THE CENTER
FOR THE HEALTH PROFESSIONS
University of California, San Francisco

# Chiropractic Care in California

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## Overview/Description of Workforce

With 65,000 practitioners nationwide[1] chiropractic is the third largest "primary" health profession in the US (behind medicine and dentistry).[2] California, which constitutes about 12% of the US population, [3] has just over 12,000 chiropractors or approximately 18% of the chiropractic workforce. [4]

The National Board of Chiropractic Examiners (NBCE) writes, "Chiropractic is a natural, conservative, drug-free and non-surgical form of health care."[2] Chiropractic is predicated on the belief that health is largely determined by the extent to which one's nervous system is functioning properly. The chiropractic approach holds that a body's nervous system, under proper conditions, has sustaining and recuperative powers to preserve itself in a state of health. Chiropractic's clinical concern, then, is rooted in determining the ways in which a patient's nervous system is being hindered in its normal functions. Chiropractic treatment is aimed at the elimination or sufficient amelioration of those hindrances, or *subluxation*, in order to restore the patient to a state of self-sustaining health.[2] Chiropractic care views the manipulation and adjustment of the spinal column, the primary locus of subluxation, as essential to health maintenance.

The chiropractic profession recognizes its philosophies, orientation and heritage in myriad ancient health traditions, including Chinese, Hindu, Egyptian and Greek. However, the origins of the modern profession converge in late-nineteenth century Iowa, where Daniel David Palmer founded the first chiropractic college, The Palmer School of Chiropractic, in Davenport in 1897.[2] Palmer also authored *The Chiropractic Adjuster*, a book that played a cardinal role in directing the course of the chiropractic profession. While the profession today is oriented and driven by empirical evidence, its holistic approach to health continues to be shaped by the *vitalistic* beliefs of 19th Century medicine and its interpretation of Hellenistic ontology.* [5]

The etymology of "chiropractic" is *chiropraktikos,* which means "effective treatment by hand" or "done by hand."[6, 7] Manual manipulations of the patient's spinal column, as well as other somatic systems or tissues, are the primary modes of treatment. Diagnosis is especially geared toward physical examination, however verbal communication with the patient is also integral. Radiological technology is also utilized by some practices and for some conditions.[2, 5, 8]

While all chiropractors consider their profession as being one of "direct access" and "primary contact," many doctors of chiropractic consider their profession to be within the scope "primary care" due to the universality of their clinical approach and the wide-ranging aspects of health they address (see page 6 for further discussion on this topic). The body's musculoskeletal, neurological, and vascular systems, as well as the patient's emotional, nutritional and environmental states all fall within the purview of the chiropractor.[2] However, due to its non-allopathic approach and its abjuration of pharmaceutical and surgical procedures, many view chiropractic as a "complementary" or "alternative" form of medicine. While acceptance by both mainstream medicine and the general public continues to grow, the roles of the chiropractor as a primary care provider, and as either a complement or alternative to allopathic medicine, have not been universally resolved.[5]

## Work/Practice Patterns

National survey data shows that chiropractors estimate that their work time is fairly evenly divided between direct patient care and all other practice responsibilities. Non-patient care activities performed by doctors of chiropractic include patient education, documentation, research, business and marketing responsibilities.[2]

Multiple survey data confirm that for almost all doctors of chiropractic, spinal manipulation pertaining to subluxation is the most common and fundamental treatment performed.[2, 5] While surveyed chiropractors report seeing a wide range of conditions, including allergies, high blood pressure, obesity, asthma,

* Vitalism is the belief that mechanical explanations are insufficient for understanding the function of living beings.

diabetes, and infections, these were reported as being treated by them only once or twice a month.[2, 5] One study, which utilized patient records, concluded that no non-musculoskeletal condition constituted more than 1% of patients' symptoms.[2, 5]

Manual manipulation for the treatment of subluxation, commonly referred to as "chiropractic adjustment," employs two primary clinical interventions: *mobilization* and *manipulation*. *Mobilization* is a joint movement performed by the practitioner within the patient's joint's normal range (the range achieved under the patient's own volition), or *physiologic space*. *Manipulation* is the movement of the patient's joint by the practitioner beyond its range, or into the *paraphysiologic space* of the joint. Through joint mobilization and manipulation, the chiropractor works to restore the patient's proper spinal and musculoskeletal alignment. Therapeutic massage, acupressure, acupuncture, the application of ice or heat, and other manual techniques are also commonly utilized by chiropractic practices.[5]

In addition to manual manipulation chiropractors often counsel their patients regarding a wide range of range of lifestyle topics including diet and exercise. In keeping with chiropractic philosophy, these services are considered integral to the chiropractors' role in maintaining the health of their patients.[2, 5]

At a national chiropractic conference in 1993, the chiropractic profession made great strides in establishing a set of practice guidelines based on clinical evidence and professional consensus. This set of professional practice parameters, known as the "Mercy Guidelines," has been widely accepted and its findings and recommendations have been affirmed by similar evidence and consensus-based efforts in Canada and Australia.[5] The Mercy Guidelines have been criticized by some as being too "academic and research oriented," and non-inclusive of views "from the field." An alternate set of practices was created by the Council of Chiropractic Practice, which formed in 1995 in response to the Mercy Conference.[9]

Almost 19 in 20 chiropractors work in private office settings, with two-thirds of those in solo practices. Those who are not in private practice may be employed in chiropractic education or organizations, in multidisciplinary offices, or large care delivery systems.[2]

The NBCE's 1998 job analysis survey results state that chiropractors' reimbursement for services provided fall into four primary categories, each roughly constituting about one forth of the practitioner's income. Cash payments from the patient or some other private party occur in about 25% of cases, and private insurance accounted for another quarter of the practitioner's reimbursement. Personal injury (16.7) and workers compensation cases (9.6) combined account for another forth of his or her income.[2] Ninety-seven percent of surveyed chiropractors reported that their state's law includes chiropractic care in its worker's compensation coverage.[2] Much of this reimbursement is from automobile insurance.[5] Managed care (14%), Medicare (10.7) and Medicaid (1.8) constitute the remaining forth. However, almost one in three respondents stated that he or she had no managed care membership.[2]

Judging by the number of referrals both to and from chiropractic offices, it would seem that most doctors of chiropractic work in relative isolation from other practitioners and health professionals. While almost 92 % of surveyed chiropractors reported that they had received patients via referrals from other practitioners, on average, no profession referred patients with a frequency of more than "one or two per month," and most fell well below an average of "one or two per year," or did not refer at all. One study concluded that only about 50-60% of medical providers refer patients for chiropractic care.[5] While almost all chiropractors reported than they refer patients to other health professionals, they do so with similar infrequency. Internists, orthopedic or neurological specialists, and massage therapists were those to whom patients were most frequently referred, but none with an average frequency as high as "one or two per month."

According to a national survey, most chiropractors work full time (at least 30 hours per week). Almost half of chiropractors worked 30-39 hour per week. Approximately 30% worked between 40 and 49 hours per week, and only about 8% worked 50 hours or more. About 17% worked 29 hours or fewer.[2]

The State of California's Employment Development Department reports that, nationally, the annual median wage in 1998 for doctors of chiropractic was $70,000.[10] However, some within the field believe that this income estimate is much too low. Survey data from the American Chiropractic Association indicates that in 2000 the average gross income for

chiropractors in the U.S. was approximately $220,000 with median net income in excess of $89,000.[11] In 1999 the New York Times reported chiropractors to be among the most high-paying occupations in Chicago, Houston, Denver, Las Vegas and San Jose.[12]

## Supply, Demand and Demographic Characteristics

With about 12% of the US population, California has just over 12,000 chiropractors,[1, 4] or approximately 18% of the chiropractic workforce.

The number of licensed chiropractors in the US has almost tripled over the last three decades. It is estimated that there were approximately 13,000 licensed chiropractors in 1970[5]; there are currently about 65,000 licensed chiropractors in the US today.[1] Recent estimates[13] that the number of chiropractors in the US might reach 90,000 by 2005 and 120,000 by 2015, however, seem unlikely. Though the number of licensed chiropractors in California has increased by about 20% since 1998,[4, 10] current enrollment numbers at chiropractic colleges have fallen in recent years, from over 14,000 full-time enrollees nationally in 1995, to just over 12,000 in 2000, to just over 10,000 in 2002.[5, 14]

It is difficult to gauge demand for chiropractic services for California and the nation. Past growth in the field has been attributed, in part, to an overall increase in demand for alternative medicine and the services of non-physician practitioners in particular.[13, 15] Some of the reasons for declined enrollment may include both demographic shifts (e.g., aging population) and an increasingly unattractive image of health care work. While the real number of chiropractors in California has increased, the ratio of doctors of chiropractic to population has remained at about 35 per 100,000 for about fifteen years.[4, 5]

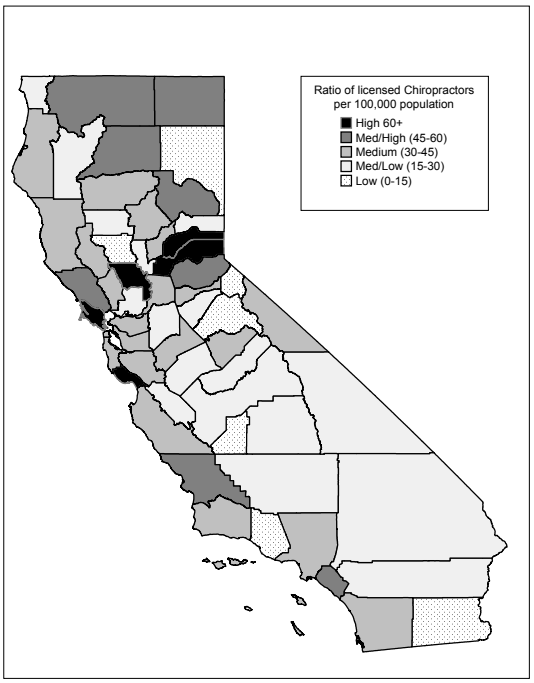
Nationally, the demographic profile of those who utilize chiropractic service is fairly representative of the nation's population regarding race/ethnicity and age.[2, 3] There is however, a slightly disproportionate amount of care delivered to patients over the age of 50. Given the dramatic rise in senescence in our population, demand for chiropractic care may increase.[10] Women, at 58%, comprise a disproportionate share of the chiropractic patients seen nationwide.

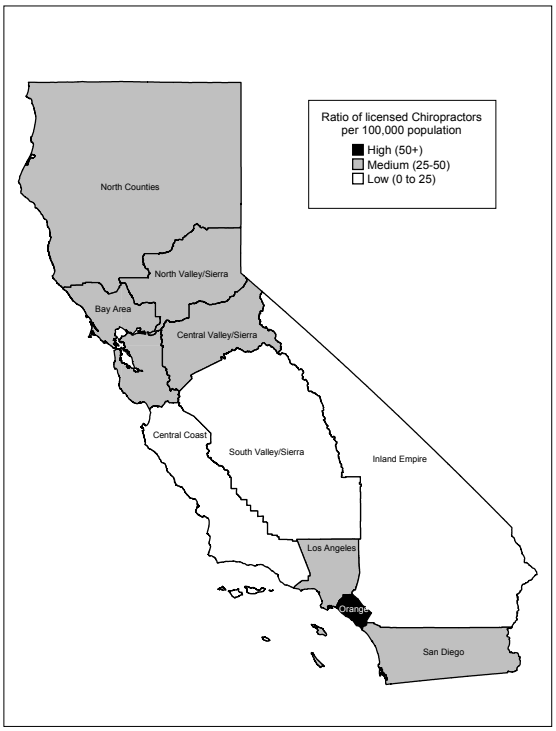
U.S. chiropractors are not evenly distributed geographically. Ratios of doctors of chiropractic to state populations range from about 10 per 100,000 to just fewer than 60 per 100,000.[5] Also, chiropractors tend to practice in rural and suburban areas rather than densely populated urban settings. This tendency is an inversion of the regular pattern of physician distribution.[10, 16] One study showed that chiropractic practices in rural heath care shortage areas were busier and had higher-volume practices than those located outside such areas.[16]

California's geographic distribution of chiropractors mirrors national patterns (see maps of distribution by county and region on page 4). Densely populated counties such as Los Angeles, San Francisco, San Diego, Sacramento, Alameda and Santa Clara counties, replete with other health professionals, fell into a middle-range regarding chiropractors to population ratios. Though extremely rural counties often had low chiropractors to population ratios (e.g., Imperial, Tuolumne, Alpine), many suburban (e.g., Santa Cruz, Marin, Yolo) and rural (e.g., Nevada, Placer, Yuba) counties had among the highest.[4, 17]

One obstacle in tracking geographical distribution of chiropractors is the high prevalence of multiple licensures. Almost 40 percent of chiropractors hold more than one state license, and more than one in ten hold at least three.[2] However, the fact that individual chiropractic practices tend to be relatively stable and stationary may make speculations about geographic distribution fairly reliable.[2]

Unlike the relative diversity of chiropractic patient population, practitioners are a rather monolithic group. Eighty percent of doctors of chiropractic are male, and almost 19 in 20 are white.[2] While the current population enrolled in chiropractic colleges is more diverse, with a minority enrollment of approximately 35% and a female student enrollment of approximately 38%[7], the slow rate of rate of gender and racial/ethnic diversification and the uniformity of the current workforce mean that a well-integrated chiropractic workforce is decades away from becoming a reality.

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+ The regions, useful for workforce analysis, with their county make-ups, are (first figure after the region is the ratio of chiropractors to 100,000 population for the region; the number in parentheses after each county is the county's ratio) the Bay Area - 42 (Alameda (40), Contra Costa (36), Marin (79), Napa (41), San Francisco (37), San Mateo (36), Santa Clara (45), Solano (27), Sonoma (47), Santa Cruz (63)), North Valley/Sierra – 40 (El Dorado (50), Nevada (73), Placer (67), Sacramento (31), Sierra (28), Sutter (26), Yolo (62), Yuba (60)), Central Valley/Sierra – 26 (Alpine (0), Amador (39), Calaveras (24), San Joaquin (25), Stanislaus (30), Tuolumne (2)), Inland Empire – 22 (Inyo (16), Mono (39), Riverside (25), San Bernadino (19)), Orange – 51 (Orange (51)), Central Coast - 25 (Monterey (32), San Benito (18), San Luis Obisbo (53), Santa Barbara (41), Ventura (3)), North Counties – 39 (Butte (43), Colusa (5), Del Norte (29), Glenn (22), Humboldt (33), Lake (37), Lassen (15), Mendocino (40), Modoc (53), Plumas (58), Shasta (52), Siskiyou (56), Tehama (30), Trinity (15)), South Valley/Sierra – 22 (Merced (16), Fresno (25), Kern (21), Kings (10), Madera (23), Mariposa (41), Tulare (23)), Los Angeles - 33 (Los Angeles (33)), San Diego - 35 (Imperial (9), San Diego (36)).

## Education and Training

There are sixteen accredited chiropractic colleges in the U.S. offering a clinical doctorate program in chiropractic, and whose graduates are eligible for licensure in California; four of these are California schools (Cleveland Chiropractic College in Los Angeles, Life Chiropractic College West in Hayward, Southern California University of Health Sciences in Whittier (formerly Los Angeles College of Chiropractic), and Palmer College of Chiropractic West in San Jose).[2, 5, 18] The primary accrediting agency for these schools is the Council on Chiropractic Education's (CCE) Commission on Accreditation. The curricula and structure of US chiropractic colleges are very similar due to the extensive guidelines of the CCE. Each "first professional" program must include a minimum of 4,200 hours of instruction and must address numerous specified subjects. Additionally, each school must meet non-curricular requirements including policies regarding faculty, administration, learning resources, finance, evaluation, and student services. The CCE also sets standards for admission to accredited chiropractic colleges. Currently, admission requires a minimum of 90 semester units at an institution accredited by the US Department of Education, a minimum accumulative grade point average and specified prerequisite coursework. A limited number of states require candidates for licensure to have completed a baccalaureate degree prior to licensure as a chiropractor.[2, 5, 10]

The curriculum for students seeking to be a doctor of chiropractic usually consist of four years of study; three years of largely didactic instruction, and a final

year of clinical practice, usually consisting of a clinical externship. [2, 5] Approximately 30% of chiropractic education consists of instruction in basic science including anatomy, pathology and physiology. Clinical education accounts for the remaining 70% of the regimen. Primary components of chiropractic clinical education consist of three clinical areas (listed in descending order of hours invested): spinal adjustive techniques/analysis, principles and practices of chiropractic, and physiologic therapeutics.[2, 5]

Specialized education and training within the profession is offered as either postgraduate training (usually part-time) or as full-time professional residency programs. In 1998, approximately 14% of doctors of chiropractic had diplomate or equivalent status in a chiropractic specialty. Radiology, orthopedics family practice, pediatrics, clinical neurology, sports chiropractic, and nutrition are among the most common chiropractic specialty areas. Some medical and multidisciplinary residencies are currently open to doctors of chiropractic in radiology and orthopedics, and there are predications that others may be likely in the future. [2, 5]

In many respects chiropractic and medical education are very similar.[2 5, 10] Both curricula have similar total student contact hours, and both dedicate between 25-30 of total hours to basic science education including a virtually proportionate emphasis in the areas of biochemistry, microbiology and pathology. Differences in the education regimens include a greater emphasis in public health in medicine and greater emphasis on anatomy in chiropractic. One apparent difference between medical and chiropractic training is in the percentage of time spent in clinical clerkships—29% for chiropractic students versus 74% for medical students. However, if one includes clinical-oriented training classes, the number of hours dedicated to clinical training is comparable. [5]

## Regulation and/or Certification

The chiropractic profession is recognized and licensed by every state in the US. California has been licensing doctor of chiropractic since 1922, when the State Board of Chiropractic Examiners was established.[18] The board is responsible for the conference of all state chiropractic licenses, and for the general regulation of the profession. This board, an autonomous body consisting of a maximum of seven members (presently the Board is composed of four members--two doctors of chiropractic and two public members), operates within the California Department of Consumer Affairs. Appointments to the Board of Chiropractic Examiners are the responsibility of the Governor of California.

The scope of practice for the chiropractic profession in California is described in the Board of Chiropractic Examiners' Article 1, Section 302 of the *Laws and Regulations Relating to The Practice of Chiropractic.* Licensed doctors of chiropractic may legally diagnose and treat any condition, disease or injury within the legal scope of practice. He or she may perform such functions as spinal and joint manipulation and may use "all necessary …measures incident to the care of the body…in the course of chiropractic manipulations." Cold, heat, light, massage and physical therapy techniques are among those measures mentioned explicitly.[19]

In order to become a licensed chiropractor in California, the following prerequisites must be met[18]:

- High school diploma or GED
- Completion of two years of general college level studies
- Diploma from a CCE accredited US chiropractic college
- Successful passage of parts I, II, III, IV, and Physiotherapy of the National Board of Chiropractic Examiners (NBCE) examination.
- Satisfactory performance on the State of California Board of Chiropractic Examiners licensing exam

**OR**

- A chiropractic license from another state (if the state's licensing prerequisites meet California regarding education and board examination requirements)

Every California license must be renewed annually. Twelve hours of board-approved continuing education is required for each doctor of chiropractic's license renewal.[18]

## Critical Issues and Policy Concerns

### *Six-year versus eight-year post-graduate education for doctors of chiropractic*

There is an internal debate within the chiropractic profession about what should be considered sufficient educational preparation for entry into chiropractic education, and into the field generally. Regarding this

issue, the field is divided into two camps: the first supports the perspective that all students must attain a bachelor's-level degree or equivalent course-work as prerequisite to their entry into chiropractic college; the second holds that two years worth of targeted coursework is sufficient preparation for chiropractic education, and is much more efficient.

As of 1998, about half of all doctors of chiropractic had attained a bachelor's-level degree in their non-chiropractic training, about five percent had a master's degree, and just over two percent had a doctorate-level non-chiropractic degree. Based on their educational training, about one in three chiropractors in 1998 would not qualify for licensure in the US today--about one in five doctor of chiropractic have an associates degree, and for about 13% a high school diploma is the highest non-chiropractic degree attained.[2]

Those who support the eight-year regime (four years of undergraduate study plus four years of professional training) argue that this training, which mirrors that of medical students, is essential to maintaining the high professional standards of chiropractic by ensuring a broad knowledge base from which its practitioners can draw. It also, they argue, gives the profession public credibility in some quarters it might not attain otherwise.

Those in the six-year camp (two years of prerequisite study plus four years of professional training) believe that the insistence upon baccalaureate-level trained chiropractors has not been shown to have any clinical or professional advantages. Further, they believe that, given the fact that outside the US most doctors, both medical and chiropractic, are trained within a six year regime, that the time and resources devoted to two additional years of education could be better invested otherwise.

### *Identity of chiropractic as general versus specialized health profession*

Similar to the split dividing the field in the six-year versus eight-year chiropractic education debate (and along very similar lines), there is a struggle within the profession regarding the identity of chiropractic health care. Many practitioners and others believe (usually ones who also support baccalaureate-level coursework as prerequisite for chiropractic education) that chiropractic, in essence, provides primary health care. Under this paradigm chiropractic care, which inherently takes a holistic approach to health, is an appropriate profession to provide general and preventive care. From such an orientation one could argue that the doctor of chiropractic could perform many of the same functions regarding general health maintenance and care coordination that are currently being performed by primary care physicians, nurse practitioners, and others.

Others within the chiropractic field (typically those who support a six-year educational regimen for chiropractors) believe that the adoption of the "primary care" or "generalist" identity by its practitioners dilutes the essential nature and demonstrable value of chiropractic care—the restorative effects of the amelioration of spinal subluxation. Proponents of this school of thought hold that while the non-subluxation-oriented health services such as nutritional counseling and acupressure provided by chiropractors may be valuable, they detract from the essential role of chiropractic care as a specific health service.

### *Safety and efficacy of non-chiropractic spinal adjustments*

A bill to expand the scopes of practice of the 18,000 California-licensed physical therapists is currently before the California legislature (SB 77, Burton). This bill, sponsored by California Physical Therapy Association (CPTA), is intended to "modernize the Physical Therapy Practice Act in order to reflect the evolution, specialization and independent scope of the profession over the past fifty years." CPTA argues, "therapists are properly trained and examined relative to the expanded scope of practice proposed by SB 77." The California Chiropractic Association's stated opposition to SB 77 centers around two primary arguments: 1) that physical therapists are improperly trained to diagnose life-threatening conditions (through diagnostic results and by other means), and 2) that the bill's inclusion of the phrase "manual therapy (including soft tissue and joint mobilization)" provides the physical therapist a scope of practice regarding mobilization that exceeds the scope for which they are trained.[20]

The CCA argues that "mobilization" could be defined in such a way that it would encroach on "manipulation," which should, they argue be performed only by doctors of chiropractic. ("Manipulation" was the term used in the original language of the bill, but "mobilization" appears in its present form.)[20] There is a body of evidence that

shows the relative efficacy and safety of spinal manipulation being performed by chiropractors relative to that performed by others.[21]

### *Geographic distribution of chiropractors as favorable to health care access*

Both nationally and in California doctors of chiropractic are located disproportionately in suburban and rural areas (see pages 3 and 4). This distribution complements the distribution of physicians who tend to gravitate toward urban locations. [22] According to a national survey of chiropractors, 88% of respondents served patients from designated Health Professional Shortage Areas (HPSAs).[16] While there is much debate about the interchangeability of doctors of chiropractic and other health care providers, this distribution could hold potential for a systemic increase in access to health care, and could have significant policy implications.

### *Cost-effectiveness of chiropractic care*

Between August 1995 and September 1999 the US Department of Defense (DoD) evaluated the feasibility and advisability of offering chiropractic care at military treatment facilities. Toward that end the DoD, through an oversight committee created for implementation and administration of the program, offered chiropractic care at ten military treatment facilities. Outcomes and cost were closely monitored. The final report issued by the oversight committee concludes that the cost of offering chiropractic care to all active duty personnel would be approximately $70 million per year (in 1999 dollars). Savings, however, in terms of "recovered days" (or work days that would have been spent by personnel otherwise were they not treated by a chiropractor) were substantial—199,000 per year with an estimated value of $27 million (in 1999 dollars). Using chiropractic care reduced approximately $26 million (in 1999) worth of physical therapy services. However, the DoD study concluded that offering chiropractic care was inefficient because neither the recovery of "lost" days nor the decreased use of physical therapy services would result in real savings for Military Health Services.[23]

However, a separate report filed by the chiropractic members of the oversight committee claimed that the committee greatly underestimated potential savings. In their report the authors calculate that, in addition to the theoretical savings of fewer days lost and less utilization of physical therapy, hidden cost saving from decreased use of "inpatient care, emergency room services, physician services…other services" would result in almost $26 million in net saving for the DoD. Despite the discrepancies in these two reports, both conclude that utilization of chiropractic care holds potential for substantial health savings under some circumstances.[24]

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The California HealthCare Foundation, based in Oakland, is an independent philanthropy committed to improving California's health care delivery and financing systems. Formed in 1996, its goal is to ensure that all Californians have access to affordable, quality health care. For more information, visit us online at www.chcf.org.

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The California Endowment, a private, statewide health foundation, was established to expand access to affordable, quality health care for underserved individuals and communities. The Endowment provides grants to organizations and institutions that directly benefit the health and well-being of the people of California.

**California Workforce Initiative**

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