# EDITORIAL

# Diversity in the Chiropractic Profession: Preparing for 2050

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As the diversity of the United States (US) population continues to change, concerns about minority health and health disparities grow. Health professions must evolve to meet the needs of the population. The purpose of this editorial is to review current trends in the diversity of chiropractic students, faculty, and practitioners in the United States. This editorial was informed by a search of the literature, to include PubMed, using the terms *chiropractic* and *diversity*, *minority*, and *cultural competency*. Demographic information for the chiropractic profession was obtained from the National Board of Chiropractic Examiners and *The Chronicle of Higher Education*. These data were compared to diversity data for medical doctors and the national and state populations from the American Association of Medical Colleges and the US Census, respectively. Surprisingly little has been published in the peer-reviewed literature on the topic of diversity in the chiropractic profession. For the variables available (sex and race), the data show that proportions in the US chiropractic profession do not match the population. State comparisons to associated chiropractic colleges show similar relationships. No reliable data were found on other diversity characteristics, such as gender identity, religion, and socioeconomic status. The chiropractic profession in the United States currently does not represent the national population with regard to sex and race. Leaders in the profession should develop a strategy to better meet the changing demographics of the US population. More attention to recruiting and retaining students, such as underrepresented minorities and women, and establishing improved cultural competency is needed. (J Chiropr Educ 2012;26(1):1–13)

**Key Indexing Terms:** Chiropractic; Cultural Competency; Cultural Diversity; Education; Faculty; Minority Health; Students, Health Occupations

## INTRODUCTION

In the United States (US), racial and ethnic minorities have poorer health outcomes and higher mortality rates from chronic diseases and experience lower quality health care.[1] The chiropractic profession is the largest complementary and alternative medicine (CAM) profession[2] and one of the largest licensed health care professions in the United States.[3] Chiropractic is considered to be a holistic and wellness-oriented profession, traditionally not using drugs or surgery to help patients maintain health, and has recently become more involved in public health activities.[4] Chiropractic providers render a substantial amount of care to underserved and rural populations.[5] The United States is currently experiencing a shortage of physicians and it is anticipated that those citizens affected most severely by this understaffing will be vulnerable and underserved populations,[6–8] a socially unjust situation. Therefore, doctors of chiropractic (DCs) may be in an excellent position to be part of the solution to the current health care crisis and reduce the gap in health care providers, especially with providing conservative health care to underserved and diverse populations.

According to the 2010 census, the racial diversity of the US population is 72.4% white, 12.6% black, 6.2% Hispanic, 5% Asian, and 0.9% Native American.[9] These percentages are expected to change drastically by 2050, when it is predicted that racial minorities will account for more than half of the US population.[10,11] However, there are already

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some states that have reached this mark. California, New Mexico, Hawaii, and the District of Columbia are states in which non-Hispanic whites are currently the minority proportion of the population.[9] These facts raise two important questions. Is the chiropractic profession prepared to meet these emerging demographic and cultural changes? Does the profession have a diverse workforce that is providing culturally competent care?

It has been estimated that over 40% of the US population reports using CAM.[12,13] However, the same proportion does not utilize chiropractic services. According to Mackenzie et al, the prevalence of chiropractic use for whites was 13%, whereas for blacks it was 5%, Hispanics 9%, Asians 5%, and Native Americans 9%.[14] Graham et al found similar findings; the prevalence of chiropractic use was 8.8% for whites, 2.7% for blacks, and 3.8% for Hispanics.[15] Su and Li, using data from the National Health Interview Survey, found a slightly greater use by some groups; however, minorities still used chiropractic less than whites.[16] They also reported that CAM use increased in the following situations: where access to biomedical care was restricted, there were unmet needs in medical care, or there were factors relating to cost. While the chiropractic profession has an opportunity to grow by serving minority populations and to help fill the health care provider gap, it clearly is used less frequently by minorities, indicating that the profession needs to improve its ability to provide care to racially diverse populations.

Diversity goes beyond the tolerance of others. Diversity is our appreciation of differences in ethnicity, race, socioeconomic status, sex, gender identity, religion, age, and abilities (mental, physical) of the members of the health care workforce and the patients we serve.[17,18] A diverse chiropractic workforce has the potential to improve the health of the public, especially if our workforce is representative of the population. As we welcome new ways to provide chiropractic care to portions of the population that are not aware of chiropractic or that have difficulty accessing health care including chiropractic, we need to address issues of diversity. Survival and growth of the profession may depend on how agile we are to responding to these looming demands. Although there has been a call for chiropractic to contribute to the solution of the health care crisis,[19] the profession seems ill prepared when considering the evolving national demographics and patterns of use of chiropractic care.

It is difficult to move ahead in the effort to provide a more diverse and culturally competent chiropractic workforce without being aware of our current status. If we are to properly prepare, this knowledge can influence which choices the profession makes now to prepare for the years ahead. The purpose of this editorial is to describe the current demographics in the chiropractic profession and to compare available characteristics with the medical profession and the US population in an effort to ascertain how similar the demographics of the chiropractic profession are to those of the medical profession and the US population.

## METHODS

### Literature Review

A search of PubMed was performed (from the earliest record to December 31, 2011) using the following terms: *chiropractic* and *cultural competency*; *chiropractic* and *diversity*; *chiropractic* and *minority.* Articles were included if the focus of the paper was on practitioners or students in the chiropractic profession. A general search was performed using PubMed and Google Scholar for other relevant articles, reports, and documents that related to preparing the health care workforce for demographic changes in the United States. Gray literature (eg, white papers, technical reports) was reviewed for information about the chiropractic profession and diversity, which we considered to be differences in ethnicity, race, socioeconomic status, sex, gender identity (lesbian, gay, bisexual, transgender), religion, age, and abilities (mental, physical).

### Chiropractic Workforce Data

From *The Chronicle of Higher Education* database,[20] 2008 chiropractic college student and faculty demographic data were identified and extracted. The 2009 National Board of Chiropractic Examiners (NBCE) *Practice Analysis of Chiropractic* was reviewed for relevant demographic data of the chiropractic workforce.[21] US Census 2010 data were collected for race for the nation and for each of the states in which chiropractic colleges operate.[11] Demographic information for the medical profession was extracted from Association of American Medical Colleges (AAMC) reports. These data were

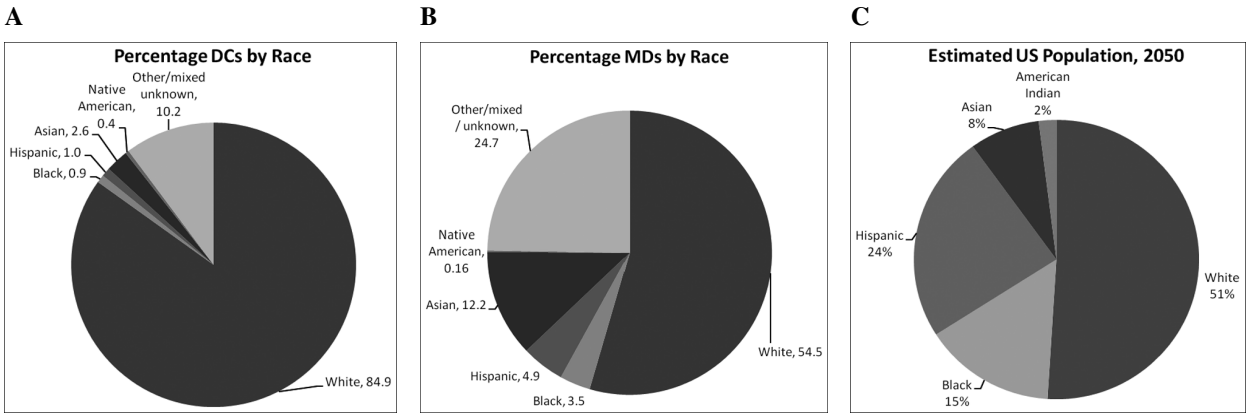


*Figure 1. (**A**) The current percentage of race for the chiropractic profession based on data from the National Board of Chiropractic Examiners.*[21] *(**B**) The current percentage of race for the medical profession from data by the Association of American Medical Colleges.*[23] *(**C**) US Census Bureau projected racial distribution in the United States by the year 2050.*[11]

entered into an Excel (Microsoft Inc, Redmond, WA) spreadsheet and descriptive statistics were performed. All data in this report were obtained from open access sources.

## RESULTS

The literature search of PubMed revealed the following number of relevant articles: *chiropractic* and *cultural competency* = 0, *chiropractic* and *diversity* = 1,[22] and *chiropractic* and *minority* = 1[22] Information on sex and race were identified, but no reliable data were found on other diversity characteristics, such as gender identity, religion, disability, and socioeconomic status.

Seventeen US chiropractic colleges were identified in *The Chronicle of Higher Education* database. Two of these are chiropractic programs within a larger institution; thus reported data were of the entire student body and not for the chiropractic program. Therefore, since the characteristics of the students from the chiropractic program could not be identified, these two schools (D'Youville and University of Bridgeport College of Chiropractic) were not included in the comparison for this study.

According to the NBCE data,[21] the reported race of the DC practitioner shows a majority of white members (Fig. 1A). The racial makeup of medical doctors (MDs) is also a white majority; however, the AAMC data[23] show that the representation of black, Hispanic, Asian, and Native American members was greater than for DCs (Fig. 1B). When compared to the projected US population for 2050,[11] the chiropractic profession has a disparity in racial percentages (Fig. 1C).

The comparison of the overall percentage of races of practicing DCs from the NBCE data[21] to the current population of the United States[11] shows that there is an overrepresentation of white practitioners and a deficit of practitioners in all other reported races. The greatest negative divergence of DCs from the percentage in the current US population is for blacks, followed by Hispanics, Asians, and Native Americans (Fig. 2).

The chiropractic profession is currently made up of a majority of male practitioners (Fig. 3A), which is contrary to the percentage of chiropractic patients, typically estimated to be about 60% female.[21] According to statistics from the AAMC,[24] the sex of medical graduates is more proportionate to the general US population (Fig. 3B).

A comparison of the racial representation of each of the US chiropractic institutions[20] to their respective state (a proxy to local community race)[25] shows that the majority of colleges do not represent the local racial distribution (Fig. 4). A comparison of the racial percentages of the current DC population, DC student population that will contribute to the future DC population, current US population, and the estimated US population by 2050 (Fig. 5) shows that the chiropractic profession is currently far from reaching proportional representation. Tables 1 and 2 show the details of percentages of races for students and faculty for each of the US chiropractic colleges included in this study.

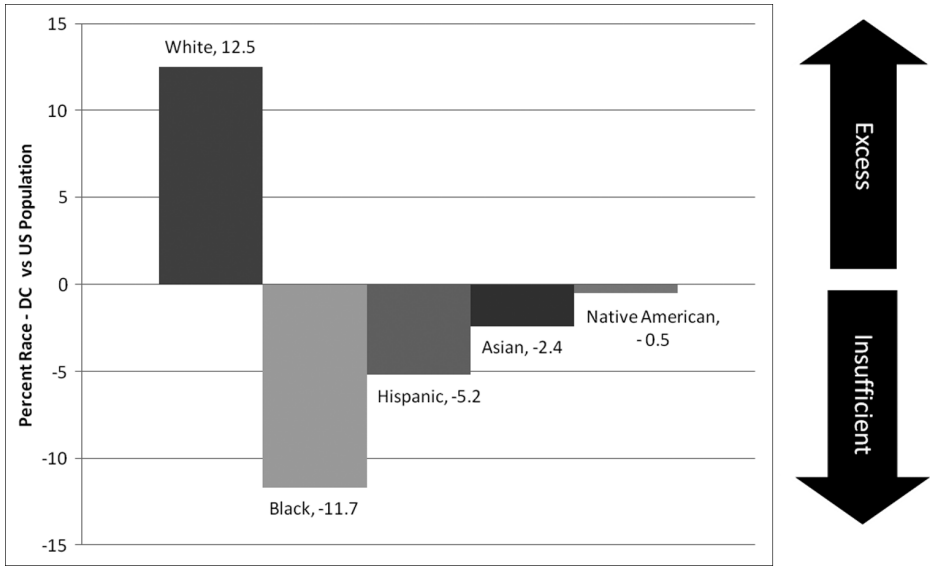


*Figure 2. The "diversity gap" between chiropractic and the US population. Excess or insufficient percentages of practicing doctors of chiropractic (DC)[21] compared to current US population.[11]*

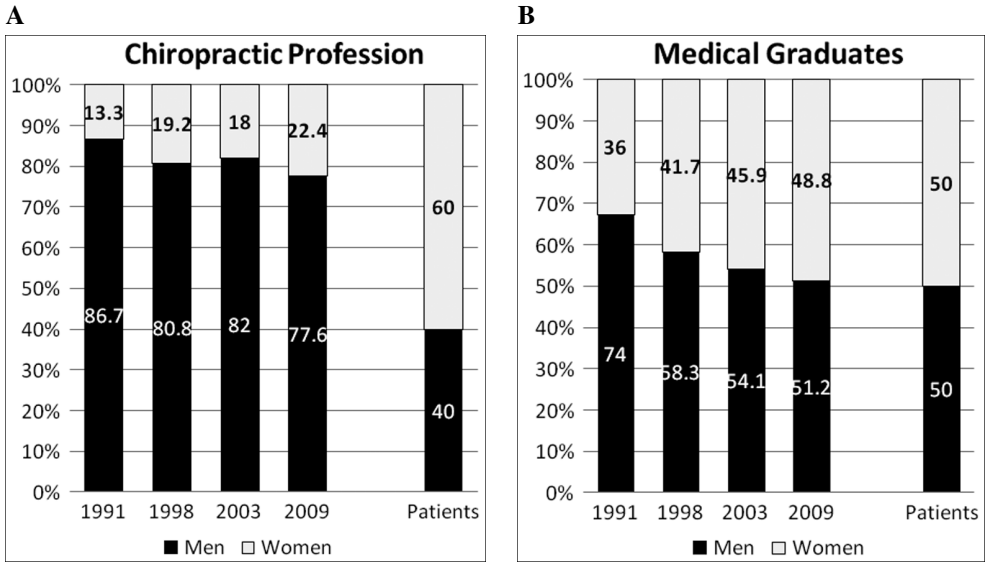


*Figure 3. (**A**) The percentage of men and women for the chiropractic profession.[21] (**B**) The ratio of male to female medical graduates[24] in the United States.*

## DISCUSSION

A diverse chiropractic workforce has the potential to improve the health of the public. For example, it has been suggested that women and racial minority health care providers are more likely to provide care in underserved communities and to minority populations.[26,27] As well, patients who seek care from a provider of the same racial and/or ethnic background tend to be more satisfied with their care.[28–34] Thus, having a chiropractic workforce that represents the surrounding environment has advantages. Not only will the doctor–patient interaction be improved, but the doctor can be more effective on a community level. A diverse workforce will more likely produce culturally competent practitioners, improve access to the underserved, and improve overall quality of care to diverse populations.[35] Thus, we assert that action should be taken by the profession to improve proportional representation.

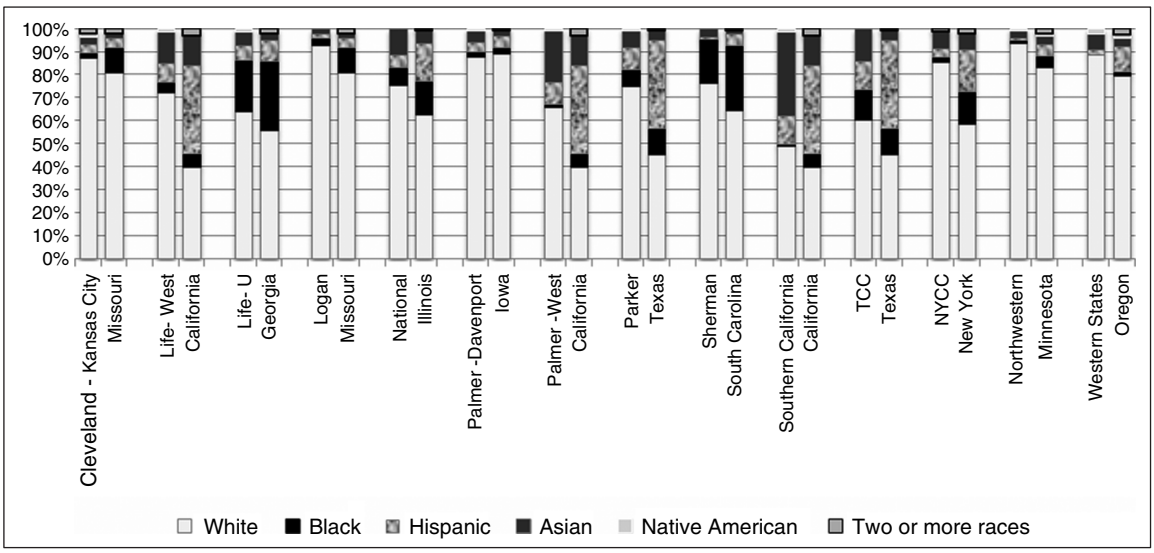


*Figure 4. Comparison of racial diversity percentages in each of the chiropractic colleges as reported in The Chronicle of Higher Education*[20] *and their local community, represented by state racial diversity percentages from the US Census.*[25] *TCC, Texas Chiropractic College; NYCC, New York Chiropractic College.*

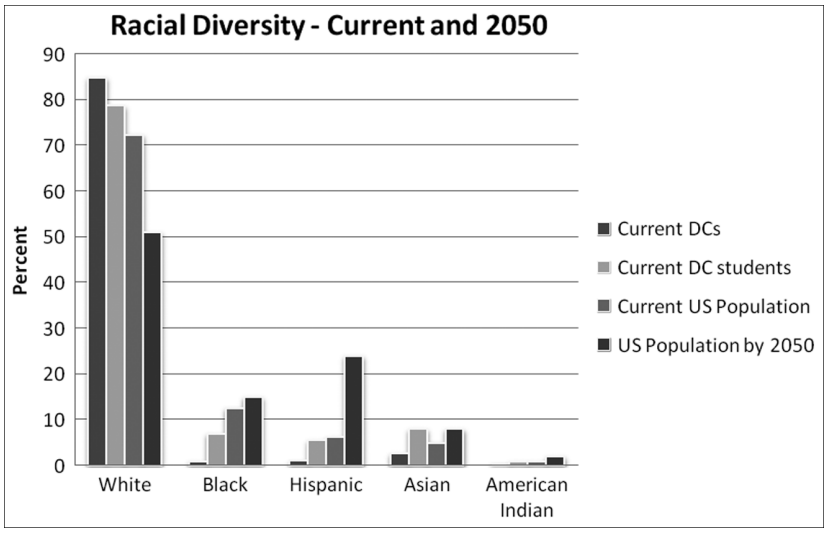


*Figure 5. Comparison of current racial percentages for DCs*[19] *and projected US population percentages for 2050.*[11]

## History of Racial Diversity in the Chiropractic Profession

Chiropractic's beginnings can be traced back to the end of the 19th century. This was during a time when modern medicine was still in its infancy (before most pharmaceuticals, antibiotics, and surgical methods) and alternative methods to health care developed out of a need to address common health conditions.[36] The historical birth date of chiropractic is estimated to be around 1895, though some suggest it may have been later.[37] Daniel David Palmer, the founder of the profession, declared the discovery of chiropractic with one particular patient, Harvey Lillard. Mr. Lillard was a superintendent of the Ryan Block professional building in Davenport, Iowa, in which Palmer worked, and, of note, the first chiropractic patient was a black man (Fig. 6).

Palmer began to market his healing methods and opened up a school so that graduates may "practice and teach" the new healing method called

**Table 1. Student racial diversity in chiropractic degree granting institutions, as reported in *The Chronicle of Higher Education*, available at http://chronicle.com/article/Table-RaceEthnicity-of/124406/**

| Institutions (2008) | State | Enrollment | White | Black | Hispanic | Asian | Native American | Two or More Races | Race Not Known | Nonresident Foreign | Total Minority |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cleveland LA | Calif. | 342 | 34% | 5% | 12% | 14% | 0% | 1% | 29% | 5% | 32% |
| Cleveland Kansas City | Mo. | 535 | 77% | 2% | 3% | 3% | 1% | 2% | 10% | 2% | 9% |
| Life West | Calif. | 424 | 63% | 4% | 7% | 12% | 1% | - | 14% | 0% | 23% |
| Life University | Ga. | 2,171 | 52% | 18% | 5% | 5% | 1% | - | 19% | 0% | 29% |
| Logan | Mo. | 1,143 | 88% | 3% | 2% | 2% | 0% | - | 0% | 4% | 9% |
| National U of Health Sciences | Ill. | 691 | 68% | 7% | 5% | 10% | 0% | - | 7% | 3% | 22% |
| Palmer, Davenport | Iowa | 2,167 | 87% | 2% | 4% | 5% | 1% | 0% | 2% | 0% | 12% |
| Palmer West | Calif. | 285 | 62% | 1% | 9% | 21% | 1% | 0% | 7% | 0% | 32% |
| Parker | Tex. | 985 | 72% | 7% | 9% | 7% | 1% | - | 0% | 4% | 24% |
| Sherman | S.C. | 240 | 68% | 17% | 1% | 3% | 0% | - | 4% | 6% | 22% |
| Southern California Univ. | Calif. | 475 | 40% | 1% | 10% | 30% | 1% | - | 17% | 0% | 43% |
| Texas | Tex. | 365 | 59% | 13% | 12% | 14% | 0% | - | 1% | 0% | 39% |
| New York | N.Y. | 842 | 70% | 2% | 3% | 6% | 0% | 1% | 4% | 13% | 12% |
| Northwestern | Minn. | 877 | 91% | 1% | 1% | 3% | 1% | - | 0% | 3% | 5% |
| Univ. of Western States | Ore. | 449 | 77% | 0% | 2% | 6% | 2% | 0% | 7% | 7% | 9% |

**Table 2. Faculty racial diversity in chiropractic degree granting institutions, as reported in *The Chronicle of Higher Education*, available at http://chronicle.com/article/Faculty-Diversity-Special/129153/**

| Institution | State | Total Full-Time Faculty | White | Black | Hispanic | Asian | Native American | Race Unknown | Two or More | Nonresident Foreign | Percentage Minority |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cleveland LA | California | 26 | 21 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 19% |
| Cleveland Kansas City | Kansas | 35 | 29 | 0 | 1 | 3 | 0 | 0 | 0 | 2 | 11% |
| Life West | California | 33 | 30 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 3% |
| Life University | Georgia | 113 | 86 | 12 | 3 | 12 | 0 | 0 | 0 | 0 | 24% |
| Logan | Missouri | 46 | 41 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 11% |
| National U of Health Sciences | Illinois | 46 | 35 | 0 | 0 | 6 | 0 | 5 | 0 | 0 | 13% |
| New York | New York | 62 | 52 | 2 | 0 | 3 | 0 | 0 | 0 | 5 | 8% |
| Northwestern | Minnesota | 71 | 64 | 1 | 0 | 6 | 0 | 0 | 0 | 0 | 10% |
| Palmer, Davenport | Iowa | 131 | 110 | 4 | 3 | 10 | 0 | 1 | 3 | 0 | 13% |
| Palmer West | California | 21 | 19 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 10% |
| Parker | Texas | 71 | 62 | 1 | 4 | 4 | 0 | 0 | 0 | 0 | 13% |
| Sherman | South Carolina | 24 | 19 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 21% |
| Southern California Univ. | California | 34 | 21 | 0 | 1 | 12 | 0 | 0 | 0 | 0 | 38% |
| Texas | Texas | 31 | 25 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 19% |
| Univ. of Western States | Oregon | 35 | 34 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3% |

"chiropractic."[38] Initially, chiropractic seemed to support diversity in education. At a time when medical colleges were refusing to allow women into their programs, many of the chiropractic colleges welcomed them. In 1913, Palmer died and the focus of student recruitment changed. Much of the drive to develop the chiropractic profession rested on his son Bartlett Joshua Palmer, who ran the Palmer School of Chiropractic in Davenport, Iowa.[38]

By the 1920s, as was common practice for medical schools, black people were banned from applying to several of the chiropractic schools, including the founder's school, Palmer College of Chiropractic in Davenport, Iowa.[22,39,40] Wiese notes that "The Palmer School of Chiropractic blatantly stated, 'Negros not accepted' in its catalogs of the 1920s through 1950."[39] Being barred from entering Palmer, hopeful black students were either forced to denounce their race or attend other chiropractic colleges that did not practice racial discrimination.[22,39,40]

From the late 1940s to 1950s, new chiropractic colleges opened that allowed non-white students and racially biased colleges lifted their restrictions. One theory for this change relates to the G.I. Bill that provided funding for GIs returning from the war.[40] It is supposed that the additional government funding, which included chiropractic, resulted in chiropractic colleges wooing returning GIs to attend their programs and a portion of these veterans were black. Racial restrictions to enter colleges diminished over time; however, some remnants seemed to linger. For example, in 1979 a charge of racial discrimination was made against the US Department of Health Education and Welfare. The complaint alleged that chiropractic accrediting agencies did not support racial equity including administration, faculty, and students, noting how few racially diverse people were represented at the chiropractic colleges and on the boards.[40] Although the barriers have diminished, there continues to be a surprising lack of proportional diversity among our ranks, as evidenced by the data reported herein.

*Figure 6. Harvey Lillard, the first chiropractic patient.*

## Chiropractic Workforce

According to the findings of this study, current racial diversity of the chiropractic student body in the United States is not enough to reach projected 2050 US population distributions. Faculty profiles are also not proportional to the population, which may result in a reduced ability to recruit new racially diverse students, limit the number of representative mentors, and affect campus culture. The national aggregate data are supported when looking at the community level, comparing chiropractic colleges to their state populations, as local proportions for race are not proportionate.

If we are to match the sex ratio of the patients we serve, then 60% of chiropractic doctors should be female. The current 22% female chiropractic workforce needs to triple to match the current patient base and we are not sure how this proportion may change by the year 2050. Medicine had a similar experience decades ago, leading to a change in the characteristics of medical doctors. The medical profession was able to change the balance of certain characteristics, such as the ratio of male and female practitioners[24]; thus, it is possible that chiropractic could do the same. While it is laudable that our current racial and sex proportions are changing in a positive direction, it seems that the rate is not fast enough to meet the future needs of the US population by 2050. More work must be done to assure that the chiropractic workforce is representative of the patients whom it serves.

## Publications and Research on Diversity and Chiropractic

It could be said that a measure of the importance of a topic to a profession is the frequency

with which the topic is reported in the profession's literature. To that end, we question to what degree the chiropractic profession has engaged in earnest dialog regarding a diverse chiropractic workforce. According to our findings, one paper has been published on the topic of diversity within chiropractic and how we might rise up to meet the challenges of changing demographics in our communities. Callender provided insight into the amount of proactive programs that chiropractic degree granting institutions are implementing to address this need. In 2006, she reported that only seven had programs with diversity recruiting practices for targeting underserved populations.[22]

If the profession is to represent the patients whom it serves and the US population, a more unified and widespread effort must be used to address these issues. As of the writing of this editorial, no chiropractic organization has published a diversity report similar to that of the AAMC, which documents the need for improving the diversity of the health care workforce. Chiropractic is in need of such a document and this may be a good place to start identifying priorities and goals. If the chiropractic profession is to prepare for its longevity in serving the public, it needs to embrace and address these issues.

## Beyond Diversity: Cultural Competency and Reducing Disparity

One might argue that an adjustment performed by one DC is just as good as the next and diversity does not matter. In addition to being a logical fallacy, this is not practical. In a nation represented by at least 300 languages,[41] one cannot possibly suggest that he or she is a good match for every patient or student who enters the clinic, college, or classroom. Health care and healing go beyond modalities and procedures. Healing encompasses the personal factors of individual doctors and patients; health and wellness are affected on multiple levels.[42] In addition to a diverse workforce, the skills and knowledge of cultural competency are also important. Cultural competence can be defined as, "The capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities."[43]

As doctors, we cannot be limited to seeing only those patients who are like ourselves. Each of us must also be able to communicate in a competent manner with our patients who are not like us or who are from different backgrounds. Culture shapes how we perceive ourselves, including pain, healing, and how we choose to walk the path to wellness. Some cultures express pain differently than others. Some have different expectations of the doctor–patient encounter and others have different perceptions of the locus of control. Therefore, as health care providers, we cannot treat all patients as if they were the same or as if they think like us. We should incorporate cultural competency as an additional way to address diversity.[44,45] Cultural competency, diversity, and considering the patient's needs also fit well within the evidence-based practice model, which has patient values making up one-third of the health care equation.[42,46] Thus, diversity of the health care workforce is also a very relevant and essential component of evidence-based chiropractic.

## Diversity in Education and the Future of Chiropractic

The US population will be substantially different by 2050 as previously demonstrated in Figure 1.[10,11] Not only will this diverse population be the patients we are serving, it will also be the pool from which our future students and graduates will be derived.

Presently there are efforts to expose chiropractic students to patients from diverse backgrounds by exposing students in the clinical environment to underserved populations.[47] These efforts are commended and should be continued. However, there seems to be no unified effort to address diversity issues in the student population, faculty, and chiropractic workforce. As Su and Li state,[16] "disparities in CAM use, in combination with the constantly increasing share of racial and ethnic minority population in the U.S., can have a profound impact on the overall dynamics of CAM use in the U.S. and their trajectories in the future." Thus how we address our student body will have a profound impact on the future of the profession. Recruiting faculty members and administrators will also assist with developing culturally competent representative research and educational environments.[48]

We need to investigate causes for why racially diverse students are choosing not to enter chiropractic colleges. There are many factors that may affect student choice of chiropractic as a career. Some may include culture on campuses, lack of diversity among faculty, funding for education, and recruitment focus. In the past, students attended

chiropractic college based on experiences with a family member who was a chiropractor or having attended a doctor of chiropractic for a health problem. However, many students now are attending chiropractic college without ever having these experiences. Thus, a lack of minority students may not be associated with prior exposure.[49] A focused and informed approach to diversify our student body is needed.

## Moving Forward

Racial and ethnic health disparities continue to exist in the US health care system, which includes the health care workforce, health care outcomes, and research.[50,51] Cultural competency and diversity are essential to addressing issues of health care disparity. Addressing these complex issues must occur on all levels.[52] To maintain concordance and contribute to the welfare of the population, chiropractic must meet the changing demographics.[51,53] Whereas the medical profession has declared a concerted effort to target diversity and seems to be advancing in this area, chiropractic seems to be lagging behind. The AAMC has produced several reports evaluating the status of the medical profession and has made suggestions for how to address the needs of the future in health care. The chiropractic profession should consider meeting these efforts.

The Institute for Alternative Futures (IAF) strongly recommends that accommodating the upcoming changes in demographics is important to the future of the chiropractic profession. The 2005 IAF report clearly states that, "there are too few minorities within the traditional patient base, and within the profession."[49] The findings from the present study support this statement. In each of the growth scenarios offered by the IAF, a more diverse student body was essential. The model of the downward spiral and demise of the chiropractic profession was the only model that included a less diverse student body.[49] The downward spiral model also includes the following statement warning of a possible future where "chiropractic has difficulties making inroads into the minority market due to a lack of minority practitioners and public outreach campaigns in minority communities."[49] Thus, we believe that without making demonstrable change in diversifying its workforce within the next decade, the chiropractic profession will not be prepared for the future of health care and its own future remains in question.

There is a call for greater diversity in health care providers at a national level. One of the Healthy People 2020 goals relates to health care infrastructure. Within this goal, which is to ensure that health agencies have infrastructure to effectively provide essential public health services, there is an emerging issue of health disparities. Specifically, the goal states, "Disparities in the Public Health Workforce: As minority populations in the United States increase, the country will need a more diverse public health workforce. Hispanics, American Indians and Alaska Natives, and African Americans are underrepresented in the public health workforce."[54]

The chiropractic profession is called to meet these challenges. It is clear that by 2050, the proportion of racial diversity will be substantially different. If the profession is to be prepared, planning needs to begin now. Activities that the chiropractic profession may consider in planning for upcoming population demographic changes include, but are not limited to the following suggestions:

- Education
  - Develop strategies to recruit faculty members and students to better match national population needs.[55]
  - Develop accurate reporting strategies to measure all aspects of diversity for students, faculty, practitioners, and the public.
  - Develop college environments that support cultural competency, including faculty diversity, student recruitment, and policies against discrimination.
  - Incorporate determinants of health when developing educational strategies.[42]
  - Increase collaboration with diverse groups in the community on a local and national level.
  - Develop culturally competent health management plans.[56]
  - Become involved with currently existing strategies to eliminate health care disparities.[57,58]
  - Include diversity and social justice concepts in education.[59]
  - Increase the number of minority faculty and minority role models in the chiropractic profession.[60,61]
  - Develop outreach to undergraduate programs to promote racial, ethnic, and gender diversity in applications.
  - Establish admissions, recruitment, and retention efforts focusing on diversity.

  - Develop a process by which various aspects of diversity can be measured in the faculty and student body, beyond sex and race.
  - Include diversity goals in faculty recruitment and retention programs.[62]
  - Include diversity and cultural competency as an outcome measure for educational institution and profession success.
- Research
  - Increase the awareness of chiropractic research to minority populations.[63]
  - Increase research studies of minority access to chiropractic care.
  - Increase underrepresented minorities in the research workforce.[64]
  - Increase educational research studies on inclusion of underrepresented minorities in chiropractic education, including faculty and students.
  - Increase clinical research studies on chiropractic and minority health and reducing health disparities.
  - Incorporate determinants of health when developing research strategies.[42]
  - Include diversity and social justice concepts in the research agenda.[59]
- Practice and Community
  - Establish cultural competency best practices.[43]
  - Include diversity and social justice concepts in practice.[59]
  - Increase publications and communications about how chiropractic might address health care disparities.
- Leadership and Policy
  - Create a position paper on disparities in health care[65] and increasing diversity in the chiropractic workforce.
  - Incorporate diversity concepts into leadership.[66]
  - Develop a process by which various aspects of diversity can be measured in the profession, beyond sex and race.
  - Create culturally competent leadership environments and policies.
  - Establish and partner with collective action and health care reform activities.

### Limitations

The findings of this study are not complete, because the data only focus on race and sex. Other factors such as socioeconomic status, gender identity, religion, age, and abilities (mental, physical) were not included and are an important part of diversity. It appears that sex and race are easier to measure and analyze, whereas sexual orientation, religion, and so forth are more difficult to measure because of the lack of reporting structure for these characteristics. These should be considered in future studies in order to provide a more complete description. The primary literature search used the PubMed search engine; thus articles in other databases may have been missed. The focus of this study was on diversity in the United States and therefore information may not relate to other countries. Some educational institutions (eg, health sciences universities) have more than a chiropractic program; thus demographics may not necessarily be solely for the chiropractic program. We feel that for this initial study, the data available were adequate to approximate characteristics of the student body and faculty for chiropractic degree granting institutions.

## CONCLUSION

This study found that the chiropractic literature on preparing the chiropractic workforce for landmark changes in US demographics is virtually nonexistent. The diversity of race and sex in chiropractic practitioners, student bodies, faculties, and enrollments are not proportional to the US population and these proportions are not responding as quickly as other health professions to the changing profile of America. The chiropractic profession urgently needs to develop and implement strategies to address issues of diversity and cultural competence in order to prepare for inevitable changes by the year 2050.

## CONFLICTS OF INTEREST

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