation only;
- *The rise in 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. This pressure will intensify as more managed care plans incorporate chiropractic;
- *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.”²⁹ Today, many managed care organizations use nurses as primary care providers, and others are exploring this possibility.
- *Anti-vaccination position.* While the formal position of the chiropractic community is to support the use of childhood vaccinations, some chiropractors are opposed to mandatory childhood vaccinations—a staple of primary care;
- *Inexperience with referrals.* Chiropractors are not necessarily qualified to act as referral agents and usually must both expand and demonstrate their knowledge before they can be accepted as such; and
- *Influx of other primary care providers.* As noted earlier, by the early 21st century MDs will be in surplus as the demand for specialists declines. Furthermore, nurses and pharmacists also will experience large surpluses as hospitals continue to downsize across the country. This means more competition for chiropractors who want to become primary care providers.

In this ambivalent environment, and despite the obstacles listed above, we believe that chiropractors can successfully work to position themselves as primary care providers if they choose to do so. They will have to take certain proactive steps, however—especially, demonstrating their own efficacy in providing a broader range of treatments and/or in managing referrals to other providers with successful outcomes for the array of problems their patients exhibit.

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 first-choice advantage into ongoing relationships as primary 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.

Another favorable trend is that the practice environment, as discussed in Chapters 2 and 3 above, will be “smarter” in several ways. Chiropractors will have more effective expert systems to utilize in determining how to deal with neuroskeletal and non-neuroskeletal problems. Information technology, as well as the commitment to practice in a preventive way, could arm chiropractors—already “high-touch” practitioners—with appropriate tools. Meanwhile, outcomes measurement is likely to shift the core goals of

health care to the “Forecast, Prevent and Manage” paradigm—further favoring cost-effective wellness visits. On the other hand, the issue of treatment time remains unsolved. Currently DCs maintain high consumer satisfaction based on visits of relatively short duration. Adding other CAAs, e.g., acupuncture or nutrition coaching, will lengthen patient visits and could change the fundamental nature of practice.

Wellness

Most scope-of-practice discussions focus on the medically determined needs in health care. Consumers buy health services in a variety of ways, however, 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 new direction for chiropractic, one many practitioners have already taken. Growing numbers of patients, satisfied with their treatment experiences, are electing to visit chiropractors routinely for maintenance or wellness visits not prompted by any current problem. As noted above, these visits already represent an estimated 14% to 35% of demand for chiropractic services; some chiropractors are moving to make them the nearly exclusive focus of their practices.

As part of the trend to wellness visits, many chiropractors are adding acupuncture and homeopathy to their practices. Acupuncture is taught at some chiropractic colleges; the NCC is launching a training program in naturopathy and acupuncture. Again, however, the addition of other CAAs raises time issues for DCs. Effective chiropractors can generate good outcomes and satisfied customers with an average of 10 minutes or less per visit. In highly effective practices with a large volume of patients, a DC may complete the manipulation and other aspects of the visit in even less time. Applying other modalities—and particularly the attendant need to talk with patients longer—will challenge some chiropractors in terms of the number of patients they can see.

A parallel issue raised by wellness visits is the need for guidelines. In effect, protocols equivalent to the Mercy Guidelines should be developed for wellness care. Consumers should be able to learn what services are appropriate to buy, and to be better able to judge themselves whether they are getting value for their money. Research into guidelines is being conducted now, according to some of our experts, who expect it to demonstrate that patients who have routine preventive or wellness visits will have lower overall health care costs. However, as with any type of health care provider, some DCs may over-promise. Watchdog groups like Consumers Union, publisher of *Consumer Reports* magazine, which is critical of what it sees as chiropractors overtreating, will ultimately monitor and report on the value of wellness visits as they now report on the relative merits of fitness equipment.

In addition to general research, “report cards” on individual practitioners (described in Chapter 2) will compare DCs and other providers (including health and fitness clubs) on their wellness outcomes. The profession itself—particularly the segment that provides wellness visits—needs to accelerate the gathering and sharing of outcome data.

Meanwhile, chiropractors should and are likely to pursue more holistic wellness approaches.

Other Potential Areas of Treatment

Returning from wellness to treatment, we next consider what the range of problems treated by chiropractors by 2010 is likely to be—and whether it will enhance the claims of today's chiropractors to a primary care role. The following list summarizes the conditions beyond back, neck and headache problems that our experts conjectured will be treated by chiropractors in 2010 (this assumes that chiropractic treatment will have proven efficacy for these indications):

- Elevated blood pressure;
- Chronic disorders such as arthritis and pain syndromes;
- Acute disorders, particularly irritable bowel syndrome, sinusitis, middle-ear infection, childhood asthma, colic, viral sore throats and viral pneumonitis;
- Aging-related disorders, e.g., nutrition counseling for diabetes;
- Rehabilitation from injuries;
- Quality-of-life and wellness maintenance;
- Sports medicine and fitness (an increasingly younger population is seeking treatment and chiropractic specialists are being included on Olympic and professional sports medical teams); and
- Women's health issues, e.g., premenstrual syndrome, prenatal care and menopause.

EXPERIMENTS IN MANAGED CARE

What impact will the growth of managed care in the United States have on chiropractic? Some of the experts we spoke with feel that managed care will significantly mediate the demand for, and delivery of, chiropractic services. Managed care growth 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; and
- *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.

However, others in the profession see managed care as a great 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. Since many of these changes involve teamwork, they will require a high degree of consensus in the chiropractic community that such experiments are even desirable.

Benefits of participation in managed care could be:

- Access to more patients;
- Better outcomes measurement of care, leading to greater uniformity of practice and greater understanding of what is appropriate and effective care;
- Involvement with other health care providers and possible formation of interdisciplinary teams;
- Greater access to resources, such as sophisticated information and monitoring systems and research funding; and
- Opportunities to provide expanded services, such as nutrition or stress reduction coaching, which dovetails with chiropractic's philosophy of holistic health care.

The average gross income for an individual chiropractic practice is \$225,000 a year, and the average net income for a chiropractor is \$95,000 a year.³⁰ Further, according to chiropractic experts, the current range of fees is between \$20 and \$45 per patient per visit, with approximately \$10-40 per visit for use of devices such as the inter-segmental traction table (there are no specific data on the frequency of use of these additional equipment or services per visit).

Table 4-3 below shows the relative percentage of revenue streams for chiropractors today according to three different sources. (The wide variation of numbers between the three sources is another illustration of the variety of practice patterns in the field and the current lack of definitive data.) The table shows that, with managed care reimbursement accounting for 3.7% to 24% of chiropractors' total revenue, but controlling more than half the health care marketplace, managed care is an obvious area for chiropractic expansion. In fact, a 1993 study found that 75% of workers with health insurance coverage (either indemnity insurance or some type of managed care) had chiropractic care in their benefits package.³¹

Table 4-3: Estimates of Chiropractic Sources of Revenue

Payment Source	ACA Survey ³²	RAND Study ³³	IAF Interviews with Chiropractic Experts
Direct payments for patients (cash)	27.7%	20.9%	35%
Private insurance (indemnity)	28.6%	41.8%	14%
Auto Insurance	14.5%	9.8%	10%
Worker's compensation	10.8%	10.4%	10%
Medicare	8.4%	7.3%	5%
Prepaid/Managed care	8.6%	3.7%	24%
Medicaid	1.2%	1.5%	1%
Other	0.9%	2.3%	1%

Furthermore, as the federal government folds more of Medicare and Medicaid into the managed care umbrella, chiropractic opportunities in the treatment of these patients could increase. The introduction of new Chiropractic Manipulative Treatment (CMT) codes in the Medicare Fee Schedule will allow more accurate reporting of a chiropractic visit, including time and efforts spent in pre-service and post-service in addition to intra-service activities. Not only will this enable more Medicare chiropractic treatments to be covered, but the new CMT codes can also help create a patient-experience pool for later analysis for proof of efficacy and cost-effectiveness.³⁴

In the fall of 1997, chiropractors began their own experiment in managed care. NCMIC launched the first truly national chiropractic managed care network, TRIAD Healthcare, Inc. Currently, approximately 22 million lives are under contract with TRIAD. TRIAD's goal is to grow that to 100 million lives. TRIAD Healthcare believes, "It is no longer enough to offer quality care. Each profession and every doctor must be in a position to offer outcomes assessments, high-tech generation of information and data analysis and management."³⁵ To make this easier for chiropractors TRIAD has partnered with a technology company, Merallis, to provide chiropractic offices with more efficient electronic information gathering and communication with other DCs, NCMIC, TRIAD and over 250 health plans and carriers, as well as other health-care related entities.

REIMAGING THE HEALTH CONSUMER

Until recently, most chiropractic patients were middle-aged, white and employed, with at least a high school education. Chiropractors have been gradually expanding to reach different consumer groups, including children (12% of the 1996 chiropractic patient base), minorities (approximately 32% of the total population, but 35% of the current patient base) and those over 65 (12% of the population, but 17% of the patient base).³⁶ The current demographic makeup of chiropractic patients reflects the growing diversity

of the US population today, as well as proactive efforts by chiropractors to expand their consumer base into other population groups and the increased personal referrals as chiropractic becomes better known.

The aging population in particular is providing a stream of new chiropractic patients, as displayed in Table 4-4 below. Chiropractic care has been associated with better elderly health: in a 1996 pilot study 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.³⁷ Further research will identify the various contributors to this difference: it could be they were healthier to begin with, or that chiropractic helped improve health and lower cost, or some mixture of both.

Elderly patients will require increased emphasis on mobility and the quality-of-life issues associated with chronic pain. Demonstration of chiropractic efficacy and cost-effectiveness (made easier by the creation of the new CMT codes mentioned earlier) 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.

Table 4-4: Age of Chiropractic Patients

Age Group	% of US population 1996	% of all chiropractic patients 1996 ³⁸	% of US population 2010 ³⁹	% of chiropractic patients 2010
Under 16	13%	12%	10%	?
17 to 44	43%	40%	28%	?
45 to 64	32%	31%	48%	?
Over 65	12%	17%	14%	?

Source: US Census Bureau population projections⁴⁰

Judging by Table 4-4, the elderly appear to be demographically over-represented as chiropractic patients, but the picture changes when placed in the medical context. Elderly patients use about 33% of the drugs prescribed in the United States, so as a proportion of chiropractic patients, they actually appear to be under-represented. The proportion of the population over 65 will reach 14% in 2010.⁴¹ Chiropractic experts forecast that those over 65 might represent closer to 20% or even 25% of visits to chiropractors by 2010.

CHIROPRACTIC AND COMMUNITY HEALTH

Chiropractors have yet to be formally integrated into community-based efforts to improve health. Some experts see a leadership role for chiropractors in educating the public and participating in community health initiatives. For example, chiropractors might

be involved in worksite injury- and back-strain prevention strategies, for employee groups as diverse as construction workers and retail store checkout personnel.

In May 1998, *Prevention* magazine announced the winners of a contest designed to identify six chiropractors who have demonstrated outstanding health services to their communities. The award, co-sponsored by the Alliance for Chiropractic Progress, hopes to raise public awareness of chiropractic's role in community health. Winners were profiled in *Prevention* as the "best of the best" chiropractors in the country.⁴²

Many see a close alignment between chiropractic's non-interventionist, wellness- and prevention-oriented philosophy and community-based health promotion and disease prevention activities. Recent innovations in chiropractic education, such as community-based internships, may increase the number of chiropractors who are prepared and willing to play a role in their communities. Already, more chiropractors are getting public health degrees or joining the American Public Health Association's chiropractic sub-group. Some chiropractors who have made these inroads, however, report they do not feel totally accepted by the public health field.

RESEARCH

A major focus for research on chiropractic involves showing efficacy for treating various conditions. As noted in Table 4-1 above and in the discussion of it, various experts argue that manipulation has some degree of favorable evidence for a range of indications including back pain, migraine headaches, work-related injuries, allergies and even obesity.

In terms of basic efficacy, many studies have shown chiropractic's efficacy in treating subluxations of the spine, defined by the ACC as a complex of functional and/or pathological articular changes that compromise neural integrity and may influence organ system and general health.⁴³

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.⁴⁴ These include:

- *Lower-back pain.*⁴⁵ The Magna Study confirmed that in terms of cost and efficacy, chiropractic management of lower-back pain is more effective than medical management.⁴⁶
- *Work-related injuries.* The Florida Study claimed that chiropractic care is more cost-effective than standard medical care in the management of work-related back injuries.⁴⁷

- *Cost-effectiveness.*⁴⁸ The Utah Study showed that patients of chiropractors returned to work sooner after an injury and that chiropractic care was one-tenth as expensive as standard medical care in total workers' compensation costs.⁴⁹
- *Compared to conventional hospital outpatient care.* The Meade Study demonstrated that chiropractic treatment is more effective than conventional hospital outpatient treatment for patients with chronic or severe back pain.⁵⁰
- *Women's health.* Studies have noted that women who received chiropractic spinal manipulation reported significant reduction in back pain and menstrual distress.⁵¹
- *Overall therapeutic benefits.* The Virginia Study found that "by every test of cost and effectiveness, the general weight of evidence shows chiropractic to provide important therapeutic benefits, at economical costs."⁵²
- *Patient satisfaction.* The Gallup Poll found nine out of ten chiropractic patients felt that their treatment was effective and met or exceeded their expectations.⁵³
- *Headaches.* A study comparing manipulation versus amitriptyline for the treatment of muscle tension-type headaches showed statistically significant improvements for those treated with manipulation.⁵⁴

On the other hand, several sources have published findings that are either more neutral or not as favorable to chiropractic care:

- *Consumer focus.* *Consumer Reports* stated that while manipulation might be an effective treatment for back pain, chiropractic care was not beneficial for the treatment of any other condition.⁵⁵
- *Women's health.* The 1995 Obstetric Pregnancy and Delivery Study found no evidence that the addition of chiropractic care during pregnancy resulted in an observable benefit or detriment with regard to obstetric interventions used during labor and delivery.⁵⁶
- *Prevention preparation for DCs.* The survey of chiropractic practitioners on prevention reported that more MDs felt properly and completely trained on all aspects of prevention and primary care than did DCs.⁵⁷

- *Beyond back pain.* Reports describe the formation of a group of Canadian chiropractors who limit their use of spinal manipulation to treat back problems and who oppose claims that chiropractic can treat conditions beyond back problems.⁵⁸ And comments appeared in the *Minnesota Medical Journal* stating that claims that spinal manipulation can help optimize general health or treat non-musculoskeletal conditions are unfounded.⁵⁹
- *Compared to other providers.* The *New England Journal of Medicine* reported that patients with acute lower-back pain experienced similar health outcomes whether they received treatment from primary care practitioners, chiropractors or orthopedic surgeons, with primary care providers providing the least expensive care of the three types of providers.⁶⁰
- *Neck pain.* Conventional levels of statistical significance were only achieved for limited outcomes in most studies of treatment of neck pain with manipulation.⁶¹

Reviewing these diverse results, Daniel Cherkin and Robert D. Mootz, in their report for AHCP, summarized the quality and comparability of this research as deficient:

The relative cost-effectiveness of chiropractic care and medical care has not been convincingly established. Most studies have failed to compare equivalent patients, measure clinically useful outcomes and include both direct and indirect costs in the comparison. Although a majority of studies have found that chiropractic care was less expensive than medical care, some have found the opposite to be true. Ultimately, randomized clinical trials that include cost measures will be needed to satisfactorily answer this question.⁶²

The chiropractic community has stepped into the breach, supporting a growing volume of new studies, which aim to amend the shortcomings of prior research. The leading research organization for the chiropractic community, the Foundation for Chiropractic Education and Research (FCER) (primarily funded by NCMIC), currently administers \$4.5 million in research studies for chiropractic. Clinical outcomes studies are investigating chiropractic's efficacy in treating dysmenorrhea, asthma, hypertension, otitis media, colic and migraine headaches. The profession is also engaged in a number of non-clinical studies, examining, for instance, chiropractic's cost-effectiveness and patient satisfaction rates.

While this developing body of research pales in comparison to federally funded studies of conventional medical approaches, its magnitude does reflect, again, chiropractic's popularity and practice relative to other CAAs. No other CAA has enough practitioners to support research on this large a scale.

FCER believes that the following are the most important areas for additional research:

- *Economic substitution.* Studies demonstrating cost savings of substituting chiropractic care for allopathic care in Medicare, pediatric care, lower-back pain⁶³ and/or geriatric care.
- *Industrial/work-related.* Studies examining how chiropractic approaches to worksite injury prevention and treatment compare with the approach of occupational therapists and physical therapists in terms of efficiency and overall costs.
- *Geriatric population.* Studies examining chiropractic's role in life extension and quality-of-life improvement for the growing geriatric population.
- *Wellness and health promotion.* Studies of how chiropractic can be used to enhance health promotion and patient wellness.
- *Philosophical.* Studies examining chiropractic's holistic approach to health care and testing the proposition that manipulation is most effective when used as part of a biological-psychological-social approach.

In addition, NIH's Office of Alternative Medicine (OAM) has recently announced the formation of the Center for Chiropractic Research. OAM views this center as the first step toward creating a cohesive national infrastructure for chiropractic research. The Center aims to facilitate interdisciplinary research involving investigators from both the chiropractic and conventional research communities. By creating a network of chiropractic clinicians and researchers, OAM hopes the Center for Chiropractic Research will help develop chiropractic treatment protocols and serve as a bibliographic resource on chiropractic topics.

POLICY

State Regulations and Certification

As noted above, scope of practice is generally set by state practice acts as well as by state boards of chiropractic. States currently vary widely in their licensure requirements. However, 16 states have enacted legislation to substitute part of the national chiropractic test for their state licensing tests.

In 1993, more than half of states allowed chiropractors to use electrode acupuncture, 25% allowed needle acupuncture and 77% allowed chiropractors to dispense homeopathic remedies.⁶⁴ Approximately 13% of chiropractors provide acupuncture and 37% dispense homeopathic remedies.⁶⁵ This reinforces the observation, noted above,

by some experts that chiropractors, as the largest group of CAA providers in the United States, are well positioned to provide care that integrates other CAAs.

New legal issues will emerge as states upgrade their regulation of managed care, probably affecting hiring, reimbursement rates and scope of practice. Lines of accountability will need to be clarified among practitioners of different modalities.

As the body of research substantiating manipulation's effectiveness grows, a wider range of health care providers will seek to provide musculoskeletal manipulation services—predictably, with varying degrees of expertise. Michigan State University already offers a two-week course to medical professionals, including physicians and nurses, on the basics of spinal manipulation from an osteopathic perspective.

Malpractice

Although chiropractic is considered to have less potential for harm than many conventional modalities, health care fields generally are facing increased litigation. Chiropractors are as vulnerable to this trend as other practitioners. In 1996, 3% of chiropractors were involved in malpractice litigation for alleged negligent treatment, as compared to the 14.5% of MDs involved in malpractice litigation that year.⁶⁶

Systematic information on the adverse effects of chiropractic, as for most forms of health care, is not available although adverse effects are thought to be low in relation to the prevalence of chiropractic use in the United States.⁶⁷ Occasionally findings are published aiming to show chiropractic may have adverse outcomes.⁶⁸ For example, Dr. Phillip Lee and colleagues at the Stanford Stroke Center published an article in the June 1995 issue of *Neurology* outlining the potential hazards of chiropractic manipulation. Based on a survey of the members of the American Academy of Neurology in California, commenting on their perceptions of adverse events, “the most frequently reported complication is posterior circulation stroke, usually related to vertebral dissection, occurring during or shortly after cervical manipulation.”⁶⁹

Adverse events undoubtedly do occur, but the Stanford survey prompted criticisms of both its methodology and its conclusions, with some critics commenting that it reflected the generally poor quality of assessments of adverse effects.⁷⁰

Meanwhile, in a recent Norwegian study, about half the chiropractic patients sampled reported at least one negative reaction to manipulation, including local discomfort, headaches, tiredness and radiating discomfort. The reactions usually disappeared within 24 hours, however, and no serious complications were reported.⁷¹ In fact, the occurrence of one of the most serious complications of lumbar manipulation, cauda equina syndrome, is estimated at 1 case per 100 million manipulations, and the incidence of vertebrobasilar artery compromise at 1 in 1 million manipulations.⁷²

Soon, as noted above, 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 medications. This will likely also be possible for some side effects of manipulation. With neck manipulation, whose risks are particularly high, Cherkin and Mootz note that “because the risks of cervical manipulation appear to be higher and more devastating, it would be helpful if future research could identify subsets of patients at risk of complications for cervical manipulation and determine if there are specific manipulative techniques that should be avoided or modified.”⁷³

Better-targeted research will be able to forecast who is at risk, and greater outcome measurement and monitoring of treatments will also yield more precise information on the nature and frequency of adverse effects.

TECHNOLOGY

Most chiropractors use a highly sophisticated and specialized chiropractic table designed to facilitate hands-on treatment. In addition, chiropractors use a variety of ancillary equipment in their offices, such as spine massaging tables, exercise equipment, traction tables, electro-stimulation and heat equipment, to enhance their treatment regime.

Key technological advances are occurring in the areas of treatment devices, information and communications technology and genomics, any of which could significantly reshape chiropractic practice. Devices like massage chairs, back massage devices and special neck pillows are already available to consumers through any number of distribution channels.

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, or increased demand if manipulation shows itself to be effective in enhancing the immune system or providing quality-of-life benefits, which enhance the body’s healing capacity. All chiropractors will be able to take part in more aggressive clinical research, even as they document the efficacy of their personal practice. (As discussed in Chapter 2, “report cards” will compare health care providers, including chiropractors. Much of their data will come from aggregated patient health records; or it may come from patients’ own personal lifelong health records, which they will provide to designated third parties to aggregate and to ensure confidentiality.)

Will technology ever be able to substitute for a practitioner’s manipulation skills? Precursors of such devices now exist, both as professional equipment in chiropractors’ offices and as consumer-oriented acupressure or massage chairs or equipment (such as that sold in Brookstone stores). However, given the complexity of the more advanced aspects of manipulation, and given the importance of personal touch in chiropractic’s healing effects—any “robot manipulators” that exist by 2010 are not likely to pose significant competition to DCs.

Technological developments in biosensors, fitness equipment and computers mean that technological wild cards could appear which pose a significant challenge to chiropractors. A minority of experts we interviewed did feel this was possible by 2010.

ENDNOTES FOR CHAPTER 4

¹ R. D. Mootz and R. B. Phillips, "Chiropractic Belief Systems," Chapter 2 in D. C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States: Training, Practice and Research* (Washington, DC: Agency for Health Care Policy and Research, US Department of Health and Human Services, 1997), pp. II-2.

² Burton-Goldberg Group. *Alternative Medicine: The Definitive Guide* (Puyallup, WA: Future Medicine Publishing, 1993), p. 134. Note—according to Adriane Fugh-Berman (in *Alternative Medicine: What Works*, Tucson, AZ: Odonian Press, 1996, p. 48) the range of the US population that visits a chiropractor is actually somewhere between 3% and 10%. A study conducted between 1974 and 1982 found that 7.5% of the population consulted a chiropractor; a 1980 report to Congress stated that 3.6% of the population visited chiropractors each year; and David Eisenberg, MD, at Harvard, concluded in 1990 that 10% of the US population was under chiropractic care, based on telephone surveys (however, of this 10%, 30% said they were practicing self-chiropractic care, therefore, a 7% figure is probably more reflective of the Eisenberg Study. Paul Ray in his Cultural Creatives Study for the Institute for Noetic Sciences in 1994 stated that 15.7% of the US population visits a chiropractor each year. Landmark Healthcare, Inc., in its study, "The Landmark Report on Public Perceptions of Alternative Care," January 1998, found that 42% of the population used some form of alternative care in the past year and 16% of respondents said they had had a chiropractic treatment in the last year (www.landmarkhealthcare.com, p.10). For the purposes of this study we are using the figure of 10% of the US population visiting a chiropractor each year.

³ W. H. Kirkaldy-Willis and J. D. Cassidy. "Spinal Manipulation in the Treatment of Low-Back Pain," *Canadian Family Physician*, Vol. 31, March 1995, pp. 535-540.

⁴ H. Vernon et al., "Spinal Manipulation and Beta-Endorphin: A Controlled Study of the Effect of a Spinal Manipulation on Plasma Beta-Endorphin Levels in Normal Males," *JMPT*, Vol. 9, No. 2, June 1986, pp. 115-123.

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⁶ *Guidelines for Chiropractic Quality and Assurance and Practice Parameters: Proceedings of the Mercy Center Consensus Conference* (Gaithersburg, MD: Aspen Publications, 1993).

⁷ P. G. Shekelle and A. H. Adams et al. *The Appropriateness of Spinal Manipulation for Lower-back Pain: Project Overview and Literature Review* (Santa Monica, CA: RAND, 1991).

⁸ D. Chapman-Smith, LLB. *The Chiropractic Profession: Myths & Facts* (Palmerston, PA: Practice Makers, 1993), p. 17.

⁹ C. Goertz, "Summary of the 1995 ACA Annual Statistical Survey on Chiropractic Practice," *Journal of the American Chiropractic Association*, June 1995, pp. 5-41.

¹⁰ P. Manga et al., *The Effectiveness and Cost Effectiveness of Chiropractic Management of Low-Back Pain*, funded by the Ontario Ministry of Health, printed by FCER in August 1993.

¹¹ P. Manga et al., op. cit.

¹² Agency for Health Care Policy and Research. *Acute Low Back Problems in Adults: Assessment and Treatment*. AHCPH Publication # 95-0643. (Bethesda, MD: Public Health Service, US Department of Health and Human Services, December 1994).

¹³ D. Chapman-Smith, op. cit., pp. 20-25.

¹⁴ C. Goertz, op. cit.

¹⁵ R. Cooper and S. Stoflet, "Trends in the Education and Practice of Alternative Medicine Clinicians," *Health Affairs*, Vol. 15(3), 1996, pp. 226-238.

¹⁶ Cooper and Stoflet, op. cit.

¹⁷ The Pew Health Commission Report on the Health Professions (San Francisco, CA, 1994).

¹⁸ C. Goertz, op. cit.

¹⁹ C. Hawk et al., "The role of chiropractors in the delivery of interdisciplinary health care in rural areas," *Journal of Manipulative Physiological Therapeutics*, Vol. 19, No. 2 (February 1996), pp. 82-91.

²⁰ For more information see the Association of Chiropractic Colleges' website: <http://www.chirocolleges.org/ParadimT.htm>

²¹ C. Goertz, op. cit., p. 39.

²² L. C. Lamm, E. Wegner and D. Collord, "Chiropractic Scope of Practice: What the Law Allows – Update 1993," *Journal of Manipulative Physiological Therapeutics*, Vol. 18, No. 1 (1995), pp. 16-20; as cited in R. Sandefur and I. Coulter, "Licensure and Legal Scope of Practice," in Cherkin and Mootz, eds., *Chiropractic in the United States: Training, Practice and Research*, op. cit.

²³ "The National College of Chiropractic Mission Document," *The National College of Chiropractic Bulletin 1995-1996*, Vol. LIV, No. 1, p. 7.

²⁴ L. C. Lamm, et al., op. cit.

²⁵ A. Cianciulli, DC, *Chiropractic: A Primary Care Gatekeeper* (FCER, 1992), p. 2.

²⁶ C. Hawk and M. Dusio, "Chiropractors' Attitudes toward Training in Prevention: Results of a Survey of 492 US Chiropractors," *Journal of Manipulative and Physiological Therapeutics*, March-April 1995, pp. 135-40.

²⁷ Presented as a statement from the American Chiropractic Association Taskforce on Primary Care and Chiropractic, June 18-19, 1994, and as cited in R. D. Mootz, DC, W. C. Meeker, DC, MPH and Cheryl Hawk, DC, PhD, "Chiropractic in the Health Care

System," in Cherkin and Mootz, eds., *Chiropractic in the United States: Training, Practice and Research*, (Bethesda, MD: Agency for Health Care Policy and Research, US Department of Health and Human Services, December 1997), p. VII-2.

²⁸ S. Haldeman, D. Chapman-Smith and D. Petersen, Jr. *Guidelines for Chiropractic Quality Assurance and Practice Parameters* (Gaithersburg, MD: Aspen Publications, 1993).

²⁹ L. B. Andrews, "Health Care Providers: The Future Marketplace and Regulations," *Journal of Professional Nursing*, January-February 1986, p. 55.

³⁰ C. Goertz, op. cit.

³¹ Jensen, G., et al., citing the 1993 KPMG Peat Marwick/Wayne State University Survey of 1,953 Employers as cited in Cherkin, Daniel C. and Robert D. Mootz, Eds. *Chiropractic in the United States: Training, Practice and Research*. Agency for Health Care Policy and Research, US Department of Health and Human Services, 1997, p. VI-2.

³² C. Goertz, op. cit., p. 39, as cited in D. C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States*, op. cit., p. VI-2.

³³ E. L. Hurwitz, I. D. Coulte et al., "Utilization of Chiropractic Services in the United States and Canada: 1985-1991," *American Journal of Public Health*, as cited in D. C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States*, op. cit.

³⁴ American Chiropractic Association website:<http://www.americhiro.com/chiropractic/cmtcodes>.

³⁵ *New Horizons*, bimonthly newsletter of TRIAD Healthcare, Inc., Burlington, MA. September/October 1997, Vol.1, Issue 1.

³⁶ C. Goertz, op. cit., p. 37.

³⁷ I. Coulter et al., "Chiropractic Approaches to Wellness and Healing," in *Advances in Chiropractic*, Vol. 3 (Mosby Year Book, Inc., 1996).

³⁸ C. Goertz, op. cit.

³⁹ US Census Bureau website, <http://www.census.gov/populations/nation/nas/npas6610.txt>.

⁴⁰ US Census Bureau, op. cit.

⁴¹ US Census Bureau, op. cit.

⁴² "Are You a Community Health Service Award Winner?" *Dynamic Chiropractic*, Vol. 16, No. 2 (January 12, 1998), pp. 1 and 9.

⁴³ Since chiropractic treatment regimens and basic definitions of health problems (like subluxation) do not always easily translate to more traditional patient reimbursement codes (ICD-9 & CPT), several software vendors have begun to market patient billing software that helps ease the translation. One example is Medical Computer Systems's MediSoft software, website <http://www.e-z.net/medisoft/chiro.html>

⁴⁴ American Chiropractic Association Research website, <http://www.americhiro.org/shared/synop.htm>

⁴⁵ According to D. C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States*, op. cit., p. XI-1, 3, 6: "A review (of 36 randomized clinical trials of spinal manipulation) concluded that it is not conclusively proven that spinal manipulation is beneficial for any lower-back pain clinical syndrome. It should be noted that, in the back pain literature, seriously flawed studies that reach inconsistent conclusions are not unique to studies of spinal manipulation. In fact, a recent evidence-based review of conservative and surgical interventions for acute back pain failed to identify any interventions supported by multiple high-quality scientific studies. Thus, despite the poor quality of many of the studies evaluating its effectiveness, there is as much or more evidence for the effectiveness of spinal manipulation as for other non-surgical treatments for back pain. At present, however, comparative data for these largely low risk (manipulative) therapies (in relation to surgery) are not available."

⁴⁶ Pran Magna et al. *Chiropractic Management of Low-Back Pain* (Ontario, Canada: Pran Magna and Associates, 1993).

⁴⁷ S. Wolk, "Chiropractic versus Medical Care: A Cost Analysis of Disability and Treatment for Back-Related Workers' Compensation Cases" (Arlington, VA: Foundation for Chiropractic Education and Research, September 1988).

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⁴⁹ K. B. Javis et al., "Cost Per Case Comparison of Back Injury Claims of Chiropractic versus Medical Management for Conditions with Identical Diagnostic Codes," *Journal of Occupational Medicine*, August 1991, pp. 847-52.

⁵⁰ T. W. Meade et al., "Lower-back Pain of Mechanical Origin: Randomized Comparison of Chiropractic and Hospital Outpatient Treatment," *British Medical Journal*, June 2, 1990, pp. 1431-37.

⁵¹ "Premenstrual Syndrome: A Clinical Update for the Chiropractor," *Chiropractic Journal of Australia*, Vol. 23 (1993), pp. 48-53.

⁵² L. G. Schifrin, "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, January 1992.

⁵³ The Gallup Organization. *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.

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⁵⁵ "Back Pain Treatment," *Consumer Reports*.

⁵⁶ C. Phillips and J. Meyer, "Chiropractic Care, Including Craniosacral Therapy, During Pregnancy: A Static-Group Comparison of Obstetric Interventions During Labor and Delivery," *Journal of Manipulative and Physiological Therapeutics*, October 1995, pp. 525-529.

⁵⁷ C. Hawk and M. Dusio, op. cit., pp. 135-40.

⁵⁸ F. Lowry, "Scientific Chiropractors Hope to Improve Status of Chiropractic within Scientific Community," *Canadian Medical Association Journal*, February 1, 1995, pp. 402-04.

⁵⁹ P. Brown, "Chiropractic: A Medical Perspective," *Minnesota Medical Journal*, April 1994, pp. 2-3.

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- ⁶⁰ T. Carey, et al., "The Outcomes and Costs of Care for Acute Lower-back Pain among Patients Seen by Primary Care Practitioners, Chiropractors and Orthopedic Surgeons," *New England Journal of Medicine*, October 5, 1995, pp. 913-917.
- ⁶¹ D. C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States: Training, Practice and Research* (Bethesda, MD: Agency for Health Care Policy and Research, US Department of Health and Human Services, 1997), p. XI-4.
- ⁶² D.C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States*, op. cit., p. XI-7.
- ⁶⁵ M. Stano and M. Smith, "Chiropractic and Medical Cost of Lower-back Care," *Medical Care*, January 1991, p. 204.
- ⁶⁴ L. Lamm et al., "Chiropractic Scope of Practice: What the Law Allows—Update 1993," *Journal of Manipulative and Physiological Therapeutics*, Vol. 18, No. 1 (1995).
- ⁶⁵ *Guidelines for Chiropractic Quality and Assurance and Practice Parameters: Proceedings of the Mercy Center Consensus Conference* (Gaithersburg, MD: Aspen Publications, 1993).
- ⁶⁶ NCMIC website, <http://www.ncmic.com>
- ⁶⁷ Fugh-Berman, *Alternative Medicine*, op. cit., p. 59.
- ⁶⁸ G. Magner and S. Barrett, MD, eds. *Chiropractic: The Victim's Perspective* (Los Angeles, CA: Prometheus Books, 1995).
- ⁶⁹ P. Lee et al., "Neurologic Complications Following Chiropractic Manipulation: A Survey of California Neurologists," *Neurology*, June 1995, pp. 1213-1215.
- ⁷⁰ Letters to the Editor, *Neurology*, January 1996, pp. 84-86.
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- ⁷² P. G. Shekelle and A. H. Adams et al., "Spinal manipulation for low-back pain," *Annals of Internal Medicine*; Vol. 117 No. 7 (1992), pp. 590-598; and E. L. Hurwitz, P. Aker, A. H. Adams et al., "Mobilization and manipulation of the cervical spine: a systematic review of the literature," *Spine*, Vol. 21 (1996), pp. 1746-60; as cited in D. C. Cherkin and R. D. Mootz, eds., *Chiropractic in the United States*, op. cit., p. XI-6.
- ⁷³ D. C. Cherkin and R. D. Mootz, eds. *Chiropractic in the United States*, op. cit., p. XII-5.

Chapter 5

SCENARIOS FOR CHIROPRACTIC IN 2010

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INTRODUCTION

This chapter describes four alternative future scenarios for chiropractic care and chiropractors in the year 2010. While each is a separate story, they should be considered as a set that will bound the “future space of possibilities” for chiropractic in light of possible changes to the health care environment in the United States. Keep in mind that health care will experience dramatic change, as discussed in Chapters 2 and 3, independent of chiropractors’ roles.

In developing these four chiropractic scenarios, we made a variety of assumptions. For example, the rate of chiropractic underemployment and the percentage of current and future chiropractic visits that are of a maintenance or “wellness” nature varies across the scenarios. There is little or no hard data on these wellness visits, so we have developed plausible estimates based largely on our expert interviews, as well as published sources. Appendix B gives the detailed assumptions for the various forecasts. Other forecasts can and should be explored. We encourage interested chiropractic practitioners, academics and students to develop a broader array of scenarios. The purpose of the one given here is to inspire the reader to consider “if-then”: “If this scenario for chiropractic occurs, then what are the implications?”

These scenarios provide an important range within which to explore different futures for chiropractic. The chapter contains brief statements of each scenario, a comparative chart considering the demand for chiropractors implied by each one and further details on each scenario. Additional comparative detail and assumptions for the forecasts are given in Appendix B.

OVERVIEW OF FOUR SCENARIOS FOR CHIROPRACTIC IN 2010

Scenario 1—More and Better Health Care

Managed care, outcomes and consumers drive health care. Chiropractic care is proven cost-effective for low back pain, headaches, neck pain, arthritis, scoliosis, asthma and repetitive stress injuries, and as supplementary therapy for cancer and other conditions where the disease or treatment involves significant pain. Wal-Mart creates “the back center” in its stores and expands access to low cost chiropractic care. There are 103,000 chiropractors, with average visits per week holding at about 120, with back conditions representing 50% of visits and wellness another 20%. Underemployment among chiropractors holds at about 15%.

Scenario 2—Hard Times, Frugal Health Care

Chiropractic is drastically affected by frugal universal coverage through managed care; outcomes limit manipulation to back problems. Meanwhile, 50% of spinal manipulation is delivered by physicians, nurses and other health professionals. Chiropractic colleges close, as only 68,000 chiropractors are needed in 2010. Many of those still practicing are forced to sell “the \$10 treatment.” Wellness visits decline and underemployment grows to 35%.

Scenario 3—Self-Care Rules

Very effective self-care, including advanced home health systems and universal catastrophic coverage, make health care a buyer’s market. Individuals and families can do most of their care very effectively at home, lowering the need for all types of providers. Surplus providers exceed the 450,000 number forecast in the 1990s by the Pew Commission. Health care professionals who provide “touch” are in high demand but competition is fierce. Chiropractors are able to increase demand significantly by ensuring they provide care to 60% of those Americans with back problems (rather than 40% as in the 1990s). Chiropractors also expand the indications they can treat with proven efficacy as well as provide evidence that for many people wellness visits are appropriate. The success of chiropractors leads to 85,000 chiropractors in 2010 (about 20,000 fewer than anticipated in 1997), but they are doing well.

Scenario 4—The Transformation

Chiropractors’ clarified and expanded vision for the profession leads them to expand their contribution to health outcomes for their patients and their communities. Wellness and self-healing through enabling the body to function effectively (the innate healing force) becomes a much sought-after contribution of chiropractors through manipulation—so sought-after that 50% of manipulation in 2010 is performed by non-chiropractors. Chiropractors broaden what they do with and for their patients and their communities. For their patients they combine intelligent information systems with high touch and assertive coaching.

Scenario Matrix: Comparison of Chiropractic Demand in 2010

	1997	Scenario 1— More and Better Health Care	Scenario 2— Hard Times, Frugal Care	Scenario 3— Self-Care Rules	Scenario 4— The Transformation
US Population	270,000,000	300,000,000	300,000,000	300,000,000	300,000,000
% under managed care	56%	90%	80%	60%	80%
# under managed care	151,000,000	270,000,000	240,000,000	180,000,000	240,000,000
% using CAAs	37%	66%	50%	70%	90%
# using CAAs	99,900,000	198,000,000	150,000,000	210,000,000	270,000,000
% using chiropractic manipulation	10%	25%	5%	30%	40%
# using chiropractic manipulation	27,000,000	75,000,000	15,000,000	90,000,000	120,000,000
% of chiropractic manipulation done by non-chiropractors	6%	10%	50%	30%	50%
% of chiropractic manipulation done by automated devices	0%	10%	5%	30%	10%
# using chiropractic manipulation done by a chiropractor	25,380,000	60,000,000	6,750,000	36,000,000	48,000,000
# of chiropractors	55,000	103,000	54,000	85,000	103,000
Chiropractic patients per chiropractor	461.45	582.52	125.00	423.53	466.02
Average treatment length per patient, in minutes	12.9	10.0	9.0	9.0	8.0
Average number of treatment visits per year per client	9.0	7.0	6.3	6.3	5.6
Average number of wellness visits per year per client	6.0	4.0	1.5	8.0	5.5
Total number of chiropractic visits	232,356,600	480,000,000	93,060,000	612,900,000	666,000,000
Total number of visits per chiropractor per year	4,225	4,660	1,723	7,211	6,466
Total number of visits per chiropractor per week	121.00	89.62	33.14	138.67	124.35

Scenario Matrix: Comparison of Chiropractic Demand in 2010 (cont.)

	1997	Scenario 1— More and Better Health Care	Scenario 2— Hard Times, Frugal Health Care	Scenario 3— Self-Care Rules	Scenario 4— The Transformation
Conditions Treated					
Musculoskeletal pain (percent of total visits)	70%	48%	89%	43%	36%
Musculoskeletal pain (number of visits)	162,649,620	230,400,000	82,823,400	263,547,000	239,760,000
Headache pain (percent of total visits)	8%	8%	7%	4%	4%
Headache pain (number of visits)	18,588,528	38,400,000	6,514,200	24,516,000	26,640,000
Other conditions (percent of total visits)	4%	19%	2%	18%	10%
Other conditions (number of visits)	9,294,264	91,200,000	1,861,200	110,322,000	66,600,000
Wellness visits (percent of total visits)	18%	25%	2%	35%	50%
Wellness visits (number of visits)	41,824,188	120,000,000	1,861,200	214,515,000	333,000,000
Types of Chiropractic Practice					
Solo private practice	76%	45%	58%	50%	40%
Group or partnership practice	21%	40%	34%	39%	43%
Employed by other provider/organization	2%	12%	5%	5%	5%
Teach at chiropractic college	1%	3%	1%	1%	2%
Non-clinical chiropractors	less than 1%	1%	2%	5%	10%

Source: IAF, 1997

SCENARIO 1—MORE AND BETTER HEALTH CARE

The health care system is driven by managed care, outcomes and consumer demands.

- *Electronic medical records are widely available and they are provider- and patient-friendly. This widespread availability helps complementary and alternative approach (CAA) providers to prove their efficacy.*
- *Insurance plans expand to integrate coverage for automobile accidents and workers' compensation claims.*
- *Oxford Health Care-style plans become the dominant form of managed care by 2010, giving the consumer the lead in deciding what type of care and by whom health care is provided. Chiropractic is advantaged because of its long history of high levels of patient satisfaction.*
- *Several chiropractic PPOs and IPAs are formed and compete successfully.*

The "Forecast, Prevent and Manage Paradigm" dominates over the episodic, reactive treatment approach.

- *Outcome measures (including patient satisfaction) are generated for all treatment modalities.*
- *Many alternative remedies are proved efficacious; chiropractic is found especially beneficial in treatment of low back pain, headaches, neck, arthritis, scoliosis, asthma and repetitive stress injuries.*
- *Periodic chiropractic manipulations (twice yearly) show benefits for lifelong wellness.*
- *Managed care and insurance plans provide a high level of coverage of chiropractic services.*

Graduating classes from chiropractic colleges grow to 4,500 by 2005 and 5,000 by 2010, compared with 3,500 per year in mid-1990s.

Wal-Mart introduces "category killer" back health stores. Like its vision centers in the 1990s, these sections in Wal-Mart provide low-cost services such as massage and basic chiropractic treatments from licensed practitioners, and they sell equipment and devices.

- *The stores handle some of the growing population of managed care patients.*
- *Wal-Mart creates its own insurance plans for dentistry, vision care and CAAs, including chiropractic, acupuncture and homeopathy.*
- *The stores offer extended and weekend hours.*
- *Younger chiropractors find job opportunities in these Wal-Mart back health stores and like the work.*

Chiropractic uses celebrity endorsements in national marketing campaigns to generate interest and create awareness of the benefits of chiropractic health care.

- *Tiger Woods stars in the first nationwide television ad for chiropractic services.*

SCENARIO 2—HARD TIMES, FRUGAL HEALTH CARE

Economic hard times and serious health care reform lead to frugal, universal coverage through managed care.

- *Use of CAAs is widespread, outside of universally available managed care; patients often barter for services and receive only what they can afford.*

Coverage by managed care is driven by outcomes.

Chiropractic outcomes for conditions other than back problems prove inconclusive and limit chiropractic demand.

- *Based on dissatisfaction and excessive force in treatment, several high-profile chiropractic patients lodge successful malpractice suits against chiropractors.*

Outcomes for other CAAs are mixed and economic hard times make certain low-cost CAAs (e.g., herbal medicines) appealing.

Some CAAs grow in use for a wealthy segment of the population regardless of efficacy.

Demand for chiropractic care by DCs inside managed care is limited.

Increased competition by non-DC providers of manipulation and underemployed DCs leads to lower prices and the advent of many "bargain basement" chiropractors advertising "the \$10 adjustment!"

Chiropractic colleges see a nearly 50% drop in enrollment as earlier graduates find it very difficult to find work.

- *Many colleges are no longer viable and the number of colleges declines from 16 to 10.*

Half of basic manipulation to treat LBP is done by physicians and other practitioners (nurses, physical therapists, other allied health professionals, DOs and massage therapists).

- *Some community colleges begin to offer six-month courses that certify students in spinal manipulation.*
- *Other health professionals as well as many who were considering attending chiropractic colleges attend these programs.*

SCENARIO 3—SELF-CARE RULES

Self-care, universal access to catastrophic health insurance and expert systems all combine to create a system of self-managed care.

- *Consumers pay for most care out-of-pocket because of the high deductible.*
- *Medical saving accounts (MSAs) are widely used and reinforce consumers' need to "shop wisely."*

A two-tier system results, with the rich able to buy more expensive options.

- *The wellness model is common and many people visit a chiropractor on a monthly basis, some through insurance, most paying out-of-pocket.*

Structural unemployment rises for all health care providers as managed care is replaced by managed self-care, with expert systems enabling consumers to do most of their own care. By 2010, the 1995 estimate of 350,000–500,000 surplus physicians, nurses and pharmacists has been exceeded.

- *Structural unemployment affects more than just health professionals; it diminishes many individuals' ability to pay out-of-pocket for some services*
- *Health care professionals using "touch modalities" have an advantage, but competition is fierce.*

A large range of sophisticated manipulation services is sought by consumers as treatment for LBP, arthritis, women's health and repetitive stress disorders. Spinal manipulation is delivered largely by chiropractors but also by physicians, physical therapists and others.

Health care markets become much smarter, and consumers are able to make sophisticated choices about competing modalities and providers.

- *Chiropractors compete with other CAA providers and conventional providers for patients. Patient satisfaction, cost, proven efficacy and "reputation" as a healer separate the winners and losers.*
- *Government plays a role as monitor/regulator of health information.*

Expert systems are very effective "electronic coaches," enabling self-care and wellness; these are backed up, when needed, by in-person visits with practitioners.

- *DNA profiles in medical records and genome mapping allow a better understanding of the relative role of genetics and environment in causing health problems, including low back pain*

Sophisticated "home healthy" chairs and related devices provide relatively advanced acupressure, inter-segmental traction and back massage.

- *Bio-data gathered by these chairs is recorded directly into the patient's electronic medical record.*

- *The chairs are used in health providers' waiting rooms as well as in chiropractic offices.*

About 15% of chiropractors move into non-clinical roles as developers of self-care technologies, public health administrators and outcomes/integration researchers.

SCENARIO 4—THE TRANSFORMATION

Values, cultural creativity and visionary choices, aided by a few human and natural catastrophes, lead to a global mind change. Wellness is pursued, particularly through high-leverage health gain strategies.

- *Managed care dominates, with aggressive and visionary leadership.*

Focus of the health care system is now wellness. Wellness is seen as a combination of better physical health, personal growth and community health.

- *The bio-psycho-social approach leads to greater emphasis on lifestyle.*
- *Healing touch is a major tool for prevention and treatment.*
 - *Quarterly wellness visits to health professionals who also play a significant health coaching role become common for many individuals.*
 - *Along with an increase in wellness care, chiropractors regularly treat the secondary and tertiary effects of terminal diseases and advanced aging.*

Health is defined in many compatible ways, one of which is more effective communication from the brain to each cell in the body and vice versa via the spine.

- *The ability of the body to heal itself, called by many names—including the innate life force, remembered wellness or the placebo effect—becomes a central part of health care.*

People understand the benefits and risks of all relevant modalities.

- *Individuals also know the "batting average," the comparative outcomes, of all health care professionals and expert systems available to them.*

Health care adopts a design focus. Syndromes of risk are designed out wherever possible.

- *Health professionals expand into appropriate roles for broader health.*
- *Chiropractic work includes advice and advocacy on environmental, workplace and school health.*
- *Many chiropractic graduates continue their education in public health and become DC-MPHs and find work as non-clinicians in public health and policy roles.*

SCENARIOS FOR CHIROPRACTIC IN 2010: LESSONS LEARNED

As mentioned earlier, scenarios are tools for learning about the future. This set of scenarios on the future of chiropractic care should help the chiropractic community first to better understand the range of plausible futures for the field and then to better plan to take advantage of the potential opportunities created by the changing future environment.

There are a few lessons that the chiropractic community should take away from this set of scenarios:

- Outcomes will drive which providers will treat which conditions.
- Information systems will enable health care to become a “market” with providers and modalities better able to compete with each other on level ground.
- Health care providers who seek opportunities to leverage health gains in the communities they serve will be winners.
- Non-clinical opportunities for chiropractors in community health, self-care technology development and policy areas will grow.
- Self-care, enabled by information technology and health devices, will play a large part in shaping 21st century health care.
- The competition for patients will be fierce—only those health care providers creating the greatest value-added (optimizing health gains) for their patients will remain viable.
- Strong relationships between patients and providers will prove to be an important advantage, even in managed care settings.
- “Touch” professionals will have an advantage in the future.

The chiropractic community should use this set of scenarios to understand:

- There is a range of plausible futures for chiropractic and health care.
- With insightful and proactive action and decisions, the chiropractic community can create the future it prefers.
- Chiropractic and chiropractors need a powerful shared vision of the desired future for the chiropractic community, while grounded in the realities described in these scenarios. The vision should reflect the deepest aspirations for the future of chiropractic and the profession’s contribution to the health of the patients and communities it serves.

Chapter 6

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INTRODUCTION

Chiropractic is a uniquely American health profession. With 55,000 chiropractors in the United States it is the largest of the complementary and alternative approaches (CAAs), used by an estimated 10% of Americans. Yet this 10% represents only one-quarter of those who have back related problems. Thus there is potential for additional use of spinal manipulation for many more people given the existing patterns of back related complaints. And there is a wide range of other indications for which chiropractic services are sought, for which efficacy is not yet established. Beyond classic medical indications, as much as one-third of current demand for chiropractic services may be for wellness or routine maintenance visits not related to a specific problem or incident. These wellness visits might grow as well. And chiropractors face the choice of optimizing health gains by consistently using a wider range of tools, such as behavioral and nutrition coaching, beyond the primary focus on spinal manipulation. Finally, beyond care for individuals lies chiropractors' contribution to health gains for their communities.

In the face of these opportunities, supply is rising. The chiropractic field will nearly double its numbers by 2010, to 103,000. Meanwhile, a likely surplus of physicians and nurses could reach 300,000 to 450,000 by 2010. Surviving physicians will broaden their range of tools, including perhaps to manipulation. Thus, competition may become particularly fierce.

In this chapter we provide our major insights, then identify what we found in relation to the five hypotheses we used for this study. Next are our recommendations for the profession and finally our conclusions.

MAJOR INSIGHTS

Principle Challenges Facing the Field

- The conflicts among the leadership in the chiropractic field are often more visible than any high-level cooperation; the field needs a powerful shared vision to remind the profession of what is significant that it shares in common.
- Consumers, other than satisfied chiropractic patients, often have a low or negative opinion of chiropractic.
- While most chiropractors consider themselves to be providing primary care, most do not provide what would be expected of a primary care provider, and neither the public nor the health care provider community sees chiropractors as primary care providers.
- Most chiropractors are doing relatively little to include CAAs in their services.
- The potential doubling in the number of chiropractors by 2010 will create divisive competition if demand for services does not grow in proportion to projected growth.

- Some chiropractors do over-treat and have contributed to the negative image of the profession among some of the public.
- Managed care will at least initially limit what is covered, and often provide fewer than the normal number of visits at lower than profitable rates. Managed care in some areas has already created significant underemployment of chiropractors.
- Allopathic physicians, nurses and pharmacists also face surplus numbers in a marketplace squeezed by managed care.
- Other CAA providers, particularly those using homeopathy and acupuncture, have a more favorable image than do chiropractors among many consumers.

Opportunities for Chiropractors

- Chiropractic is a dynamic healing profession that as an American invention has helped people for more than 100 years.
- Chiropractic stimulates the capacity for self-healing and for effective neural communication within the body. Proof of this capacity can create a larger role and market for the profession.
- There is great potential for providing regular “wellness” visits. Among established chiropractic practices, a significant percentage of patients already come in for “wellness” or routine maintenance visits.
- Chiropractors can create primary care and health promotion options for themselves—given the right vision, commitments, strategies and communication of credible outcomes research.
- The information revolution will give chiropractors better tools to enable effective primary care and health promotion in more time- and cost-effective ways.
- The profession can advertise that for a number of indications beyond back pain, the evidence of chiropractic benefits is growing, and that chiropractic patients generally report high degrees of satisfaction.
- A wide array of public figures uses chiropractic and no doubt many would gladly give endorsements.
- Chiropractic is fundamentally a touch or hands-on approach, at a time when the public is yearning for personal relationships with their providers.
- Chiropractic has its own interpretation of mind-body relationships in the chiropractic notion of vitalism. A public increasingly alienated from impersonal medical procedures may be drawn to this approach.
- The profession can enhance its research and learning capability and may attract additional public support and funding for research.
- Managed care can provide access to a larger number of patients and to other health-care providers, enabling greater work on teams in integrated health-care systems.
- Beyond individual patients, significant opportunities exist for chiropractors to enhance community health, some of which could increase business.
- Chiropractic colleges can develop greater skill levels using techniques from other CAAs (such as Oriental medicine and homeopathy).

STUDY HYPOTHESES

We began this study with certain hypotheses for which we expected to find support and which helped to frame our research. This section will set out our findings and insights related to these hypotheses. As noted above, this study on the Future of Chiropractic was done in parallel with a larger study on the Future of Complementary and Alternative Approaches. The results here likewise parallel those reported in that study, though with an explicit focus on the chiropractic profession.

Again, the hypotheses we identified in Chapter 1 are as follows:

1. Complementary and alternative approaches, including chiropractic, will be integrated into conventional medical protocols, displacing some portion of conventional medicine.
2. Chiropractic and other CAAs will become major tools for health promotion and prevention.
3. Chiropractors and other CAA providers will become recognized as primary care providers and will be funded by the dominant health care systems.
4. The use of manipulation and other alternative therapies by conventional providers and “automated” providers will increase.
5. Chiropractors, other CAA providers and conventional care providers who take a significant role in creating healthy communities will gain a competitive advantage.

A “futures study,” speculating on what is likely to occur between now and 2010, has no empirical data to work with since the events have not yet occurred. This in no way means that information is lacking. There are patterns of experience as well as newly emerging trends. There is also the will, the commitment and the energy of individuals and organizations to create the future. At the Institute for Alternative Futures we regularly observe these trends in society and the environment, in science and technology, and in health care delivery and therapeutics, as well as trends in visions or preferred futures. We considered the trends we are monitoring on an ongoing basis, and we asked experts in health care, both conventional and CAAs, and in health policy for their insights, forecasts and reactions to our forecasts. These experts provided their assessments of what has occurred and their speculations about what might be and what they think should be. We also consulted consumers and managed care executives in focus groups. Finally, we conducted extensive additional literature research.

Thus, this report reflects a high level of collective intelligence. What we present here is our synthesis and interpretation of that intelligence in relation to the hypotheses—our “findings” for this futures report.

Hypothesis #1—Complementary and Alternative Approaches (CAAs), including chiropractic, will be integrated into conventional medical protocols, displacing some portion of conventional medicine – Yes to both integration and displacement

This trend has already begun to occur. By 2010 CAAs will definitely be integrated into conventional protocols. Chiropractic manipulation will be integrated for a variety of conditions. The Agency for Health Care Policy and Research (AHCPR) has found it effective for acute lower-back pain in the context of certain appropriateness criteria. There is some, though as yet limited, evidence of effectiveness for neck pain and headaches, and promising though unconfirmed evidence for effectiveness of many other conditions (see Table 4-1). It is likely to displace some degree of surgical or pharmacological care for those indications where its efficacy is shown.

The degree of integration and displacement will also be affected by four major trends occurring in conventional therapeutics:

- 1) The customization of therapeutics based on the genotype and phenotype of the individual;
- 2) Moving toward “integrated therapeutics,” which naturally will include some CAAs;
- 3) Simultaneously seeking “fully decisive” therapeutics; and
- 4) Using cost-effective “supportive” or complementary approaches, which add to the quality of life.

The use of chiropractic and chiropractors will be affected by each of these.

Customization of Therapeutics

- This area is more speculative, though it is likely that genomics will discover genes that relate to chiropractic, e.g., that signal speed within the nervous system. This may affect how chiropractic is delivered, and target its efficacy still further. Likewise the phenotypic groupings of Oriental, Ayurvedic or homeopathic medicine may prove relevant to what and how manipulation is provided.

Integrated Therapeutics

- For chiropractors to use a more integrated approach takes knowledge and time. Part of the chiropractor’s dilemma in considering future roles is the time-efficient nature of manipulation, allowing an effective patient encounter in 10 minutes or less. There are likely to be expert systems developed which enable chiropractors, as part of their practice management, to cost-effectively do more lifestyle monitoring and coaching for their patients.
- However, some chiropractors (often of the “straight” vs. “mixer” school of chiropractic) argue that chiropractors should remain focused on manipulation alone.

- Primary care will require chiropractors to confront a broader set of conditions among their patients, as well as a broad, integrated set of therapeutic tools.

Definitive treatments

- Medical scientist Lewis Thomas noted that most approaches used in conventional health care are “halfway technologies”—they palliate, but do not provide definitive prevention or cure. Thomas thought we would find “definitive treatments” in the 21st century.¹ Health care in this century has sought definitive treatments, sometimes conceived of as “magic bullets” which target the problem or disease but require little behavioral change on the part of the patient. Some CAAs may provide “magic bullets,” e.g., herbal or homeopathic remedies for various problems. Chiropractic manipulation itself can, for some, provide a definitive treatment. Yet a profound lesson is now being absorbed by the health care system from the integrated approaches. Ornish’s program for heart disease can reverse heart disease by reversing plaque buildup in the arteries. Ornish argues that his approach can also be used to reverse cancer. Instead of a “magic bullet” this represents a more holistic “magic arsenal” which includes behavioral approaches (particularly diet, exercise, stress relief and spirituality or personal growth).
- There will be new, powerful “magic bullets” in the classic pharmacological sense, e.g., drugs that effectively melt plaque in the artery. And there will continue to be interest in and support for quick fixes, by both consumers and health care providers. But the paradigm of being healthier rather than relying on “fixes” will grow as well.

Supportive treatments

- Chiropractic offers great promise for enhancing the quality of life for those with certain chronic conditions and for those undergoing therapy which is physically taxing, such as cancer chemotherapy. CAAs are already widely used by consumers in this area and experts such as Michael Lerner have argued for such a role for chiropractic for some cancer patients. As evidence of the efficacy and cost-effectiveness of CAAs as complementary therapies becomes more available, health care providers will incorporate them into their practices. IAF’s forecast for this report, presented in Chapter 1, is that chiropractic is likely to have value as a supportive or complementary therapy for AIDS, Alzheimer’s, arthritis, cancer, some chronic pain, diabetes and heart disease. Cost-effectiveness will be important to winning medical coverage, but coverage is likely to grow. In addition, out-of-pocket spending for chiropractic as a supportive treatment—especially as evidence of effectiveness is shown—will grow.

Hypothesis #2—Chiropractic and other CAAs will become major tools for health promotion and prevention – Yes

This will occur in two ways: first, by their fostering of broader lifestyle and mind/body approaches and second, through greater routine use of core CAA modalities, such as

periodic “wellness” visits for spinal adjustment or for energy re-balancing through acupuncture.

Health promotion using multiple modalities

Physical, nutritional, psychological and spiritual approaches to health will generally make a person healthier and provide higher quality of life. Thus they are “winning” strategies even if the person has a fatal condition such as late-stage cancer. In some cases they may be all that is needed to restore health; in other cases they can help individuals to die well.

- CAAs such as Oriental medicine, chiropractic and homeopathy are all based on philosophies that encourage holistic health practices on the part of the individual. These three, and many other CAAs, thus theoretically reinforce health promotion. The same could be said for allopathic medical care, at its philosophical best. In practice, as noted regarding integrated therapeutics, CAA providers can be as reductionist as allopathic physicians often are in focusing on the immediate complaint at hand, using a limited set of therapeutic tools. When chiropractors act consistently with broader health philosophies and visions, within a practice environment that monitors long-term outcomes and consumer satisfaction, CAAs are likely to become a standard component of health promotion—particularly their lifestyle components.

Health promotion through routine wellness visits

- Leading CAA providers and experts argue that periodic visits are needed to maintain patients’ health. Some chiropractors recommend quarterly or monthly checkups; some physicians using integrated practices recommend quarterly visits for energy re-balancing through acupuncture, spinal manipulation and conversations about personal well-being. Such visits can vary widely in their time and cost. A visit involving only spinal manipulation might lead to patient and chiropractor contact of as few as five minutes, while a wellness visit incorporating a range of approaches including acupuncture might take 45-60 minutes of the consumer’s time and 30-45 minutes for the practitioner.

An estimated 14-35% of chiropractic visits in this country already consist of these “wellness visits.” Their popularity has been driven by consumer demand; many consumers are willing to pay for them out-of-pocket. Some experts argue that such visits reduce the need for more costly diagnostic or treatment approaches, particularly hospital utilization. These “wellness visits” paid for by consumers as “non-medical” services will grow, as will the consumer “report cards” which allow consumers to identify their degree of satisfaction with such payments. Simultaneously, chiropractors doing this type of practice will be called on to identify how much of a difference these sessions make to health.

Hypothesis #3—Chiropractors and other CAA providers will become recognized as primary care providers and will be funded by the dominant health care systems – *Potentially*

Chiropractors and other CAA providers will be recognized as primary care providers

- As noted in Chapter 4, “primary care” is a moving target. The definition of a primary care provider is shifting, from simply the “primary contact” caregiver to the practitioner who assumes overall responsibility for effectively managing the patient’s problems, including referrals to other health care professionals where appropriate. Beyond this, the role also includes acting as a consultant or advocate on health promotion both for the individual and for the community.
- Using the broader definition—as the person who is the primary or first contact for patients and who is responsible for managing an individual’s health care—chiropractors do play this role for some of their patients, but are not generally recognized as such. Other CAA providers, for example, naturopaths, some Oriental medicine practitioners and homeopaths, are seen as primary care providers. As evidence on outcomes becomes more available, and as CAA providers show themselves able to work within health care delivery systems, their role as primary care providers will grow, particularly if they can offer either less-expensive care or consumer-preferred care, or both.

To increase their own effectiveness, chiropractors need to better understand both competing CAAs and conventional approaches to care. And they will need to become more open to evidence for the efficacy of conventional practices that grate on them philosophically. Conversely, conventional health care will discover that some of the complaints by the CAA providers have merit and can be dealt with. For example, some chiropractors oppose mandatory immunization because of the potential side effects. Yet the general success and appropriateness of childhood immunizations is sufficiently established that managed care organizations, to maintain their certification, are required to work to maintain high rates of immunization in their communities. Nevertheless, the chiropractors’ argument has some merit, and, in the years ahead, genomics will allow us to target who is likely to experience particular side effects. Practitioners and patients can then consider the relative risks more effectively.

Funding by dominant health care systems

- Increasingly, health care providers are including CAAs, both therapies and providers, in their coverage. As noted, many leading health care providers are opening CAA centers in their systems and incorporating CAAs into their standard practice. Given the high degree of consumer interest, and presuming growing evidence for cost-effectiveness, CAAs (medications and services) will be funded by the dominant health care systems. The extent to which this will include chiropractors

as the primary care physician will depend on the efficacy and cost-effectiveness of chiropractors handling the full range of health problems a managed care organization must deal with.

Chiropractors' choices will define their primary care role

- In our view, the ultimate answer of whether the chiropractor will become a primary care physician for more than a small percentage of individuals will depend on the decisions of individual chiropractors to take on the responsibility and to broaden their tools, information sources, health care partnerships and practice styles.

Hypothesis #4—The use of chiropractic manipulation and other CAAs by conventional providers, “automated” providers and consumers themselves will increase – Yes by conventional providers for chiropractic; Probably Not by robots and consumers

Application by conventional providers

- By 2010 health care in the United States will be far more effective and cost-effective than now. Chiropractic manipulation and other CAAs will be incorporated into health care. Integrated therapeutics, protocols and best practice benchmarking will be common and will be more easily incorporated into health care practice by various expert systems. Yet the same development of expert systems which assist health care providers will also provide much of that knowledge directly to individuals for enhanced self-care.
- By 2010 significant surpluses of physicians and nurses will have occurred. Health care providers who can compete successfully in this environment will need to be able to deliver the most appropriate care. Given consumer demand for CAAs, including chiropractic, allopathic physicians and nurses providing direct care are likely to incorporate chiropractic manipulation as well as other CAAs. This will particularly be the case where they are reimbursed for the manipulation.
- Increasingly, health care systems will advertise how “holistic” they are. Local report cards are likely to assess how “holistic” health care systems and individual providers are, noting which major approaches they use and ultimately how successful they are in applying various conventional, complementary and alternative modalities, including manipulation, in treating specific conditions and for prevention. It is feasible and likely that conventional health care plans will also make more consistent use of their members to test and validate CAAs and conventional therapeutics. This active involvement of large numbers of individual patients/customers in testing new and old therapeutics will become more important, as customization of care leads to a focus on effectiveness in specific subgroups in the population.

- Chiropractic manipulation is an advanced skill related to sophisticated diagnostic requirements. As noted in Chapter 3, while it might take two to four years for a trained health care professional to be trained to provide full chiropractic care, limited spinal manipulation can be taught in several weeks. For other modalities, or aspects of them, e.g., use of a homeopathic remedy or an Oriental herbal remedy, a physician might be able to apply them almost immediately if the relevant expertise has been incorporated into the protocols and expert systems used by the physician's health care organization.

“Automated providers”

Many aspects of health care generally, and CAAs specifically, will be provided by expert systems and/or intelligent equipment in the years ahead.

- Automation of spinal manipulation, while feasible in the next century, is not likely to have a significant effect on the demand for manipulation by human professionals.

Consumer self-care with manipulation

- One definition of the chiropractor's role is to manipulate the joints of the spine beyond what an individual could do alone—the paraphysiological range. It is possible that some automated manipulators may become relevant for the consumer or fitness market. Potential examples include a chair or similar device—a successor to the acupressure chairs already on the consumer market—or consumer versions of the intersegmental traction tables used in chiropractors' offices. These devices would provide various types of spinal mobilization, stretching and traction. The technical question is whether these pieces of equipment could effectively move the spine into the paraphysiological range of motion. Most chiropractors in our study thought this unlikely and were offended by the idea. Some more technologically focused experts thought it feasible at some point in the first part of the 21st century, if not by 2010.

Hypothesis #5—Chiropractors and other CAA and conventional health care providers who take a significant role in creating healthy communities will gain a competitive advantage – *A qualified Yes, hopefully*

This hypothesis is based on our observations of developments in health care in the United States and other regions of the world. Given IAF's experience, and what we have learned in developing this report, our forecast remains that health care providers (both individuals and health systems), while being held accountable for the health outcomes of their individual patients, will share responsibility for the health of the communities they serve. To the extent they can help create healthier communities, they will gain competitive advantage. This forecast is made with less certainty than those above. It is as much an aspiration or statement of hope as a plausible forecast. To date, community health has not been a focus for most CAAs (as it is not for most MDs). The

1998 award from *Prevention* magazine and the Alliance for Chiropractic Progress to chiropractors for community service is an important step from inside the profession in that direction.

RECOMMENDATIONS

Aspire: Clarify Chiropractic's Identity and Vision

Chiropractic is based on powerful visions—from D.D. Palmer on—held by leaders who are committed to using a set of tools focused on the spine to bring about better health. Chiropractors have been able to maneuver successfully through a multitude of challenges over the last 100 years.

Yet the challenges will become even more pronounced as we enter the 21st century. It is time to consider the identity and vision of the profession for the 21st century.

Much of what we have reviewed deals with the tools, the strategies and the challenges facing chiropractic. Chiropractic's vision is about what the field is committed to creating—What is the best that can be? What is the noble purpose of chiropractic? What is the legacy that today's chiropractors will leave for their children and grandchildren? Answers to these questions are vital both within the profession and in communication with the public.

Where powerful shared visions can be created, the pursuit of narrow self-interest becomes more difficult. It is essential that chiropractors develop this shared vision so that individual chiropractors can enhance their own vision and identity. In the challenging times ahead, vision and identity provide a compass. The environment for healing will become ever more rewarding, yet the economic and administrative challenges will appear more threatening. A vision links the profession's values to what it wants to create. Below we review our recommendations regarding primary care, managed care and health promotion. But these will be most productive in the context of a powerful shared vision for the profession.

- The leading national chiropractic organizations should cooperate to develop a unified vision for the profession that helps it unite around the highest shared values of chiropractors, those they wish to sustain and the resulting “preferred future” which they can jointly commit to creating.
- The development of this vision should touch as many chiropractors in the United States as possible.
- This national chiropractic vision should be done in association with state and local vision development.
- Processes should be developed to help individual chiropractors clarify their own personal vision and identity in connection with the larger profession. These

processes should enable chiropractors to more easily consider their long-term contributions and their near-term strategies regarding primary care, managed care and health promotion.

Determine Chiropractic's Role in Primary Care

Primary care is evolving into the leading edge of health care, responsible for the outcomes of the individual and sharing the responsibility for the health outcomes of communities. Primary care practitioners and their patients will have ever more sophisticated tools that allow the patient to do advanced self-care and the practitioner to provide various levels of ongoing coaching and services, which formerly were the domain of specialists. A major factor in successful primary care will be the commitment on the part of providers to proactively manage the health of their patients, in cooperation with their patients.

Many chiropractors see themselves as primary care providers, yet they are not recognized as such by payors or by most consumers. Some chiropractors choose not to consider themselves primary care providers.

Hence, we recommend that the chiropractic community:

- Help individual chiropractors determine if they are willing to take on the additional challenges of being more broadly responsible for the health of more of their patients, including maintaining an effective personal relationship and taking responsibility for lowering their preventable morbidity.
- Fund outcome studies with large enough groups to determine the efficacy and cost-effectiveness of chiropractors as primary care providers in comparison with other primary care providers.
- Accelerate the development and availability of tools that chiropractors can use to do more effective primary care in the most time-effective ways.
 - Prepare chiropractors to treat the wide range of primary care complaints and to refer effectively as appropriate.
- For those chiropractors who choose not to pursue primary care, celebrate the fact that many chiropractors will remain neuroskeletal specialists providing worthy services, without taking on the broader responsibilities of primary care.

Engage Managed Care

Managed care faces its own identity and vision crisis. Managed care has spent much of its effort managing cost, not managing care—much less managing and enhancing health. But this is likely to change, with managed care being driven by outcomes to provide long-term health gains. In addition, by 2010, managed care will have been partially displaced by sophisticated self-managed care. In the meantime, managed care will continue to be a major force affecting the practice of most chiropractors.

Therefore, we recommend that the chiropractic community:

- Accelerate the development of outcome measures to show the cost-effectiveness of chiropractic manipulation for the traditional indications chiropractors treat as well as for the emerging indications listed in this report.
- Prepare chiropractors to compete in very cost-constrained settings.
- Prepare chiropractors to work effectively as members of various types of health care teams.
- Enhance and operate effectively the chiropractic equivalents of managed care, taking on the risk, managing the care and generating greater health gains than conventional managed care.
- Encourage patients to demand chiropractic care from managed care plans, and equip them with the evidence of chiropractic's efficacy.
- Enhance and document chiropractic's relevance to the Medicare business—as more of Medicare comes under managed care, chiropractic's ability to treat geriatric conditions and manage pain should be promoted.
- Prepare chiropractors to play a gatekeeper role, managing access to proven CAAs effectively, for managed care.
- Take optimum advantage of third-party studies favorable to chiropractic, such as AHCPR's, for publicity and leverage them into managed care coverage.
- Prepare chiropractors to thrive with emerging provider systems, such as retailers who enter the delivery market ("Wal-Mart Back Store" type of option).

Champion Health Promotion

To the extent that health promotion is part of the identity and vision of chiropractors, the profession needs to make health promotion a real part of their daily practices. Health promotion will play a large role in 21st century health care. Chiropractors will want to demonstrate their ability to contribute to health promotion for individuals and for the communities they serve.

Thus, we recommend that the chiropractic community:

- Enable chiropractors to provide health promotion services more easily and cost-effectively.
- Increase chiropractic outcomes as health coaches, affecting behavior positively.
- Explore and document the effectiveness of routine "wellness visits" to chiropractors.
- Accelerate the development of appropriate in-office and in-home tools for patient self-direction, automating appropriate parts of the health promotion process.
- Individual chiropractors and local and state chiropractic associations should commit to community health initiatives.
- Use epidemiological approaches to determine where the greatest health gains can be achieved and to lower the incidence of back-related conditions.
- Be creative in attacking the largest causes of illness regardless of their impact on

chiropractic demand; and seek out high-leverage situations where appropriate chiropractic treatment can make significant health gains.

- Be personal models of health promotion.
- Provide “performance enhancement” and proactive wellness services, and monitor their outcomes.

Enable the Chiropractor to Practice More Broadly

In this evolving health care environment, chiropractors must be able to deal with the emerging science and technology in health care, with the growing role of other CAAs and with relevant developments in conventional medicine.

We recommend that individual chiropractors and the chiropractic community:

- Encourage the development of software and other tools for choosing among and accessing various CAAs.
- Enable chiropractors to deal with the information which genomics will produce on the proclivity to various diseases, as well as the impacts that it is likely to have on the chiropractor’s patients.
- Accelerate the capacity of chiropractors to customize their treatment and health promotion services, as appropriate genotype and phenotype markers become available.
- Foster appropriate research on the role of genotype and phenotype from a chiropractic perspective, and research the appropriate chiropractic response.
- Identify additional customization approaches (in addition to genomic genotype, the phenotypes suggested, for example, by homeopathic, Oriental or Ayurvedic medicine) that will target chiropractic.
- Move beyond professional chauvinism in order to accelerate the ability to work with and refer to physicians and other health care providers.
- Explore the contribution that chiropractors can make in public health, policymaking and research through roles other than as clinicians.
 - Assist individual chiropractors and students to provide important contributions beyond clinical services.

Monitor: Define, Collect and Share Outcomes

The chiropractic profession, like all health professions, will need to provide outcomes data in the future to justify their treatment approaches. Outcomes may well make the difference between the winners and losers in the 21st century health care environment.

We recommend that the chiropractic community:

- Aggressively promote data collection in chiropractic practices. Ensure that this data can be used to aggregate information across practices, in order to show community and nationwide patterns.

- Support the development of local/community report cards on chiropractors and other health care providers.
- Update the Mercy Guidelines and other relevant benchmarks or practice guidelines, frequently; do this in relation to parallel advances in health promotion, genomics, self-care and community health.
- Develop the outcomes that justify chiropractic care for indications beyond treatment for lower back pain.
- Develop the outcomes that justify routine wellness visits.
- Develop the outcomes that enable chiropractors to optimize their use of multiple approaches by determining what CAAs or conventional approaches are best used with manipulation.

Communicate

Communication of a coherent message and vision will be vital for chiropractic. Chiropractors must overcome negative beliefs held by consumers and managed care executives regarding the profession's scope of practice and efficacy.

We recommend that the chiropractic community:

- Work to overcome chiropractic's negative image among many consumer and health care executives by focusing on the outcomes that chiropractors can provide and the wide range of individuals who use chiropractors.
- Develop a communication plan that makes use of both existing and emerging media to reach the wider public.
- Seek out celebrity users of chiropractic to endorse the field.

Self-Police the Profession

All health professions have their share of poor practitioners. One mark of a profession rather than a trade is the self-policing of its members. Self-policing is perhaps the most effective method for eliminating practitioners who can harm the overall field with their inappropriate or grossly ineffective actions.

We recommend that the chiropractic community:

- Provide standards of conduct, codes of ethics, mechanisms for hearing complaints against DCs and the capacity to sanction wayward DCs.
- Develop the ability to identify and constrain or remove chiropractors who over-treat, have high numbers of adverse reactions or misrepresent themselves and the field.
- Provide active support for local marketplace report cards and other devices whereby outcomes, including consumer satisfaction, and adverse events are recorded and made available to consumers and large purchasers.

Don't Produce Surplus Chiropractors

As noted in Chapters 3, 4 and 5, plausible forecasts and scenarios exist that indicate the potential for a surplus of chiropractors. This possibility, in conjunction with the Pew Commission forecast of large numbers of excess MDs and RNs, makes the potential for overproduction of chiropractors something the chiropractic community should monitor.

We recommend that the chiropractic community:

- Not allow chiropractic colleges to needlessly overproduce.
- Provide appropriate research to forecast potential surpluses of chiropractors, and to monitor current underemployment and unemployment among chiropractors.
- Ensure that students are given the tools to forecast demand for their services, and the size and nature of health professional competition while in school and beyond.
- Encourage appropriate non-clinical contributions and employment of students.

Promote Health Equity

The ability of an individual health professional or group of health providers like chiropractors to enhance the overall health of the communities in which they work will become an important measure in the future. Chiropractic can and should play a broad role in creating healthy communities and greater equity in access to health and health outcomes.

We recommend that the chiropractic community:

- Promote greater equity in health services and health outcomes.
- Encourage individual chiropractors to contribute their services for community health activities.
- Support policies and local actions that would increase access to appropriate health care and efforts, beyond health care, to improve community health.

Stimulate Frontiers of R&D

Research and development in the health arena will change the way in which health care is measured and delivered, and who is providing the tools for greater health. Chiropractors should participate in exploring this exciting new frontier.

We recommend that the chiropractic community:

- Encourage research on chiropractic used in conjunction with other CAAs.
- Continually monitor leading-edge research (such as neurosciences, biosensors and nanotechnologies) and assess its implications for chiropractic.
- Encourage research on customization by phenotype and genotype and its implication for chiropractic.
- Investigate research by other groupings suggested by CAAs, such as homeopathy, Oriental and Ayurvedic medicine.

CONCLUSION

The future of chiropractic as a healing profession will be shaped by a host of forces—the greatest of which is the identity, vision and creativity of chiropractors. This report has outlined the field of forces and the alternative paths into the future that chiropractic may take. Chiropractic has had a significant first 100 years—inventing, developing and growing—along the way providing healing opportunities in direct relationship with patients. The years ahead, as with most health professions, will involve greater teamwork, greater learning and sharing of approaches and a clear need to justify services on the basis of outcomes.

- Chiropractic must take immediate and ongoing strategic steps if the profession is to survive and thrive in the 21st century.
- If the profession does not rise to the occasion and proactively meet the challenges discussed here, it is our considered opinion that chiropractic, as a separately defined profession, will decline significantly.
- On the other hand, if chiropractic is able to address these challenges and to capitalize on many of the opportunities discussed here, then there is a strong chance that the profession will not only grow but will also legitimize its position with key constituencies, including a broader base of government agencies, consumer/patients, managed care, other complementary and alternative approaches (CAAs) to health care and the allopathic health care systems and providers.
- It is critical to note that success (or failure) for chiropractic is in the hands of chiropractors themselves—visionaries, leaders in the field and individual practitioners. The alternative scenarios for the future defined in this report outline challenges in the environment for chiropractors, as well as choices for the profession itself. It is up to chiropractic to choose its preferred future and, by addressing the challenges and opportunities that have been defined, to ensure that this future is realized.

We have explored the first part of chiropractic's second century. Chiropractic has the potential to optimize health gains for individuals and for communities. Chiropractors can remain focused on the current indications where they are now most successful. Or the field and its members can be overwhelmed by the challenges that lie ahead in the health care environment. Which of these futures is created rests in the hands of chiropractors.

¹ L. Thomas. *Lives of a Cell: Notes of a Biology Watcher* (New York: Bantam Books, 1974).

Appendix A

EXPERTS INTERVIEWED

Alan Adams, DC
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Barbara Bernie, DOM
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American Foundation for Traditional
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Leanne Kaiser Carlson, MSHA
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Gerry Clum, DC
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Tracy Cosgrove, MLIS
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Ian Coulter, PhD
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Donna Datsko
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Len Duhl, MD
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Mary Jane England, MD
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Eric Hurwitz, PhD
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Larry Jack, DC
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Jennifer Jacobs, MD, MPH
Homeopath & Author

Miriam Jacobson
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Pat Linton
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George McClelland, DC
Practicing Chiropractor
Christianburg, Virginia

Mark Mead
Journalist
Natural Health Magazine

Richard Miles
Health Frontiers Professional Network
Oakland, CA

Sigmund Miller, DC
ChiroView

Barbara Mitchell, JD
Practicing Acupuncturist and Attorney

Thomas Murray, PhD
Professor of Medical Ethics
Case Western Reserve University

Laura Patton
Clinical Director of Alternative Services
Group Health Cooperative of Puget Sound

Joe Pizzorno, Jr., ND
President
Bastyr University

Daniel Redwood, DC
Practicing Chiropractor & Author
Virginia Beach, Virginia

Hassan Rifaat, MD
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David Simon, MD
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David Stewart, DC
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Waz Thomas
Program Coordinator
Commonweal Cancer Health Program

Bill Thomson
Senior Features Editor
Natural Health Medicine

Judith Tolson
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Tom Trommpeter
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Dana Ullman, MPH
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Center for Strategic Policy

John Weeks
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St. Anthony's Alternative Medicine
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James Winterstein, DC
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Lisa Wolfkain
Group Plan Development Manager
American Western Life Insurance Company

Ross Wooley, PhD
Los Angeles College of Chiropractic

Lloyd Wright, DO
Acupuncturist
Palo Alto, California

Appendix B

SCENARIO ASSUMPTIONS

This Appendix contains the assumptions used to create the forecasts for the scenarios in Chapter 5. 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.

Rationale for Scenario Elements

Scenario Elements	1997	Rationale
US population	270,000,000	from US Census Bureau
% under managed care	56%	AAHP, see Chapter 3, Table 3-4
# under managed care	151,000,000	Nov. 1997, AAHP, Chapter 3, Table 3-4
% using CAAs	37%	Paul Ray, Institute for Noetic Sciences, Integral Culture Survey, see Chapter 2
# using CAAs	99,900,000	
% using chiropractic manipulation	10%	although some sources state that this number is as high as 19% of the US population, most chiropractic experts believe the 10% number to be a fair estimate of chiropractic manipulation's use in the US
# using chiropractic manipulation	27,000,000	
% of chiropractic manipulation done by non-chiropractors	6%	comprised mostly of DOs
% of chiropractic manipulation done by automated devices	0%	
# using chiropractic manipulation done by a chiropractor	25,380,000	
# of chiropractors	55,000	based upon figures provided by the ACA and FCER
Chiropractic patients per chiropractor	461.45	
Average treatment length per patient in number of visits	12.9	according to chiropractic experts
Average number of treatment visits per year per client	9.0	based upon calculations from the table below
Average number of wellness visits per year per client	6.0	estimate from chiropractic experts
Total number of chiropractic visits	232,356,600	
Total number of visits per chiropractor per year	4,225	
Total number of visits per chiropractor per week	121.0	based upon 1995 ACA Annual Statistical Survey

Scenario Elements	1997	Rationale
Conditions Treated		
Musculoskeletal pain (percent of total visits)	70%	based upon 1995 ACA Annual Statistical Survey and chiropractic experts
Musculoskeletal pain (number of visits)	162,649,620	
Headache pain (percent of total visits)	8%	based upon 1995 ACA Annual Statistical Survey
Headache pain (number of visits)	18,588,528	
Other conditions (percent of total visits)	4%	based upon 1995 ACA Annual Statistical Survey and chiropractic experts
Other conditions (number of visits)	9,294,264	
Wellness visits (percent of total visits)	18%	clients who visit for wellness/maintenance purposes (assuming that 25% of visits to chiropractors in practice for longer than 10 years are of a wellness nature and 10% of all visits to chiropractors in practice for less than 10 years are of a wellness nature and that in 1995 roughly 56% of DCs had been in practice more than 10 years) – this is the lower of two expert estimates; the other suggested that 35% of total visits were for wellness or routine maintenance across all DCs
Wellness visits (number of visits)	41,824,188	
Types of Chiropractic Practice		
Solo private practice	76%	based upon 1995 ACA Annual Statistical Survey and chiropractic experts
Group or partnership practice	21%	based upon 1995 ACA Annual Statistical Survey and chiropractic experts
Employed by other provider/organization	2%	small numbers of chiropractors act in a non-clinical capacity: forensics, utilization review, legal, IME, policy, insurance
Teach at chiropractic college	1%	based upon 1995 ACA Annual Statistical Survey and chiropractic experts

Number of Chiropractic Visits Per Patient Per Year

Patient Types	Percent of Total	Average # of Visits
Wellness	25%	6
Supportive Care	15%	5
Returning Patient	27%	10
New Patient	33%	12
Total	100%	

Demand for Chiropractic in 2010 in Scenario 1

	1997	Scenario 1	Rationale
US population	270,000,000	300,000,000	
% under managed care	56%	90%	Managed care drives health care system
# under managed care	151,000,000	270,000,000	
% using CAAs	37%	66%	Many alternative remedies proved efficacious
# using CAAs	99,900,000	198,000,000	
% using chiropractic	10%	25%	Chiropractic found especially beneficial in treatment of LBP, headaches, neck, arthritis, scoliosis, asthma and repetitive stress injuries and for twice yearly wellness visits
# using chiropractic	27,000,000	75,000,000	
% of manipulation done by non-chiropractors	6%	10%	Small increases in physicians, DOs and massage therapists doing manipulation
% of manipulation done by automated devices	0%	10%	New back products introduced on market
# of chiropractors	55,000	103,000	As forecast by chiropractic and health care experts
Chiropractic patients per chiropractor	461.45	582.52	
Average number of treatment visits per year per client	9.0	7.0	Managed care cap reimbursement for number of visits for most treatment courses to 8
Average number of wellness visits per year per client	6.0	4.0	Twice a year adjustment demonstrates benefits for wellness, the average falls, but the number receiving wellness visits grows dramatically
Total number of chiropractic visits per year	232,356,600	480,000,000	
Total number of visits per chiropractor per year	4,225	4,660	
Total number of visits per chiropractor per week	121.00	89.62	

Demand for Chiropractic in Scenario 1 (cont'd)

	1997	Scenario 1	Rationale
Conditions Treated			
Musculoskeletal pain (percent of total visits)	70%	48%	Treatment for back and neck problems decline in relation to chiropractic treatment for other conditions
Musculoskeletal pain (number of visits)	162,649,620	230,400,000	
Headache pain (percent of total visits)	8%	8%	
Headache pain (number of visits)	18,588,528	38,400,000	
Other conditions (percent of total visits)	4%	19%	Arthritis, asthma, repetitive stress injuries, activities of daily living
Other conditions (number of visits)	9,294,264	91,200,000	
Wellness visits (percent of total visits)	18%	25%	Twice a year adjustment demonstrated benefits for wellness care; widely used
Wellness visits (number of visits)	41,824,188	120,000,000	
Types of Chiropractic Practice			
Solo private practice	76%	45%	
Group or partnership practice	21%	40%	Group practice and multi-discipline clinics grow
Employed by other provider/organization	2%	12%	Wal-Mart becomes largest employer of chiropractors
Teach at chiropractic college	1%	2%	Growth in academics reflects student increases at colleges
Non-Clinical chiropractors	less than 1%	1%	Forensics, insurance organizations, utilization reviews

Supply of Chiropractors in Scenario 1

	1980	1990	1995	2000	2005	2010	Rationale
Graduates per year	1500	2200	3000	3750	4500	5000	As forecast by chiropractic experts
Retirement rate per year	20%	7%	6%	6%	6%	6%	Remains steady as almost all practitioners are below retirement age
Total DCs in practice	30,000	44,450	55,000	68,170	84,7000	103,000	
Percent of underemployed DCs	15%	15%	15%	15%	15%	15%	Underemployment rate remains constant at estimated 1997 rate
Number of underemployed DCs	4,500	6,668	8,250	10,450	13,125	16,165	

Demand for Chiropractic in Scenario 2

	1997	Scenario 2	Rationale
US Population	270,000,000	300,000,000	
% under managed care	56%	80%	Universal coverage through managed care
# under managed care	151,000,000	240,000,000	
% using CAAs	37%	50%	Outcomes for CAA efficacy is mixed—hard economic times make certain low-cost CAAs (like herbal medicine) appealing
# using CAAs	99,900,000	150,000,000	
% using chiropractic	10%	5%	Chiropractic outcomes for everything other than LBP are inconclusive or negative
# using chiropractic	27,000,000	15,000,000	
% of manipulation done by non-chiropractors	6%	50%	Manipulation for LBP is proven effective; other health providers learn manipulation to capture the LBP market at 6 month community college courses
% of manipulation done by automated devices	0%	5%	Hard economic times limits advances in health technology
# of chiropractors	55,000	54,000	
Chiropractic patients per chiropractor	461.45	125.00	
Average number of treatment visits per client per year	9.0	6.3	Frugal, universal care severely limits number of treatments that are reimbursed
Average number of wellness visits per year per client	6.0	1.5	Lack of efficacy for wellness visits, diminished cash lessens demand
Total number of chiropractic visits per year	232,356,600	93,060,000	
Total number of visits per chiropractor per year	4,225	1,723	
Total number of visits per chiropractor per week	121.0	33.14	Dramatically high levels of underemployed and unemployed chiropractors due to significant drop in demand for chiropractic care; working chiropractors have lower overhead and earn far less than in the past

Chiropractic Demand in Scenario 2 (cont'd)

	1997	Scenario 2	Rationale
Conditions Treated			
Musculoskeletal pain (percent of total visits)	70%	89%	Chiropractic efficacy for treating LBP is unquestioned
Musculoskeletal pain (number of visits)	162,649,620	82,823,400	
Headache pain (percent of total visits)	8%	7%	Efficacy studies for chiropractic treatment of migraines are inconclusive
Headache pain (number of visits)	18,588,528	6,514,200	
Other conditions (percent of total visits)	4%	2%	Lack of efficacy beyond LBP reduces these types of visits
Other conditions (number of visits)	9,294,264	1,861,200	
Wellness visits (percent of total visits)	18%	2%	Lack of efficacy beyond LBP reduces these types of visits
Wellness visits (number of visits)	41,824,188	1,861,200	
Types of Chiropractic Practice			
Solo private practice	76%	58%	Many practitioners remain in solo practice
Group or partnership practice	21%	34%	
Employed by other provider/organization	2%	5%	Many chiropractors find employment with managed care clinics as "back crunchers"
Teach at chiropractic college	1%	1%	
Non-clinical chiropractors	less than 1%	2%	Many chiropractors find work in insurance organizations conducting utilization reviews

Supply of Chiropractors in Scenario 2

	1980	1990	1995	2000	2005	2010	Rationale
Graduates per year	1,500	2,200	3,000	3,500	2,900	2,500	Lack of demand for chiropractors drastically reduces enrollment in the colleges
Retirement rate per year	20%	7%	4%	15%	35%	40%	Tough economic times cause many chiropractors to leave the health field altogether
Total DCs in practice	30,000	44,450	55,000	66,000	65,500	54,000	
Percent of underemployed DCs	15%	15%	15%	20%	30%	40%	Poor outcomes for everything other than LBP and co-option of manipulation lead to high levels of underemployment
Number of underemployed DCs	4,500	6,668	8,250	13,480	19,600	21,800	

Demand for Chiropractic in Scenario 3

	1997	Scenario 3	Rationale
US Population	270,000,000	300,000,000	
% under managed care	56%	60%	Self-managed care rules
# under managed care	151,000,000	180,000,000	
% using CAAs	37%	70%	Patient satisfaction, proof of efficacy and reputation as "healers" make CAAs appealing to many health consumers
# using CAAs	99,900,000	210,000,000	
% using chiropractic	10%	30%	Large range of sophisticated spinal manipulation remains, but competition is fierce
# using chiropractic	27,000,000	90,000,000	
% of manipulation done by non-chiropractors	6%	30%	Structural unemployment for many health professionals leads to expansion of skills in effort to gain more patients
% of manipulation done by automated devices	0%	30%	Home Health Chairs and other effective devices are in wide use
# of chiropractors	55,000	85,000	Fierce competition and self-care technology along with dire forecasts for large provider surpluses slow the increase in health colleges' enrollment, including chiropractic colleges
Chiropractic patients per chiropractor	461.45	423.53	
Average number of treatment visits per client year	9.0	6.3	Technology such as the Home Health Chair reduces the number of visits needed when injuries do occur
Average number of wellness visits per year per client	6.0	8.0	Monthly wellness visits grow in popularity, especially among the more affluent segments of the population
Total number of chiropractic visits per year	232,356,600	612,900,000	
Total number of visits per chiropractor per year	4,225	7,211	
Total number of visits per chiropractor per week	121.00	138.67	

Demand for Chiropractic in Scenario 3 (cont'd)

	1997	Scenario 3	Rationale
Conditions Treated			
Musculoskeletal pain (percent of total visits)	70%	43%	Chiropractic visits for LBP decline in relation to wellness and treatment for other conditions
Musculoskeletal pain (number of visits)	162,649,620	263,547,000	
Headache pain (percent of total visits)	8%	4%	
Headache pain (number of visits)	18,588,528	24,516,000	
Other conditions (percent of total visits)	4%	18%	Arthritis, repetitive stress disorders, women's health, bio-mechanics, ergonomics
Other conditions (number of visits)	9,294,264	110,322,000	
Wellness visits (percent of total visits)	18%	35%	Routine care is now done via self-care and visits to the chiropractor are more wellness-oriented
Wellness visits (number of visits)	41,824,188	214,515,000	
Types of Chiropractic Practice			
Solo private practice	76%	50%	Many solo practitioners survive by using information technology to create "virtual" chiropractic offices with little overhead/ staffing expense
Group or partnership practice	21%	39%	Group practices grow as practitioners can pool resources for technology purchases and to enjoy economies of scale
Employed by other provider/ organization	2%	5%	
Teach at chiropractic college	1%	1%	Chiropractic colleges continue to decline after high in year 2000
Non-clinical chiropractors	less than 1%	5%	Group of chiropractors move into non-clinical roles as developers of self-care technologies, public health administrators and outcomes researchers

Supply of Chiropractors in Scenario 3

	1980	1990	1995	2000	2005	2010	Rationale
Graduates per year	1,500	2,200	3,000	3,100	3,000	2,700	Fierce competition, self-care technologies and forecasts for surpluses significantly affect chiropractic college enrollment
Retirement rate per year	20%	7%	7%	7%	7%	7%	Retirement rate remains steady
Total DCs in practice	30,000	44,450	55,000	65,800	76,400	85,000	
Percent of underemployed DCs	15%	15%	15%	20%	20%	20%	Underemployment rate increases slightly as competition for "touch" healing is fierce
Percent of underemployed DCs	4,500	66,675	82,50	13,950	15,300	17,000	

Demand for Chiropractic in Scenario 4

	1997	Scenario 4	Rationale
US Population	270,000,000	300,000,000	
% under managed care	56%	80%	Managed care dominates
# under managed care	151,000,000	240,000,000	
% using CAAs	37%	90%	Focus of health care has shifted to wellness and the bio-psycho-social approach
# using CAAs	99,900,000	270,000,000	
% using chiropractic	10%	40%	Health is defined in many ways, one of which is more effective communication from the brain to the cells via the spine
# using chiropractic	27,000,000	120,000,000	
% of manipulation done by non-chiropractors	6%	50%	Many health providers co-opt spinal manipulation
% of manipulation done by automated devices	0%	10%	High levels of demand for healing touch make automated devices minor players
# of chiropractors	55,000	103,000	
Chiropractic patients per chiropractor	461.45	466.02	
Average number of patient visits per year	9.0	5.6	Wellness focus of health care creates a healthier population pool that requires fewer treatment visits per course when injuries occur
Average number of wellness visits per year per client	6.0	5.5	Quarterly visits become the norm as managed care drives reimbursement for only four visits per year
Total number of chiropractic visits per year	232,356,600	666,000,000	
Total number of visits per chiropractor per year	4,225	6,466	
Total number of visits per chiropractor per week	121.00	124.35	

Demand for Chiropractic in Scenario 4 (cont'd)

	1997	Scenario 4	Rationale
Conditions Treated			
Musculoskeletal pain (percent of total visits)	70%	36%	LBP treatments become only a small portion of chiropractic treatment
Musculoskeletal pain (number of visits)	162,649,620	239,760,000	
Headache pain (percent of total visits)	8%	4%	
Headache pain (number of visits)	18,588,528	26,640,000	
Other conditions (percent of total visits)	4%	10%	Chiropractors address the bio-psycho-social needs of the terminally ill and aged
Other conditions (number of visits)	9,294,264	66,600,000	
Wellness visits (percent of total visits)	18%	50%	Entire health system is driven by wellness
Wellness visits (number of visits)	41,824,188	333,000,000	
Types of Chiropractic Practice			
Solo private practice	76%	40%	
Group or partnership practice	21%	43%	Group practices flourish as health providers become more collaborative
Employed by other provider/organization	2%	5%	
Teach at chiropractic college	1%	2%	
Non-clinical chiropractors	less than 1%	10%	Many chiropractors enter advocacy and policy positions; the DC-MPH is in high demand

Supply of Chiropractors in Scenario 4

	1980	1990	1995	2000	2005	2010	Rationale
Graduates per year	1,500	2,200	3,000	3,750	4,500	5,000	As forecast by chiropractic experts
Retirement rate per year	20%	7%	4%	4%	4%	4%	
Total DCs in practice	30,000	44,450	55,000	69,680	87,520	108,000	
Percent of underemployed DCs	15%	15%	15%	10%	8%	6%	Underemployment decreases as many chiropractors move into non-clinical roles
Percent of underemployed DCs	4,500	6,660	8,250	6,700	7,000	6,475	

Appendix C

EXAMPLES OF COMPLEMENTARY AND ALTERNATIVE APPROACHES INTEGRATION IN HEALTH CARE

Listed below are examples of current attempts around the United States to incorporate complementary and alternative approaches (CAAs), including in many cases chiropractic, into conventional care. These examples are by no means an exhaustive accounting of the rapid merging of CAA and conventional medicine occurring today. Rather, they demonstrate that CAA integration into conventional medicine is a very visible, significant and active trend in health care.

PROVIDER INTEGRATION: PATIENT-DRIVEN CARE FOR LOW-INCOME CONSUMERS

King County Natural Medicine Clinic, Kent, Washington

Located at the Kent Community Health Center in Kent, Washington, the King County Natural Medicine Clinic provides integrated conventional family practice services and natural medicine services to poor and uninsured people in Kent and throughout south King County. Opened in fall 1996, the Clinic is a collaborative effort by the Community Health Centers of King County and Bastyr University (the nation's leading naturopathic academy, located in Seattle), with funding from the Seattle/King County Department of Public Health. The Clinic's model evolved from a consumer survey indicating Clinic users were very receptive to CAAs. Many Clinic users are immigrants and are more accustomed to health care modalities that are still considered "alternative" in the United States.

Clinic services include: family practice primary care, prenatal and obstetrical services, health education and prevention, referrals to specialists and hospitalization. In addition to naturopathic care, patients can receive acupuncture, massage therapy, chiropractic care, stress management and nutrition counseling. Users can select a natural medicine practitioner, typically a naturopath, or opt for a conventional practitioner. Unlike models in which a physician is the gatekeeper, at the Clinic users are screened by Triage Personnel, who may refer them to a CAA practitioner if they declare themselves interested in natural medicine.

Celebration Health (Celebration, Florida)

At Disney's new town of Celebration, Disney and Florida Hospital have joined to form Celebration Health. Dedicated to enhancing health in a holistic perspective which grows out of Disney's entertainment history and the Seventh Day Adventist traditions of Florida Hospital, Celebration Health will have a major offering of complementary and alternative approaches as part of their health care and wellness services. Their new health facility (more community center and fitness club than hospital) will offer access to services at the site. In addition, their Ask A Nurse service will be geared to handle questions related to complementary and alternative approaches. (The Ask A Nurse service for Celebration Health and its parent, Florida Hospital, has been in operation for some time. Of the calls dealing with medication which are referred to the pharmacy component of Ask A Nurse, 20% already deal with complementary and alternative approaches).

Alternative Medicine Referral Service (Washington, DC)

Alternative Medicine Referral Service (AMRS) is a network of licensed and credentialed holistic health professionals in the Washington, DC, Maryland and Virginia metropolitan area. Practitioners maintain independence and freedom to practice; clients pay a direct fee for services to practitioners, with a 20-25% discount. Begun in 1997, AMRS has 100 fully certified, licensed alternative and complementary health providers and is in the process of certifying 200 more. Consumers can pay a \$49.00 yearly fee which enables them to receive a 20% discount on services from network providers. Some Washington area managed care organizations are considering offering this discount to their subscribers as a benefit (allowing their members to pay, out-of-pocket, at the reduced rate and have certified practitioners identified by the AMRS). Other managed care organizations are more aggressively exploring which conditions will merit coverage in their protocols. AMRS provides support to practitioners, which enables them to generate outcomes data on their practice. AMRS also provides outcomes data base research, practitioner education and cross training and a credentialing committee to insure quality of providers, as well as public education seminars and services. AMRS is in the process of establishing a federation of similar networks of alternative and complementary providers in other cities.

PROVIDER INTEGRATION: PHYSICIAN-DRIVEN MODEL OF CARE

North Hawaii Community Hospital, Inc.

Located at the base of Mauna Kea on the Big Island of Hawaii, the North Hawaii Community Hospital opened its doors in May 1996. The 50-bed hospital is premised on the notion of “total healing concepts” and is designed to be a “healing environment.” It is part of a long-term plan to create a healing community in the North Kohala area of the Big Island, including networking with local providers and fostering patient education at the resource center near the Hospital.

The Hospital provides a broad range of conventional services, such as a 24-hour emergency room, as well as five complementary healing techniques: chiropractic, naturopathy (herbs, homeopathy), acupuncture (herbs, needling), massage and clinical psychology—those modalities allowed under Hawaiian state law. The practitioners of these five modalities are considered “consulting staff” and they have the same rights as MDs, with the exception of admitting patients. To receive their services, a patient must be referred by an attending physician.

In addition to providing the CAA modalities listed above, the Hospital has created a Department of Healing Services to integrate additional, lifestyle-based healing modalities such as yoga, meditation, touch, music therapy and aromatherapy. The head of this department, an RN, works with the Hospital’s chaplaincy program and a social worker to provide these services. An MD referral isn’t necessary and the services are provided free of charge.

Institute for Health and Healing, California Pacific Medical Center, San Francisco, CA

Opened in Spring 1997, the Institute for Health and Healing provides complementary treatments to people with chronic illness who are familiar with CAAs but still want a conventional practitioner to be involved in their treatment. While an MD is the gatekeeper, this MD must be trained in one or two CAAs and also be able to appropriately refer a patient to the five CAA modalities that, eventually, will be included in the Center. The Center is patient-oriented in that it provides multiple complementary therapies in one setting. The Center also serves as a teaching facility for residents. Eventually the Center will be folded back into the California Pacific Medical Center (CPMC) as an optional set of treatments.

The Institute for Health and Healing is part of a larger effort by CPMC to infuse holistic definitions of health and health care into its surrounding communities. The Center's Institute for Health and Healing provides a library (the Planetree Health Library), education, research and clinical care promoting disease prevention and wellness. The Institute's mission is to instill the Planetree philosophy of patient-focused care throughout California Pacific Medical Center.

INTEGRATED CONSUMER MODEL: SELF-CARE THROUGH HEALTH EDUCATION

The Chopra Center for Well Being, LaJolla, California

Founded by author and MD Deepak Chopra, the Chopra Center for Well Being in LaJolla, California, opened in Spring 1996. Its mission is to help people work toward a state in which "...all bodily processes are in balance, the senses are enlivened and the mind and spirit are permeated with bliss." The Center combines Ayurveda, a 5,000-year-old healing tradition from India, with conventional medical oversight and monitoring. "Health" is broadly defined to include factors beyond the individual, such as environmental, spiritual, social and other factors. Users are educated in health-promoting behaviors, such as diet, meditation, yoga, etc.

Users can choose from three levels of activity: a seven-day retreat, workshops on mind/body health and targeted treatments such as facial massage, herbal wraps and deep-tissue massage. All participants in the seven-day retreat see a conventional physician with training in Ayurvedic healing, who acts as a gatekeeper referring the participant to other practitioners.

The Center's philosophy emphasizes empowering consumers through intensive health education. The Center works with external health care providers to help them integrate this approach into their own organizations. The Center is developing a certification program for health educators who want to take Center courses and activities into other provider settings.

PROFESSIONAL TRAINING, CONSUMER EDUCATION AND HEALTH PROJECTS

The Center for Mind-Body Medicine, Washington DC

The Center for Mind-Body Medicine is a non-profit, educational organization dedicated to reviving the spirit and transforming the practice of medicine. The Center is at the forefront of a movement which seeks to bring this empowering approach into the heart of American medical practice and to make it the core of the education of all health care providers. The Center is particularly committed to the development of new models of care; to the education of medical students and those who teach them; and to service to the poor, children, the elderly, the chronically ill and the institutionalized.

The Center hosts skills groups in which participants learn and practice a variety of mind-body techniques to increase self-awareness and enhance health and well-being. The Center also runs a year-long program that teaches health and mental health professionals to integrate the mind-body approach into their lives and their practices, and a community education program in which center staff and volunteers help community organizations integrate the concepts and practices of mind-body medicine into their work. The Center has also contributed to the development of a comprehensive program of mind-body studies at the Georgetown University School of Medicine, and through consultations and workshops has helped develop programs at other medical schools including Columbia, Harvard, Johns Hopkins and the University of California at San Francisco. The Center also sponsors and staffs a range of other projects, including an internship program for high school, college and graduate students; and educational programs for HIV-positive former prisoners and intravenous drug users.

INTEGRATED DISEASE-FOCUSED CONSUMER MODEL

Commonweal Cancer Help Program, Bolinas, California

Located in Bolinas, California, the Commoweal Cancer Help Program provides an opportunity for people with cancer to sort out their choices in cancer treatments while simultaneously benefitting from health-promoting treatments—specifically, yoga, meditation, spirituality and stress reduction. Participants in the week-long program are encouraged to address major issues in their lives, including: their relationship with their

oncologist, the prospect of death and dying, pain control and choice in complementary therapies. The program's goal is to optimize people's potential for healing.

INTEGRATED PROVIDER MODEL: LOOSE ASSOCIATIONS

Integrated Healing Arts (IHA), Los Angeles, CA

Formed in the early 1990s, Integrated Healing Arts is an association of health care practitioners dedicated to delivering both traditional medicine and healing alternatives based on the interconnection of body and mind. CAA practitioners in the association are loosely organized—a team approach to care is not emphasized, although some practitioners do work together. Consumers are encouraged to play a proactive role in choosing their treatments and improving their overall well-being.

IHA services include: chiropractic, holistic medical care, acupuncture and Chinese medicine, massage therapy, hypnosis, meditation, biofeedback and health promoting classes.

Health Medicine Forum (HMF), Walnut Creek, California

A group of physicians and CAA providers formed the Health Medicine Forum to facilitate the communication between health practitioners of different paradigms. Started in Walnut Creek, California, by 12 people in August of 1996, the group had grown to 200 in three months and now has over 350 practitioners. Forum members are hosting a symposium on the integration of CAAs and allopathic care to maximize patient centered care with a health care rather than disease care paradigm. The HMF has just completed five television programs that are being shown on local cable stations in California on holistic approaches to health care. Aimed at consumers as well as practitioners, HMF would eventually like to develop a live call-in show where viewers can interact with panels of experts on a variety of health subjects.

INSURANCE PLANS AND HMO'S COVERING CAAS

The following examples—as well as the Oxford Health Plan referred to in Chapter 2—illustrate the growing integration of CAAs into conventional care. These examples will soon be joined by other large insurers such as United Health Care, which insures 5% of

the US population and controls over 20% of the managed care marketplace. These companies will link up with providers and purchasers to offer more integrated service to consumers.

Blue Cross of Washington

Since Washington State law requires health insurance plans to provide access to every category of health care provider, plans such as Blue Cross of Washington have launched programs including CAAs. Working with Alternacare of Washington, a CAA credentialing organization, Blue Cross of Washington has created a network of 400 CAA providers. Blue Cross must offer a supplemental insurance plan, AlternaPath Nontraditional Health Care Program, to all of its 170,000 subscribers. The plan covers CAAs, as defined by state law, at 50% of the costs up to \$500 per year.

Group Health Cooperative of Puget Sound

Group Health Cooperative of Puget Sound is another program born of Washington State's comprehensive coverage laws. Group Health offers CAA services and activities in some of its plans and has developed a network of CAA providers that includes naturopaths, acupuncturists and massage therapists. Though members must get a referral to see these practitioners, no referral is required to see an osteopath for manipulative care. Chiropractors must belong to the Group Health delivery network in order for their services to be covered. Group Health has developed a list of clinical conditions that can be treated by covered CAA practitioners. For example, naturopaths can be consulted for premenstrual syndrome, menopausal symptoms, chronic fatigue, chronic arthritis, chronic irritable bowel syndrome and fibromyalgia. Herbs, botanicals and food supplements are not covered.

HealthPartners Health Plans Inc.

HealthPartners Health Plans resulted from a merger of Southern Arizona Tucson Medical Center and Samaritan Health Plan in Phoenix. After undergoing a health assessment by a physician, plan members can self-refer once a year to an alternative practitioner. CAAs covered under the plan include acupuncture, herbs, Trager therapy and guided imagery. Reimbursement for chiropractic care requires a separate rider. HealthPartners has contracted with Arizona Center for Health and Medicine, a Center that provides only alternative and complementary medicine, and is staffed by MDs, a DO and a nurse practitioner. CAAs offered by the Center include acupuncture, homeopathy, massage, touch, osteopathic manipulation, cranial sacral manipulation, guided visual imagery, herbal therapy, yoga and t'ai chi classes.

Blue Shield of California

In September 1997 Blue Shield of California announced a CAA plan called Lifepath. The program offers a member discount for health services provided by a local network of credentialed CAA providers, including chiropractors, acupuncturists and massage therapists. Members are not required to obtain a referral from their primary care provider before visiting the CAA provider. Blue Shield members also receive discounts at participating stress management seminars and fitness clubs.

American Western Life Insurance

American Western Life Insurance launched its plan in 1993, offering its plan in Arizona, Colorado, New Mexico and Utah. Plan members received information packets, have access to a 24-hour Wellness Line staffed by a physician and a naturopath, and can access a Wellness Network with 23 types of approaches. Conventional medicine services are offered as well. Consumers of their "Wellness Plan" viewed the plan as a "carte blanche" to visit more practitioners than they otherwise would.