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# Chiropractic Day 2023: A Report and Qualitative Analysis of How Thought Leaders Celebrate the Present and Envision the Future of Chiropractic

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#### Abstract

Objective: This study aimed to (1) collect and analyze statements about how to celebrate chiropractic in the present and roles that chiropractors may fulfill in the future, (2) identify if there was congruence among the themes between present and future statements, and (3) offer a model about the chiropractic profession that captures its complex relationships that encompass its interactions within microsystem, mesosystem, exosystem, and macrosystem levels. Methods: For this qualitative analysis, we used pattern and grounded theory approaches. A purposive sample of thought leaders in the chiropractic profession were invited to answer the following 2 open-ended questions: (1) envision the chiropractor of the future, and (2) recommendations on how to celebrate chiropractic. Information was collected during April 2023 using Survey Monkey. The information was entered into a spreadsheet and analyzed for topic clusters, which resulted in matching concepts with social-ecological themes. The themes between the responses to the 2 questions were analyzed for congruence. We used the Standards for Reporting Qualitative Research to report our findings. Results: Of the 54 experts invited, 32 (59%) participated. Authors represented 7 countries and have a median of

32 years of chiropractic experience, with a range of 5 to 51 years. Nineteen major topics in the future statements and 23 major topics in statements about celebrating chiropractic were combined in a model. The topics were presented using the 4 levels of the social-ecological framework. Individual (microsystem): chiropractors are competent, well-educated experts in spine and musculoskeletal care who apply evidence-based practices, which is a combination of the best available evidence, clinical expertise, and patient values. Interpersonal relationships (mesosystem): chiropractors serve the best interests of their patients, provide personcentered care, embrace diversity, equity, and inclusion, consider specific health needs and the health of the whole person. Community (exosystem): chiropractors provide care within integrated health care environments and in private practices, serve the best interests of the public through participation in their communities, participate through multidisciplinary collaboration with and within the health care system, and work together as a profession with a strong professional identity. Societal (macrosystem): chiropractors contribute to the greater good of society and participate on a global level in policy, leadership, and research. There was concordance between both the future envisioning statements and the present celebration recommendations, which suggest logical validity based on the congruence of these concepts. Conclusion: A sample of independent views, including the perceptions from a broad range of chiropractic thought leaders from various backgrounds, philosophies, diversity characteristics, and world regions, were assembled to create a comprehensive model of the chiropractic profession. The resulting model shows an array of intrinsic values and provides the roles that chiropractors may provide to serve patients and the public. This study offers insights into the roles that future chiropractors may fulfill and how these are congruent with present-day values. These core concepts and this novel model may have utility during dialogs about identity, applications regarding chiropractic in policy, practice, education, and research, and building positive relationships and collaborations. (J Chiropr Humanit 2023;30;23-45)

Key Indexing Terms: Chiropractic; Health Occupations; Professional Role; Social Responsibility; History; Qualitative Research

For over 125 years, the profession of chiropractic has provided health care and served patients and the public. Over this time, the number of chiropractors has grown, and the profession has adapted to the needs of individuals and society. As well, the chiropractic profession's clinical practices and education programs have grown globally.<sup>1-4</sup> This growth has been notable in spite of internal and external obstacles that the profession has overcome.<sup>5-14</sup> Although the core principles and practices of chiropractic remain consistent, chiropractic knowledge, practices, and the opportunities to serve continue to expand.<sup>3,11</sup>

Considering what is worthy of celebrating about a profession provides insight into what is valued amongst its members. Focusing on a common point in time, such as the historic founding of a profession, is a means to explore these values. Chiropractic Day is declared to be the day that the chiropractic profession was founded. Even though the exact day of the origin of chiropractic is uncertain, September 18 is traditionally the day of recognition and celebration. Although the profession began in 1895, it was not until later that an official celebration day was recognized. Unit, 15,22 In 1928, Wray Hughes Hopkins, DC, presented a plan to celebrate chiropractic to Dr. Bartlett Joshua Palmer, who was the president of the Palmer School of Chiropractic in Davenport, Iowa, at that time. The original purpose of this celebration was for chiropractors from around the world to observe the day annually "to identify themselves with the world's greatest natural healing science." Dr. Bartlett Joshua Palmer supported the idea, and the first global Chiropractic Day event was celebrated on September 18, 1928.

By the 1950s, there were approximately 23 000 chiropractors in North America. Chiropractic is claimed to be "the second largest profession of healing" in the United States, with 33 000 000 patients in North America receiving chiropractic care each year. <sup>16</sup> Because the profession was reaching more people and gaining stature, a proposal was made to the United States Congress for recognition. <sup>23</sup> In 1952, Chiropractic Day (September 18) was formally declared as a day "to mark observance of the historical date on which Dr. Daniel David Palmer rediscovered the principles of chiropractic and gave a new science of healing to the world" (Fig 1). <sup>16</sup>

In 2017, the World Federation of Chiropractic estimated that there were over 103 000 chiropractors worldwide.<sup>2</sup> Using the same proportional estimate calculations that were used in 1952, it would mean that chiropractors are now providing care to 148 000 000 individuals per year, which may be an underestimate. The contributions of the chiropractic profession have been substantial in helping people with their health and recovery, yet questions remain as to the direction it should take.<sup>24-28</sup>

Self-reflection on the future of a profession is essential and should be accomplished from a variety of viewpoints, especially from those who have years of experience. As far as we are aware, there are no recent articles in the indexed literature that focus on envisioning the future of the chiropractic profession that have been written by established chiropractic professionals from a range of perspectives. We searched PubMed for articles focusing on envisioning the future of the profession and written by established chiropractic professionals providing a range of perspectives. Prior efforts have focused on strategic planning rather than envisioning the future. For example, the 2006 strategic planning conference for North America focused on categories that needed to be improved as part of a strategic planning conference culminating in 5 key domains for improving health professions practice with action statements, but it was not formatted as a group vision document. More recent strategic planning efforts in North America by ChiroCongress are currently underway, and these efforts have been structured as a strategic plan with categories to advance the profession. These are all commendable efforts to improve chiropractic and create action steps for growth and improvement.

In 2013, the Institute for Alternative Futures synthesized 4 scenarios for the future of the chiropractic profession, resulting in marginal role, hard times, integration, and vitalism.<sup>30</sup> A strength of the Institute for Alternative Futures report was that it was written by an external organization with expertise in proposing potential scenarios that the profession may face and how it might address each scenario. This external study gives strength to the face validity of the report. Although chiropractors were interviewed for the study, no chiropractors were on the authoring team. Although this was an informative report, the absence of current

chiropractic leaders as authors may have resulted in missed perspectives from within the profession. There have been commentaries offering opinions by individuals or small groups of authors that primarily hypothesize ways that chiropractors should identify themselves; thus, these publications lack the representativeness of the larger chiropractic community.

While conferences have been held, and a few papers have been published on "identity," we did not find publications that included a wide variety of chiropractic and associated professionals envisioning the future roles of chiropractors. Thus, we found no recent publications that have collected and studied vision statements from chiropractic thought leaders about what the future of the chiropractic profession might be.

Envisioning the future is a way to explore the current state of being and possible directions for a profession. The use of narrative<sup>31</sup> gives "meaning to our experiences, to join incidents together in coherent wholes, and to understand past events and plan future ones." Thus, a narrative investigation into what is valued by thought leaders in a profession, such as how the profession should be celebrated and what roles professional members may fulfill, would be beneficial to provide important sociological and professional insights into the present and the future of the chiropractic profession.

Therefore, the primary purpose of this study was to investigate how thought leaders within the profession envision the roles chiropractors will fulfill in the future and what they recommend chiropractors can do today to celebrate chiropractic. Secondary purposes were to identify if there were any common themes or patterns among the responses and if a model could be created by which these concepts could be included in future dialogues. Research questions were the following: (1) What do thought leaders perceive future chiropractors' roles to be? and (2) What are the recommendations that thought leaders offer about celebrating the chiropractic profession?

#### **METHODS**

#### Qualitative Approach

For this inductive, qualitative analysis, we used pattern theories and grounded theory approaches to address the research questions. <sup>33-36</sup> In brief, patterns were noted as they developed from the replies of participants. Interconnected concepts from participants' replies to the questions asked were then noted and organized into themes or patterns. We used the Standards for Reporting Qualitative Research to report our findings.<sup>37</sup>

## Participants, Context, and Sampling Strategy

The lead authors (CDJ, BNG) are editors of 4 scientific journals and have been peer review chairs for several scientific chiropractic conferences over the past 2 decades, and each has over 30 years of experience in chiropractic. Therefore, they have extensive knowledge about who is active in the chiropractic profession and their demographics. An invitation list was created by the lead authors that consisted of experts representing a variety of backgrounds and viewpoints. People were considered from those who were publicly active within the chiropractic profession at chiropractic scientific, educational, and clinical conferences, especially those who had presentation and publication track records, thus establishing them as experts or thought leaders.

The invitation list was created to include individuals with the following attributes: (1) currently active in the chiropractic profession; (2) representative of at least 1 of the following categories—practitioner, chiropractic association leader, researcher, leader of an entity and/or business that serves chiropractic, or chiropractic educator; and (3) include at least 1 representative thought leader from various philosophical and practice viewpoints (eg, straight and mixer philosophies and traditional and progressive practices). Participants with diversity traits (ie, a characteristic that has the potential for decreased access or human rights challenges), including race, ethnicity, sex, gender and/or identity (lesbian, gay, bisexual, transgender, queer and/or questioning [LGBTQ]), and neurodiversity were sought so we may include different points of view.<sup>38</sup> We aimed to capture views that would represent most chiropractors and include the majority and minority

groups (ie, mixer, straight) of the profession.<sup>39</sup> Participation in the survey was voluntary, with no remuneration or other form of incentive. The number of years of experience with chiropractic was based on the year of graduation from a chiropractic program or, if no chiropractic degree, years of involvement with chiropractic.

We considered that those who have years in leadership positions and practice are more cognizant of the possibilities, obstacles, opportunities, and realities for chiropractic in the future. Because the focus of this study was on identifying how thought leaders and experts in the chiropractic profession envision the future, we only included those who had experience within the chiropractic profession. We excluded chiropractic students because students are heavily influenced by marketing or indoctrination from their institutions, which may or may not necessarily reflect the reality of chiropractic practice or opportunities for the future of the profession. As well, we propose that those who do not have any experience working within chiropractic would likely not have the context and knowledge to adequately address the research questions of this study. For these reasons, we did not seek input from those who were not experienced thought-leaders within chiropractic (eg, students, patients, other health care providers, and policy-makers).

#### **Ethics**

All contributors gave their consent to participate as authors of this paper. All contributors reviewed the final version of the paper and were allowed to withdraw at any time prior to the final submitted version of the manuscript. We did not report people who were invited but declined to participate because we did not obtain their consent to reveal their identities.

### Data Collection Methods

In April 2023, an electronic survey was distributed via SurveyMonkey (Symphony Technology Group) to a purposive sample of 54 thought leaders in the chiropractic profession.<sup>40</sup> Participants were asked to respond individually to 2 open-ended questions: (1) "What does the chiropractor of the future look like to you? What roles do you see chiropractors fulfilling?" (2) "Please recommend what chiropractors/doctors of chiropractic should do to celebrate Chiropractic Day." Question 1 had a 200-word maximum response, while question 2 had a 100-word maximum response. The questions about the future sought envisioning information, whereas the question about how to celebrate chiropractic explored thoughts about positive aspects of chiropractic in the present day.

The authors contributed their responses individually and were blinded to the other authors' content during the initial submission and data-gathering process. As well, the respondents in the early stages of the study were blinded that there would be a comparison of contents between present and future responses to prevent this from influencing their responses. The contents of the responses for both question sets were lightly edited for spelling, grammar, and syntax consistency for scientific journal style, then returned for review by the respondent. The authors approved their responses before analysis. The responses were then entered into an Excel (Microsoft Corporation) spreadsheet by the lead author (CDJ) and analyzed. Respondents were invited to join as coauthors on this paper.

# Data Analysis and Model

Statements about visions of the future were reviewed, and general topics were identified that were entered into column headings on a spreadsheet. The comments were

then reread, verifying that all content was accounted for in each topic. The same process of analysis was completed for Chiropractic Day activity recommendations. The topics were reviewed, and a hierarchical pattern was detected.

While observing themes within the responses, it was evident that complex, layered relationships were present. The model that seemed to be the best fit for the results was the social-ecological model. The social-ecological model facilitates the description of interrelationships between people and their environments. Bronfenbrenner, the original developer of this model, proposed that the model helps us better understand the system in which growth occurs. This model is similar to other sociological constructs, such as Krieger's web of causation, that provide ways to describe and evaluate complex interrelationships. The original concept of Bronfenbrenner's systems theory included the various environments that can affect how a child grows and develops. However, even Bronfenbrenner updated the framework since its original conception. Stokols discusses how people alter their behavior across different social interactions that may or may not be linked to environmental factors. Typically, the social-ecological model includes various levels such as microsystem (closest to the individual), mesosystem (connection between 2 or more systems), exosystem (the larger social system), and macrosystem (the largest social system).

The social-ecological model has often been applied to public health interventions. <sup>46,47</sup> However, this model has also been adapted or applied in various disciplines and in the health professions. For example, the model was adapted for the pharmaceutical profession as a conceptual framework to address racial and ethnic minority issues in pharmacy curricula. In nursing, a literature review was performed using the social-ecological model to explore the interactions among factors associated with ethical issues in nursing practice. The social-ecological model, which considers the complex interactions between individual, relationship, community, and societal factors, was therefore selected as a framework for thematic analysis. <sup>46,47,50,51</sup> The themes were clustered into 4 categories using the fundamental components of the social-ecological model. <sup>42,43,52</sup>

We applied this model by defining the following 4 social levels: "Individual" concepts about the individual practitioner; "Interpersonal relationships," individuals with whom chiropractors interact; "Community" characteristics related to groups of people, including the chiropractic profession; and "Society," the broadest and highest level relating to interactions on a broader, national, or global level.

To report the results, we left all individual responses intact to avoid misrepresentation of their responses and to enhance the fidelity of the meaning of their comments. We felt that reporting the authors' identities with their replies enhances the meaning of their comments and allows the reader to interpret their meaning. Although we did not report individuals' diversity traits (eg, age, sex and/or gender, religion, neurodiversity) to protect personal information of the authors, some of these traits are apparent. The clustered topics were developed into figures for the future vision statements and the present recommendations to celebrate chiropractic.

# Techniques to Enhance Trustworthiness

All authors read the review of topics and assignment to themes in the social-ecological framework. The authors provided feedback, and revisions were made to the manuscript. This process was completed through several iterations until consensus was reached among all authors, resulting in the final manuscript.

#### **RESULTS**

#### Demographics and Representation

Thirty-two thought leaders (59% return rate) agreed to participate in this study. The median years of experience in the chiropractic profession for this group was 32 years per person (range 5-51 years) (Fig 2).

The authors represent 7 countries (Australia, Canada, Malaysia, South Africa, T€rkiye, United Kingdom, and United States). These countries altogether hold 92% of the estimated 103 000 chiropractors worldwide, according to data from a global survey conducted in 2017 by the World Federation of Chiropractic.² Therefore, the authors represent the majority of chiropractors in regions where chiropractic is present.

The authors' primary affiliations included chiropractic degree-granting programs (16), private practices (5), professional chiropractic associations (5), multidisciplinary health care facilities and state, national, and/or private universities (4), education accreditation entities (2), and other affiliations (2). However, it is noted that some authors have multiple affiliations. Represented among the authors were individuals with at least 1 or more of the following diversity traits: female sex, racial and/or ethnic minority, gender minority and/or LGBTQ, and neurodiversity. The authors represent an array of professional knowledge and expertise, ranging from those who graduated more recently to those with decades of experience. Thus, this sample represents a full range of generational viewpoints. The median years of experience in the chiropractic profession for this group was 32 years per person (range 5-51 years)

Synthesis and Interpretation

Major Themes About Envisioning Chiropractic in the Future.

From the vision statements, 19 major topic areas regarding chiropractors of the future were identified across the 4 social-ecological levels (ie, microsystem, mesosystem, exosystem, and macrosystem) (Fig 3).

Major Themes About Celebrating Chiropractic in the Present.

For Chiropractic Day celebration recommendations about how to celebrate chiropractic in the present, 23 major themes were identified across the 4 social ecological levels (ie, microsystem, mesosystem, exosystem, and macrosystem) (Fig 4). The detailed text of recommendations from the participants are provided in the appendix (Appendix A).

Pattern Analysis. Several overlapping themes emerged

while organizing and analyzing topics for envisioning the future and celebrating the present. As those commonalities emerged, they, too, were organized in a hierarchical manner. The congruent themes among the recommendations for how thought leaders envision the roles of chiropractors of the future and how chiropractors should celebrate chiropractic are represented in Figure 5. This model portrays complex interactions between chiropractors and others and the roles that chiropractors fill within society.

	Chiropractors contribute to areas that benefit society
Societal	Chiropractors participate globally through policy, leadership, and research
	Chiropractors serve the best interest of their communities and the public     Chiropractors contribute to public health, health promotion on a community level
	Chiropractors work well with others: teamwork, inter/multidisciplinary cooperation, interprofessional collaboration
Community	Chiropractors work together as a profession, with a strong professional identity, recognizing that chiropractic is a distinct profession that works well with other health care professions
	<ul> <li>The healthcare system allows patients to access chiropractors who are within the system, in addition to chiropractors who are in solo practice</li> <li>Chiropractors embrace diversity, equity, inclusion within the profession</li> </ul>
	<ul> <li>Chiropractors work well with patients and health care providers</li> <li>Patients access chiropractors who are first contact, portal of entry, primary level of health care</li> </ul>
Interpersonal	<ul> <li>Chiropractors serve the best interest of their patients</li> <li>Chiropractors provide person-centered care, considering the whole</li> </ul>
relationships	person, whole health, and the biopsychosocial model
•	Chiropractors offer health, wellness, health promotion, prevention to individuals
	Chiropractors embrace diversity, equity, inclusion for the patients they serve
	Chiropractors are competent, well-educated, highly trained, experts/specialists
	Chiropractors are experts in spine, musculoskeletal,
	neuromusculoskeletal care  Chiropractors apply evidence-based practices (ie, the combination of best
Individual	available evidence + clinical expertise + patient values)
	Chiropractors have extensive education and training in the examination
	and care of patients
	Some have additional specialty training in other areas (eg pediatrics,
	sports, radiology, geriatrics, rehabilitation, worker injuries, nutrition)

Fig 3. The combined viewpoints from international thought leaders about how they envision chiropractors in the future. The themes are clustered in hierarchical levels of the social-ecological framework.

Societal	Recognize how chiropractic can contribute globally     Recognize, promote growth (legislation, professional regulation, patient access)     Contribute to new knowledge by writing, publishing
	Support legislative efforts that support chiropractic
Community	<ul> <li>Provide a service activity to your community</li> <li>Recognize how inclusion of chiropractic care is beneficial</li> <li>Request local political leaders acknowledge Chiropractic Day</li> <li>Celebrate and support diversity, equity, inclusion in the profession</li> <li>Celebrate the qualities of chiropractic (evidence-based, high-quality education)</li> <li>Donate to chiropractic (research, education, public relations)</li> <li>Support your alma mater, chiropractic program, or association</li> </ul>
Interpersonal relationships	Educate patients, the public about chiropractic history     Educate patients, the public about health activities, chiropractic care     Celebrate diversity, equity, inclusion of our patients     Recognize, thank patients     Educate other health care providers and entities about chiropractic     Recognize others who have supported chiropractic     Recognize other chiropractors, especially those who have contributed     Celebrate chiropractors who have contributed (academics, researchers, clinicians, politicians)
Individual	Celebrate history, read about chiropractic history, learn about events     Celebrate high quality education     Learn, apply knowledge or new knowledge     Celebrate your story, your contributions

Fig 4. The themes from international thought leaders about how chiropractors could celebrate Chiropractic Day in the present. The themes are clustered in hierarchical levels of the social-ecological framework.

# Envisioning the Chiropractor of the Future

The following are the contributors' aspirational statements describing chiropractors of the future, listed in alphabetical order by the author's last name. These are the empirical evidence that substantiates our analytic findings. Mustafa Agaoglu, DC, AECC University College and Turkish Chiropractic Association, United Kingdom and Tu€rkiye. Chiropractors are primary spine care specialists who diagnose, treat, manage, and co-manage musculoskeletal conditions as well. Chiropractors are primary contact providers and are a portal of entry (such as a family physician or a general

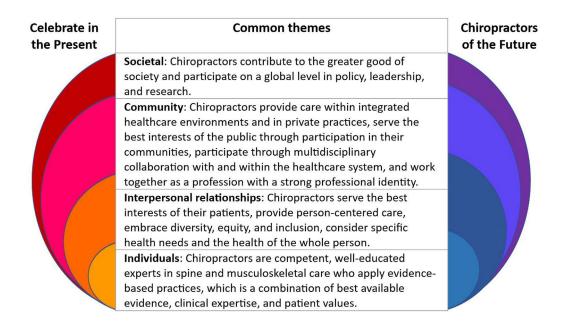


Fig 5. The resulting model of chiropractic is based on common themes between celebrating in the present and envisioning the future.

practitioner) to the health care system in musculoskeletal and spinal conditions. Chiropractors are positioned in hospitals and multidisciplinary settings, working side by side with other medical and allied health care providers. Chiropractic offers much to health care systems globally.

Lyndon Amorin-Woods, BAppSci(Chiro), MPH, College of Health & Education, School of Allied Health, Murdoch University, Australia.

Chiropractors are clinically agile and embrace evidence. They are inquisitive, equipping themselves with current knowledge. They are clinically assertive and honest, providing hope without deception, creating a healing atmosphere, and taking care of people in a person-centered paradigm. They continue to learn and develop new skills. The chiropractic profession is strong, positive, and proactive, integrated but distinct, performing its own unique role while looking to expand career pathways in addition to private practice, research, and academia. Chiropractors fulfill roles in pediatric and aged care; sport and physical activity; trauma rehabilitation and workers compensation; wellness/ well-being; nutrition; health promotion; and advocacy through public health. Chiropractic is a unique profession, respected and acknowledged by other health professionals, because it does not usurp or replicate the role of others. Chiropractic defines and solidifies its role in the health system based on integrity, evidence, and ethics. Chiropractic is a collegiate profession characterized by personal and corporate integrity, with strong leadership well versed in the art of inter-professional and political dialogue.

Richard Brown, DC, LLM, World Federation of Chiropractic,

Canada. Chiropractors have a strong identity as spinal health specialists who focus on evidence-based, people-centered, interprofessional, and collaborative care. They form an important part of patients' health care teams, specifically in relation to their musculoskeletal health needs. Chiropractors are utilized in multidisciplinary health care facilities (eg, hospitals, community clinics, Veterans Affairs Administration facilities) and within elite and professional sports as key players with a specialist knowledge of non-pharmaceutical, non-surgical spine care.

David Byfield, DC, MPhil, Welsh Institute of Chiropractic, University

of South Wales, United Kingdom. Chiropractors are respected leaders of multidisciplinary health care teams, providing guideline-driven, evidence-based care in national health care systems across the globe. They occupy specialist roles, including management posts. Chiropractors understand and appreciate the clinical application of the principles of the biopsychosocial model of health care and the challenges regarding implementation. Chiropractors are regarded as mainstream health professionals. They deliver care that is tailored to the individual patient using multiple modalities woven together with clear language, context, and communication as part of the therapeutic alliance. As a result of their integration in health care systems, chiropractors pursue a variety of career options in addition to clinical practice, including education, research, and public health policy development, working closely with other health professionals. Chiropractors are viewed as specialists in the assessment and management of a range of musculoskeletal conditions and embrace contemporary scientific knowledge and methods.

Gerard W. Clum, DC, Life University, United States.

The Doc tor of Chiropractic is ideally suited to offer healthy living and well-being coaching side by side with hands-on spinal and extra-spinal care. The movement of society to greater ecological awareness, appreciation of the interconnectedness of all living systems, and the greater realization as to the healing power of the human to all sets the stage for greater appreciation of the individual's responsibilities and capacities in terms of health and healing. In this emerging environment, people want assistance and guidance instead of patriarchy and authoritarianism. The best of what chiropractors deliver, the chiropractic adjustment, continues to evolve and corrective procedures tested and improved.

Waleska Crespo, MHSA, DrPH, Universidad Central del Caribe, United States. Chiropractors are integrated into the larger health care system, providing diagnosis and treatment using comprehensive, evidence-based, and patient-centered methods. They emphasize prevention, education, and wellness, helping patients maintain good health and prevent future injuries and illnesses. Chiropractors collaborate from an interdisciplinary perspective with other health care professionals, including primary care physicians, physical therapists, nutritionists, and mental health providers, to provide comprehensive care that addresses the whole person, not just their symptoms,

to address the complex health needs of their patients. With technological advancements, chiropractors use more advanced diagnostic tools to identify and treat neuromusculoskeletal conditions. They embrace telemedicine and virtual reality in their practices, providing remote care and personalized patient treatment plans. Chiropractors fulfill roles as musculoskeletal and spinal primary care providers; integrative care providers; health coaches (can help patients achieve optimal health and wellness by providing education on healthy lifestyle choices, exercise, and nutrition.) They offer guidance on stress management, sleep hygiene, and other lifestyle factors that impact overall health. They are preventive and rehabilitative care providers and researchers. Chiropractors provide a valuable role in healthcare by helping patients achieve optimal health, wellness, prevent injuries and chronic conditions, as well as manage musculoskeletal pain and dysfunction. *Kendrah L. Da Silva, MDipTech(Chiro), Chiropractic Association of* 

South Africa, South Africa. Chiropractors are integrated into public health facilities. They are readily accepted in the multidisciplinary environment. Due to the strong focus of education on evidence based, chiropractors fulfill the role of primary contact physician and diagnostician.

Dawn Dane, MSc(Chiro), EdD, Central Queensland University,

Australia. Chiropractors have a clear professional identity as highly trained registered health care professionals, which allows interprofessional/multidisciplinary practice to be fostered. Providers in other health care disciplines understand what chiropractors do and are keen to collaborate for the benefit of patients.

Clinton J. Daniels, DC, MS, Veterans Administration Puget Sound Health Care System, United States. Chiropractors are engaged in integration, teamwork, excellence, and inclusion. Chiropractic students and residents train alongside medical and other health care professionals as they develop their clinical skills, appreciate roles and responsibilities, and learn how to communicate effectively in team settings. Chiropractors are equipped to provide first-rate, evidence-based care in hospital or other integrated settings, being prepared to discuss scientific literature from a position of authority, collaborating with researchers to advance health care knowledge, and readiness to take advantage of leadership opportunities when they arise. The chiropractic profession and programs encourage efforts to recruit students from underserved and minority communities and promote new graduates to pursue interdisciplinary postgraduate training opportunities.

Micheala Edwards, DC, American Black Chiropractic Association, United States. Chiropractors are recognized as an ideal example in health and wellness. The public is searching for more natural approaches to gaining control of their health and wellness; which includes options offered by using Chiropractic care first. Chiropractors participate as governmental and public health leaders. Chiropractic programs grow with the recognition that the chiropractic profession offers a vital career option.

William K. Foshee, DC, Private Practice, United States. Chiro-

practors continue to work for improved patient access to conservative care for musculoskeletal health needs across the world. The chiropractic profession is positioned to change patient outcomes, increase awareness of how chiropractors can reduce burdens on medical personnel and systems, improve the lives of chiropractic patients, and decrease overall health care spending. The integration of chiropractors into medical care delivery systems offers current and future chiropractors an opportunity to contribute more than ever before. Chiropractic training prepares doctors of chiropractic to be well-qualified experts in the diagnosis and treatment of musculoskeletal conditions, rehabilitation principles, and whole-person health. Chiropractors engage in evidence-informed collaboration and innovation related to the science of pain and rehabilitation services. Chiropractors lead efforts to regulate chiropractic care to protect patients and to allow their health care providers to deliver patient-centered care within the full scope permitted through regional legislation.

Christine Goertz, DC, PhD, Duke University School of Medicine, United States. Chiropractors are valued members of inter-disciplinary teams, taking a whole-health or whole-person perspective in the diagnosis of health conditions, with an emphasis on the treatment of musculoskeletal disorders. Chiropractors work closely with other health care providers, including primary medical physicians, medical specialists, and complementary and integrative health practitioners, to align patient care with high quality guidelines. Treatment approaches include patient education and reassurance, self-care advice, exercise recommendations, and evidence-based manual therapies, including chiropractic manipulation. Chiropractors use current scientific guidelines and are actively engaged in monitoring patient progress using unbiased measures of patient satisfaction and standardized patient reported outcomes tools, incorporating this information into patient care plans and

quality improvement initiatives.

Charles Henderson, DC, PhD, Consultant, United States.

Chiropractors are engaged in integrative and multidisciplinary healthcare at all levels. Chiropractors are valued members of hospital staff, military base healthcare facilities, and private multidisciplinary clinics, in addition to serving as faculty in mainstream healthcare training programs throughout the world. Chiropractic licensure laws are introduced in countries that do not currently license chiropractors. Chiropractors are engaged in research as principal investigators and coinvestigators in large, multisite, multidisciplinary studies.

Roger Hynes, DC, Palmer College of Chiropractic, Davenport, United States. Chiropractors provide patients with effective, non-invasive, and holistic approaches to healthcare. The Chiropractic profession emphasizes that the true locus of health comes from within, as we are a self-healing, self-regulating organism controlled directly or indirectly by the nervous system. Chiropractors focus on removing impediments to healing through natural means. Chiropractic expands as a remarkably safe, economical healthcare system. Chiropractors cooperate with other health care professions for the benefit of their patients. For many patients, Chiropractors fill the role of the patient's principal doctor. Assessing a patient's health status and determining the best form of intervention continues to be well within the abilities of chiropractic practitioners and is a professional responsibility to their patients.

Valerie Johnson, DC, Veterans Administration Greater Los Angeles Healthcare System, United States. Chiropractors hold an important place in the landscape of healthcare. Chiropractors use future technology to diagnose patients more accurately and efficiently, detecting patterns in symptoms that might have gone unnoticed. Chiropractors access the latest research and treatment methods, fostering a strong bond between practitioners and patients through education and understanding of the unique needs of a growing diverse patient population, historically underrepresented in healthcare. Although they use technology and artificial intelligence to help their patients, Chiropractors provide irreplaceable human touch and hands-on expertise and empathy, which no machine can ever replicate. Chiropractors flourish by refining their skills and deepening their connections with patients, creating a world where the best of both human touch and technology come together for a more compassionate and comprehensive healthcare experience.

Lisa Killinger, DC, Palmer College of Chiropractic, Davenport, United States. Chiropractors are part of the mainstream health care role, particularly in the care of musculoskeletal and back pain. Chiropractors are recognized as spine care experts, and medical guidelines reflect and recognize this important role. Chiropractors fill an urgent need for healthcare in rural and health professional shortage areas. Doctors of Chiropractic contribute substantially to health promotion and prevention and to public health.

Karen Konarski-Hart, DC, MS, Private Practice, United States.

Chiropractors work within partnerships, affiliations, interprofessional referrals, and with other mainstream health care providers. Chiropractic Physicians work as peers to provide seamless discourse and treatment of patients. Some doctors of chiropractic fill roles as primary contact providers and engage in specialty practices (eg, sports, geriatrics, pediatrics). Other chiropractors practice as experts in wellness healthcare (nutrition, fitness, mind/body) since patients look for more natural healing alternatives. Chiropractors aspire to rise to the highest standards (education, research, skill) related to the role they provide to the public. Chiropractors are cross-trained to broaden their skills and engage in interprofessional dialogues.

Deborah Kopansky-Giles, DC, MSc, Canadian Memorial Chiropractic College, Canada. Chiropractors are highly skilled, evidence-informed, neuromusculoskeletal health experts who are fully competent to collaborate and integrate into primary care teams and mainstream health programs. They are soughtafter interdisciplinary team members who reflect the diversity of the population and meet the needs of the people they serve. Chiropractors have access to advanced imaging, relevant laboratory tests, and specialists for referral, and their services are included in universal health care systems.

Matthew Kowalski, DC, Osher Center for Integrative Medicine at Harvard Medical School and Brigham and Women's Hospital, United States. Chiropractors have an increasing presence and

role in integrated, multi-professional healthcare systems (eg, interdisciplinary care teams, hospitals, public health centers), and, at the same time, the backbone of the chiropractic profession (ie, private practitioners) remains strong. Through the assistance of emerging technologies, Doctors of Chiropractic coach their patients and contribute to the patient's overall health and well-being through multifaceted, evidence-informed, wellness-care approaches. Manual therapies remain a core tenet of chiropractic, which administers care focused on spinal disorders, headaches, and nonoperative musculoskeletal conditions. An infrastructure allows Doctors of Chiropractic to pursue career tracks in advanced integrative clinical care, research, and policy. Chiropractic educational institutions support diverse career options by attracting, identifying, and coaching potential candidates. Doctors of Chiropractic continue to make advancements that influence public policy, health insurance, and healthcare administration.

Craig Little, DC, Med, EdD, Council on Chiropractic Education, United States. Chiropractors reflect diversity and are representative of the public that they serve. They are prepared to serve as competent, caring, patient-centered, and ethical Doctors of Chiropractic who are qualified to provide independent, quality, patient-focused care to individuals of all ages and genders. Chiropractors are prepared to work in inter-professional teams and to communicate respectfully and effectively to patients of diverse social, cultural, and linguistic backgrounds in a manner that recognizes, affirms, and protects the dignity of individuals, families, and communities. Chiropractors maintain primacy on the knowledge, mechanical principles, and psychomotor skills necessary to safely perform chiropractic adjustment /manipulation. Chiropractors have great competency in evidence-informed diagnosis, supported by information gathered from the history, examination, diagnostic studies, and relevant scientific literature to inform patient care.

Sherry McAllister, DC, MSEd, Foundation for Chiropractic Progress, United States. Chiropractors serve as primary care providers and continue to contribute to the body of knowledge about how chiropractic care plays a role in overall health and wellbeing. Chiropractors are found in multiple environments, which showcase prevention, enhancing health, drugfree pain care and collaborating with partners on a global level.

John Mrozek, DC, MEd, EdD, Texas Chiropractic College, United States. Chiropractors are fully integrated and participating members of the health professions offering chiropractic services within the healthcare framework, which includes access to healthcare delivery systems and research resources. Chiropractors serve the public as primary contact practitioners, offering patient services within a diverse, fair, inclusive, and equitable healthcare environment.

doctors provide care for spine and spine-related conditions, which are among the most common causes of pain and disability that has a substantial socio-economic burden. Chiropractic doctors are the foremost experts for serving as the public's primary contact for prevention and treatment of spine and spine-related conditions, including contributions to health policy planning and implementation.

L. David Peeace, DC, Private Practice, Canada. Chiropractors

serve the demands of increasing utilization. Chiropractors are integrated as multidisciplinary care, and a team approach to patient care is the norm. Chiropractic care is based on the best evidence and treatment plan algorithms assisted with technology and artificial intelligence. Chiropractors provide musculoskeletal care through hands-on care as well as providing patient-focused attention for which chiropractic is well known. Chiropractors advocate for the best health outcomes for patients through wellnessbased approaches of exercise, ergonomics, and nutrition.

Cynthia Peterson, RN, DC, MMedEd, European Council on Chiropractic Education and Councils on Chiropractic Education International, Canada. Chiropractors are excellent diagnosticians for neuromusculoskeletal conditions and are competent to

diagnose conditions that need further medical referral. Chiropractors apply evidence-based, patient-centered treatments for their patients and work together with other health care professionals in the best interests of patients. Chiropractors strive to remain current in the research evidence for the diagnosis and treatment of neuromusculoskeletal conditions throughout their careers. Chiropractors are integrated within multidisciplinary medical/health care settings.

Kristina L. Petrocco-Napuli, MS, DC, DHPE, Logan University, United States. Chiropractors are evidence-informed, confident in practice, competent in providing person-centered care, and communicate effectively with other professionals. Chiropractors are keenly aware of patient outcomes and the need to monitor and identify key performance indicators in practice. Chiropractors fulfill many roles ranging from those of practitioners, researchers, educators, to those practicing in unique specialties.

Reed Phillips, DC, PhD, NCMIC Foundation, United States.

Doctors of Chiropractic serve in many capacities: private practitioner, solo practice: private practitioner group practice with fellow chiropractors, provider in multi-disciplinary practice; primary care provider in an underserved area; primary spine care specialist in spine care center private/hospital; provider in a military or veteran's hospital; educator/administrator/research in a university setting public or private.

Gregory Snow, DC, Palmer College of Chiropractic West, United States. The chiropractic profession has made significant inroads into the mainstream healthcare system, and the research of chiropractic's inclusion has established its value, effectiveness, cost-effectiveness, and safety. Chiropractors serve their community through their private practices. At the same time, there is an expansion of their collaboration, communication, and cross-referral with other health care providers. Doctors of Chiropractic work as integrated and necessary providers in all aspects of health care delivery in both public and private healthcare settings. Chiropractic's inclusion in mainstream healthcare helps to reduce barriers to access for the socioeconomically disadvantaged and other marginalized groups. Chiropractors join other leaders in influencing and setting policy that provides services for the betterment of patient outcomes. Chiropractors have established their role as the experts in manual therapies while at the same time being a part of mainstream healthcare.

Anne Sorrentino, DC, Private Practice, United States. Chiro-

practors receive referrals from other health care providers, medical management is shared, and patients are wellinformed. Patients seek chiropractic care for non-invasive options and non-drug methods in their search for health. Chiropractors have advanced skills and practice across state lines. Yi Kai Wong, BSc(Chiro), MScPH, Association of Chiropractic Malaysia, Malaysia. Chiropractors are highly trained and skilled health care professionals who are well-versed in the latest scientific research and technological advancements in the field of Chiropractic. They work collaboratively with other healthcare providers to provide patients with holistic and personalized care. Chiropractors place a strong emphasis on preventative care and wellness, working with patients to develop individualized treatment plans that focus on addressing the root causes of their health issues

rather than just treating their symptoms. Their treatment plans incorporate nutrition, exercise, and other lifestyle changes.

Christopher Yelverton, MTech(Chiro), PhD, University of Johannesburg, South Africa. The chiropractic profession focuses on high-level research and becomes a leader on an international level regarding information related to manual therapy and conservative management of musculoskeletal conditions. Chiropractic care is accessible at various levels of healthcare and to all sectors of society. Chiropractic leaders are established within areas of impact in healthcare, policy, and education, demonstrating the ability of the chiropractic profession to purposefully contribute to these areas. Chiropractors are engaged in advisory groups, political positions, advanced academic positions, public health initiatives, and other areas that facilitate positive influence on the larger healthcare landscape.

Kenneth J Young, DC, MAppSc, PhD, University of Central Lancashire, United Kingdom. Collaboration increases among health professions, with more chiropractors in multidisciplinary practices and, in some countries, working as part of national healthcare systems. Chiropractors gain in many realms, with instances of having hospital privileges and sitting on policy-setting committees. Commitment to evidence-based practice and science earns respect from colleagues in other health care professions. In summary, these envisioning statements by the individual authors provide a diverse yet comprehensive picture from the view of thought leaders. Combined, these themes are

represented in a model that describes the various roles that chiropractors may provide (Fig 6).

#### **DISCUSSION**

Narrative investigation provides insight into what members of a profession value and what roles its members may fulfill in society. The intersection between the values of the present and visions of the future may contribute to a more coherent view of the chiropractic profession. We found concordance between the envisioning statements and the Chiropractic Day recommendations. Thus, by comparing present values and vision for the future, we see that these concepts are aligned. This agreement suggests a logical validity based on the congruence of these concepts for the chiropractic profession. These core concepts and this novel model may have utility during dialogues about identity, applications regarding chiropractic in policy, practice, education, and research, and building positive relationships and collaborations.

Prior efforts to describe the future of chiropractic have come primarily from external sources with singular perspectives. Some of these writings have described the potential



Fig 6. A visual representation of the roles that chiropractors provide. These and other images are available in the supplemental file to use as fliers or handouts to celebrate Chiropractic Day (Supplemental file).

future of chiropractic from a sociological view as an entity that must navigate its marginal place within the dominant and mainstream medical model of care. Some have approached chiropractic with criticism and skepticism, and others with curiosity, with an attempt to understand its success in drawing the public's favor. Although external views are important to contemplate, the profession is ultimately responsible for understanding its own problems and improving its conditions to forge the best path into the future.

As far as we are aware, this is the first study of its kind to investigate vision statements from experts within the profession applying a model (ie, social-ecological framework) to describe the future of the chiropractic profession. There are some interesting observations that can be interpreted from the resulting model, which is the thematic overlap between the answers to the 2 questions grounding this study. The common themes represented in the hierarchical levels of the social-ecological model demonstrate the complex relationships regarding the chiropractic profession. Society and community relationships are the most encompassing, which emphasizes that chiropractors serve their patients but are also participants in the greater environment outside of their practices.

To envision the future, one must use the working knowledge of our history and the current day. Thus, perceptions from the past and present blend together, resulting in how someone may view the future. Past vision statements may enlighten us about the trajectory of the profession's path and reveal hopes for what we may become. For example, consider the statement, "I desire to see every Chiropractor an earnest student of the science and thoroughly equipped to practice this art in a manner that will at once bring credit upon himself and honor and renown upon the science he represents." <sup>60</sup> This statement was written in 1910 by Daniel David Palmer, the founder of the chiropractic profession. <sup>60</sup> Although written over 110 years ago, there is congruence between this historical statement and the themes in the comments in the present study. In the present study, we found that there continue to be aspirations that chiropractors are grounded in the profession's art and science, that they continue to learn, and that they are to be honorable stewards in representing the profession. <sup>61,62</sup>

One frequent theme noticed throughout the authors' responses was the mention of the inclusion of and access to chiropractic services within the mainstream health care system. Today, these statements may seem strange since many people expect to have direct access to chiropractic care. Some would assume that chiropractic is a health care service that has been shown to be effective, safe, and costeffective, <sup>63-87</sup> would be accessible. However, patients have not always had access to chiropractic care either directly in the private sector or through the established healthcare system. To understand possible reasons behind the heightened awareness of inclusion, we must consider recent historical events as these impact how we interpret the results of the current study.

Chiropractic began at the turn of the 20th century in the United States at a time when organized medicine was establishing its dominance and monopoly over healthcare through the direction of the American Medical Association (AMA).<sup>8,9,14</sup> In order to survive, chiropractic developed and thrived as a separate and distinct profession outside of the business of organized medicine. In the 1920s, chiropractors were primarily located in only 14 states in the United States due to limited legislation that would allow the legal practice of chiropractic.<sup>10</sup> Around this time, chiropractic leaders organized to defend chiropractic from the attacks of organized medicine and worked to establish the legal right to practice chiropractic. By 1974, the last state in the United States finally legalized the practice of chiropractic. Over many decades, chiropractors worked together to improve education, establish licensure, develop professional qualifying examinations, participate in advancing knowledge through research, and engage in working with other disciplines for the benefit of their patients.<sup>11,24,88,89</sup> With the profession's expansion over the past century, chiropractic care became more accessible and recognized.

However, in spite of the gain in chiropractic care availability, there continued to be political and professional conflicts that stifled the growth of the profession. For chiropractors in the United States, this negative and restrictive environment changed with a 1987 landmark decision from Judge Susan Getzendanner regarding the *Wilk v American Medical Association* lawsuit. The decision recognized that the

AMA and other medical organizations had pursued an illegal boycott against the chiropractic profession. <sup>13</sup> Following this legal decision, many of the barriers that prevented American medical doctors or faculty at universities from working with chiropractors slowly dissolved. Although some of the damaging social remnants caused by decades of the AMA's boycott and negative propaganda remain, these obstacles are slowly being overcome through collaboration and professional relationships. Similar occurrences of opposing pressures from established organized medicine against chiropractic were experienced during the emergence of the chiropractic profession in other world regions as well, including Australia, Canada, New Zealand, and the United Kingdom. <sup>91-97</sup>

Thus, from a historical and experiential perspective, it is possible that respondents' comments in the present study, which emphasized that chiropractic should be included in the health care system, may have been influenced by these past events. The current expansion and acceptance of chiropractic services within health care may set the foundation for a greater focus on access to care. This understanding may help to facilitate a greater focus on what roles chiropractors may successfully fulfill.

## Chiropractic Today

In the present day, chiropractors serve their patients and the public, especially in the areas of spinal and musculoskeletal health.<sup>76</sup> These descriptions of the chiropractic profession are defined by sources both internal and external to the profession (see table in Appendix B). Chiropractic typically includes the biopsychosocial model of care<sup>98</sup> and is supported by research and best evidence,<sup>99-112</sup> which provides patients with an appealing means to achieve health in these areas.

One may question if there is a need for chiropractic since there are other available health care professions. We suggest that there is a great need based on population health. Within the global burden of disease, the contributions of spine conditions, including back and neck pain, are large. 113-116 Thus, there is a tremendous need for first contact, portal of entry, and primary-level health care providers who have training with an emphasis on spine and neuromusculoskeletal care. 117-120 Chiropractors fill this role by providing conservative care for spine and neuromusculoskeletal disorders. Beyond back and neck pain, chiropractors can contribute to health care in many additional ways to support spine, musculoskeletal, and overall health, such as through health education, promotion, injury prevention, and rehabilitation. 98,121-124 Since chiropractic is a profession of many members and interests, it has the capacity to fill a variety of roles depending on the needs of the community. 98

Chiropractic offers a unique approach to health and healthcare to the public. Trends in healthcare are moving away from paternalistic, biomedical constructs to more person-centered and whole-health models. <sup>98</sup> The chiropractic approach to health has traditionally included these concepts, so whole-person care is a natural fit for the profession. <sup>63,125,126</sup> Thus, chiropractic is well-positioned to contribute to these efforts now and into the future.

Chiropractors are well-trained health care professionals, some of whom are already working collaboratively within integrated settings. 124,127-141 As more opportunities open for the inclusion of chiropractic care within the healthcare systems, more patients will have access to chiropractic care that is integrated with their other health needs. The demonstrations of chiropractors working within integrated medical settings have been successful, and chiropractors have achieved success working in these

# capacities. 73,101,124,126-129,131,135,140,142

How we think about celebrating the chiropractic profession in the present reveals what we value as important about the profession. Within our study's findings about how to celebrate Chiropractic Day, we see similar themes that match the future vision for the profession. Recommendations include that we should value the rich and important history of the chiropractic profession. There are recommendations that we should celebrate patients and patient care. There are recommendations that we should help and inform our communities and the public about health-related topics and that we should support our chiropractic programs and professional interests. Common themes show the breadth and depth of the characteristics of chiropractors and their relationships with patients, other providers, and their communities. As each person has their own personal way of practicing and celebrating, these recommendations also provide a range from

which people can pick which way is best for them to celebrate chiropractic.

Next Steps for the Chiropractic Profession

The comprehensive model provided in this study may help us to reflect upon the profession's current state and consider what we would like to see our profession become. However, when considering the statements and the model presented in this paper and comparing them to current events, one might argue that the future of chiropractic is already here. This may suggest that a huge leap is not required to make these visions of the future become reality in the present.

What can we do with this knowledge? Possible next steps could be to obtain more input from additional stakeholders (ie, patients, providers, payors, policy-makers) about the profession's envisioned role, what their congruence might be, and what the next steps might be to support these directions. Some actions could be addressed at the individual practitioner level, and other actions need a concerted effort from local, national, and even global chiropractic entities. For the many vision statements about the roles that chiropractors are currently fulfilling, we could consider how to maintain or improve these positions. For the roles that are emerging, we could consider what can be done to educate and train chiropractic students and practitioners to fill these roles better. The model from this study provides an excellent platform on which to address how to move forward.

#### Limitations

The limitations of this study include that the information is from a purposive sample of stakeholders. The sampling was intentionally focused on gathering input from authors representing a wide range of thought. Although the majority of the profession was represented, there may be areas at the extremes that were not represented. As well, the input from those who were invited but declined to participate was not included.

The surveys were completed by those who have professional interests in chiropractic; therefore, their views are likely biased to be pro-chiropractic. This study did not investigate the viewpoints of stakeholders who are outside of chiropractic, such as patients, health care providers from other professions, payors, or policy-makers, since that was not the focus of this study. We did not include chiropractic students because we desired to obtain the perspectives of those people currently in or effecting change within the profession. The authors recognize the limitation that each world region has unique regulations as well as social and cultural considerations for what roles chiropractors may fulfill.

As with all professions, there is a diversity of practices and philosophies. We recognize that not all chiropractors may think in the same manner. Thus, there may be opinions that fall outside of these core concepts. As well, each profession has its own set of members whose behaviors and thoughts fall outside of the norms or ethical expectations of the profession and may represent extreme views on either side. However, we feel that those are the exceptions and not the rule. In the current paper, we aimed to represent the majority of viewpoints in chiropractic and an ideal future for the chiropractic profession. Certainly, not all concepts, practices, and professional trappings of the present should be brought into the future, but care should be exercised to appreciate the virtues of today.

During the analysis of the responses, we identified the social-ecological framework to be a good fit for the data that were collected. It is possible that there are other models or approaches that we could have used that may have ended up with different conclusions. There are many ways to explore professional viewpoints and values, and we encourage others to explore these concepts in a scientific and systematic manner.

#### **FUTURE STUDIES**

There is a variety of additional studies that could be generated from these findings. For example, future studies could include a comparison of how past efforts may compare with envisioning statements. As well, a comparative analysis of the framework used in other professions or what other health professions may have used the social-ecological model may provide additional perspective and context. Another

study using similar methods could query those who are not chiropractic experts, such as students, laypeople, or other professionals, and compare those results with those of the present study. Another study may compare terminology used by chiropractors in studies in the past with current responses to identify what changes have occurred in the lexicon.

#### **CONCLUSION**

The chiropractic profession has an array of intrinsic values and provides services to patients and the public. This study provides insights into the roles that future chiropractors may fulfill through the perceptions of a broad range of chiropractic thought leaders from various backgrounds, philosophies, diversity characteristics, and world regions. Values, as represented by recommendations about how to celebrate Chiropractic Day in the present, were congruent with the future visions of chiropractors. These viewpoints are represented within a social-ecological framework, which provides a foundation for the profession to consider as a model as we engage in dialogues about the chiropractic profession's future. This model may provide a blueprint for chiropractic leaders and stakeholders to work collectively around the globe.

#### SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.echu.2023. 08.001.

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No funding sources or conflicts of interest were reported for this study. The opinions of coauthors of this paper are those of the individual contributors and do not necessarily represent the other coauthors, or any of their affiliations or institutions.

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Concept development (provided idea for the research): C.D.J.

Design (planned the methods to generate the results): C.D.J.

Supervision (oversight, organization and implementation): C.D.J.

Data collection/processing (experiments, organization, or reporting data): C.D.J.

Analysis/interpretation (analysis, evaluation, presentation of results): C.D.J., B.N.G.

Literature search (performed the literature search): C.D.J., B.N.G.

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D.N., L.D.P., C.P., K.P.N., R.P., G.S., A.S., Y.K.W., C.Y., K.J.Y.

#### APPENDIX A

Recommendations for how to celebrate Chiropractic Day. Presented in alphabetical order by author's last name.

# Mustafa Agaoglu

- Look back to our history, be proud of the founding fathers, and be proud of all the contributing
  generations of chiropractors to the development of the much more contemporary understanding of the
  principles and practices. As Robert Heinlein said, "A generation which ignores history has no past and
  no future."
- Celebrate our history in our clinics, institutions, with our patients through various activities.
- Share what chiropractic is currently doing with our allied and other healthcare-providing colleagues.

# Lyndon Amorin-Woods

- Use Chiropractic Day as an opportunity to look forward as well as back.
- Celebrate people in the profession who have risen and challenged themselves to benefit the common good of both the profession and their community.
- Recognize those in the profession who have pushed the boundaries of defining what a traditional chiropractor looks like.
- Celebrate Diversity as a path toward Equity and Inclusion for the chiropractic profession.

## Richard Brown

- Emphasize the role of chiropractic as a trusted, modern, evidence-based health service that whilst acknowledging its history is focused more strongly on a bright future of ensuring high quality education, and defined expertise in spinal and musculoskeletal care.
- Focus on seizing opportunities that are present as the emerging evidence increasingly supports the role of chiropractors in tackling the global burden of spinal pain and disability, particularly as it relates to lowand middle-income countries.

# David Byfield

• Celebrate the commitment and dedication of all the academics, educators, researchers, clinicians, and politicians who have contributed to the growth and current status of the profession on a global scale.

- Celebrate how such a small profession has made such progress over such a short period celebrating this positive direction.
- Celebrate the success that the chiropractic profession has made particularly in the areas of legislation and professional regulation to secure growth and influence.
- Celebrate our past for historical purposes and recognize the shift to future development particularly in research, research collaboration, and educational consistency.
- Celebrate the progress made in educational delivery at university level and the number of new programs embedded in higher education.

## Gerard W. Clum

- · Read the book "Contain and Eliminate" by Wolinsky
- Read the history of the respective chiropractic educational programs
- Donate to support research, education, public relations for the profession
- Reach out to your alma mater and ask how you can be of help
- Take the time to record your life as a chiropractor
  - -even if only for your sake
- Say a prayer for he or she that helped you on your path to become a chiropractor

# Waleska Crespo

- Raise awareness about spinal health and the benefits of chiropractic care
- · Encourage people to seek chiropractic treatment for musculoskeletal pain and other conditions
- Host a community event, such as a health fair or spinal screening, to bring awareness of spinal health and the benefits of chiropractic care
- Volunteer time and expertise to help those in need on Chiropractic Day
- Offer ergonomic support in the workplace, field, or home activities for optimal function
- Engage with other healthcare professionals and organizations to promote spinal health and chiropractic care.

#### Kendrah L Da Silva

- Engage with people in their communities
- Educate medical doctors as to the evidence-based education and practice of chiropractic through inperson presentations or social media platforms
- Strive to use evidence-based practices, which will demonstrate to each patient the value this profession can bring to their lives

#### Dawn Dane

• Share information about the profession, which may include quality research or infographics about what chiropractors do Aim to help stakeholders better understand about the great things chiropractors can contribute to general health and well-being

# Clinton Daniels

- Read a peer-reviewed article
- Join and engage in a professional organization
- Collaborate with a colleague on a case report or research project
- Contact local representatives to support efforts of professional chiropractic associations

#### Micheala Edwards

- Celebrate through education of the profession
- Celebrate patients and practice members

#### William K Foshee

- Invest in collective work using: time, treasure, and talent.
- Support legislative efforts
- Raise funds for scholarships
- Increase the profession's opportunities to reduce barriers to care and education through the lens of equity

#### Christine Goertz

- Implement evidence-based guidelines for low back pain in practice (eg, the American College of Physicians).
- Educate chiropractors, other clinicians and patients on what the guideline recommends and how chiropractors are at the front lines in providing guideline-concordant care

#### **Charles Henderson**

• Embrace the uniqueness of the chiropractic philosophical perspective and at the same time consider developing research findings as well as practice experience since this perspective can make a meaningful and complementary contribution to the existing healthcare delivery system world-wide

# **Roger Hynes**

Take another chiropractor in your area out to lunch. It should be a chiropractor whom they perceive to
have a different practice style or philosophical or political affiliations. Although you might not agree on
everything, find common ground the outcomes can be impressive when chiropractors find a common
cause to rally behind.

# Valerie Johnson

• Celebrate our patients from the rich tapestry of diverse backgrounds

• Learn more about how technology can ensure that everyone, regardless of their origin, receives the right care they deserve

## Lisa Killinger

- Send out a notice about Chiropractic Day that includes important facts about chiropractic from evidencebased sources
- Encourage state and local leaders such as governors, mayors, to make an official proclamation related to Chiropractic Day
- Encourage chiropractic organizations to create a series of public service announcements to air on television or radio
- Encourage chiropractic college leaders, through their marketing teams, to send out a press release and invite the media to Chiropractic Day events they are putting on at the college

#### Karen Konarski-Hart

- Acknowledge our positive history and achievements
- Showcase the importance of chiropractic inclusion and its implications
- Produce an online video or podcast that doctors could make available
- Encourage all chiropractors in an area participate in joint activities like state declarations, advertisements, sport or fitness sponsorship

# **Deborah Kopansky-Giles**

- Coordinate patient advocacy events to empower people to advocate for their health and to motivate policy makers to improve access to chiropractic services
- Focus on healthy and active patients (people), families, communities

## Matthew Kowalski

- Contact local political leaders (Mayors, Town Administrators) and request local acknowledgement of Chiropractic Day.
- Raise awareness through social media broadcasts.
- Make a contribution to support chiropractic education and research initiatives (eg, NCMIC Foundation or other foundations).
- Thank patients for making this day possible.
- Taka a moment and reflect on the many lives you have profoundly helped.

# Craig Little

- Communicate with peers in a spirit of intraprofessional collaboration
- Promote respect as well as mutual tolerance of differences chiropractors may have within the profession
   Sherry McAllister
  - Engage in a social media campaign where Chiropractors take pictures celebrating the day with a statement of why chiropractic is such a fabulous profession (eg, ideas at Foundation for Chiropractic Progress)

#### John Mrozek

• Celebrate the past and describe how we contribute to alleviating patient suffering through providing quality care and research

## Don Nixdorf

- Identify and raise awareness in clinics and social media about the education, research, and clinical outcomes of chiropractic spine treatment
- To celebrate Chiropractic Day, as well as every day, chiropractors can increase awareness of practice based evidence and identify the most relevant criteria of evidence-based research that contributes to improving public health

# L David Peeace

- Celebrate chiropractic on behalf of our patients
- Provide a virtual online statement via whatever social network we belong to demonstrate our celebration of our profession

## Cynthia Peterson

- Provide free evidence-based leaflets/handouts about common conditions presenting to chiropractors
- Offer free lectures on the profession, taking into consideration the rules and regulations governing the profession in their country

# Kristina L Petrocco-Napuli

- Reflect on what our founder and others have done to advance the profession and serve the public
- Consider how you may continue to carry the momentum of the profession forward
- Find an opportunity to serve your community on this day, thus giving back to those that surround you and the things that you do as a professional

# **Reed Phillips**

 Make a donation to a worthy, needy cause in the chiropractic profession (eg, NCMIC Foundation or others)

## **Greg Snow**

- · Celebrate with your patients at your offices in whatever manner seems meaningful to you
- Appreciate those who have contributed to where you are today and take a moment to express your gratitude
- Join your state and national associations, and others (eg, F4CP) to support them in their legislative and public relations efforts to expand access to chiropractic services

#### Anne Sorrentino

- Make Chiropractic Day a weeklong celebration
- Highlight chiropractic in an email to patients, such as benefits of chiropractic care and some historical information

#### Yi Kai Wong

- Organize events (such as Chiropractic Day/Month) or educational seminars to raise awareness about the benefits of chiropractic care
- Produce social media content or videos showcasing the benefits of chiropractic care and its positive impact on people's lives
- Reach out to local communities and offer free health screenings or other health-related services to promote health and wellness

# **Christopher Yelverton**

- Increase public exposure for the chiropractic profession, both individually and through professional associations
- Focus on highlighting the benefits of chiropractic care and the evidence-based nature of the profession to improve overall access to chiropractic care and enhance public understanding of the profession's direction and approach

## Kenneth J Young

- Take a quiet moment and remember why we chose to become health care professionals.
- Look back at the oath/pledge that we took upon graduation and consider the principles in it. Great status in society is given to health care professionals, but only in exchange for great responsibility.
- Reflect on considering patients first, setting aside personal and professional gain. Then get back to work. If we help our patients do better, we will all do better.

# **REFERENCES**

- 1. Johnson CD, Green BN, Brown RA, et al. A brief review of chiropractic educational programs and recommendations for celebrating education on chiropractic day. *J Chiropr Humanit*. 2022;29:44-54.
- 2. Stochkendahl MJ, Rezai M, Torres P, et al. The chiropractic workforce: a global review. *Chiropr Man Therap*. 2019;27:36.
- 3. Himelfarb I, Hyland JK, Ouzts NE, et al, eds. *Practice analysis of chiropractic 2020*. Greeley, Colorado: National Board of Chiropractic Examiners; 2020.
- 4. Keating JC, Callender AK, Cleveland CS, eds. *A History of Chiropractic Education in North America: Report to the Council on Chiropractic Education*. Phoenix, AZ: Council on Chiropractic Education; 1998:516.
- 5. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 6: preparing for the lawsuit. *J Chiropr Educ*. 2021;35(S1):85-96.
- 6. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession: authors' introduc- tion. *J Chiropr Educ*. 2021;35(S1):5-8.
- 7. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 4: committee on Quackery. *J Chiropr Educ*. 2021;35(S1):55-73.
- 8. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 2: rise of the American Medical Association. *J Chiropr Educ*. 2021;35 (S1):25-44.
- 9. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 1: origins of the conflict. *J Chiropr Educ*. 2021;35(S1):9-24.

- 10. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 3: chiropractic growth. *J Chiropr Educ*. 2021;35(S1):45-54.
- 11. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 8: judgment impact. *J Chiropr Educ*. 2021;35(S1):117-131.
- 12. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession part 5: evidence exposed. *J Chiropr Educ*. 2021;35(S1):74-84.
- 13. Johnson CD, Green BN. Looking back at the lawsuit that transformed the chiropractic profession Part 7: lawsuit and decisions. *J Chiropr Educ*. 2021;35(S1):97-116.
- 14. Green BN, Johnson CD. Fighting injustice: a historical review of the National Chiropractic Antitrust Committee. *J Chiropr Humanit*. 2019;26:19-30.
- 15. Johnson CD. Chiropractic Day: a historical review of a day worth celebrating. *J Chiropr Humanit*. 2020;27:1-10.
- 16. McConnell J, SK. *Vol Congressional Record: Proceedings and Debates of the 82nd Congress Second Session Appendix Volume 98, Part 11, page A-4608*. September 18 is Chiropractic Day Extension of Remarks Of Hon. Samuel K. Mcconnell, Jr. of Pennsylvania in the House Of Representatives, Saturday, July 5, 1952.
- 17. Hopkins WH. Chiropractic Day, 1941. *The Chiropractor*. 1941:13.
- 18. Hopkins WH. Chiropractic Day A national event. The Chi-ropractor. 1929;25(11):13-14.
- 19. Lillard H. Deaf seventeen years. The Chiropractic, 1897:17:3.
- 20. Palmer DD. The first chiropractic patient. *The Chiropractor*.
- 21. Troyanovich S, Troyanovich J. Reflections on the birth date of chiropractic. *Chiropr Hist*. 2013;33(2):20-32.
- 22. Johnson V, Assal S, Khauv K, Moosad D, Morales B. Exploring diverse career paths and recommendations for celebrating Chiropractic Day 2021: a narrative inquiry. *J Chiropr Humanit*. 2021;28:22-34.
- 23. Hopkins WH. Observance of chiropractic day points way to increased practice and prestige. *J Natl Chiropr Assoc.* 1955:25(9):13-14.
- 24. Meeker W, Haldeman S. Chiropractic: a profession at the crossroads of mainstream and alternative medicine. *Ann Intern Med.* 2002;136:216-227.
- 25. Green BN. Gloom or boom for chiropractic in its second century? a comparison of the demise of alternative healing professions. *Chiropr Hist*. 1994;14(2):22-29.
- 26. Wardwell WI. The future of chiropractic. N Engl J Med. 1980;302:688-690.
- 27. Firman GJ, Goldstein MS. The future of chiropractic: a psy- chosocial view. *N Engl J Med*. 1975;293(13):639-642.
- 28. Brosnan C. Alternative futures: fields, boundaries, and divergent professionalisation strategies within the chiropractic profession. *Soc Sci Med*. 2017;190:83-91.
- 29. Triano JJ, Goertz C, Weeks J, et al. Chiropractic in North America: toward a strategic plan for professional renewal—outcomes from the 2006 chiropractic strategic planning conference. *J Manipulative Physiol Ther.* 2010;33(5):395-405.
- Institute for Alternative Futures. Chiropractic 2025: divergent futures. Available at: https://chiro.org/Cost\_Effective ness/FULL/Chiropractic\_2025\_Institute\_for\_Alternative\_ Futures.pdf. Accessed September 26, 2023.
- 31. Polkinghorne DE. Narrative Knowing and the Human Sci- ences. New York, NY: Suny Press; 1988.
- 32. Arnold J, Dries N, Inkson J. *Understanding Careers: Meta- phors of Working Lives*. Thousand Oaks, CA: SAGE Publi- cations Inc; 2014.
- 33. Chun Tie Y, Birks M, Francis K. Grounded theory research: a design framework for novice researchers. *SAGE Open Med.* 2019;7: 2050312118822927.
- 34. Howard-Payne L. Glaser or Strauss? Considerations for selecting a grounded theory study. *S Afr J Psychol*. 2016;46 (1):50-62.
- 35. Goulding C. Grounded theory: the missing methodology on the interpretivist agenda. *Qual Mark Res.* 1998;1(1):50-57.
- 36. Creswell JW, Creswell JD. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, CA: SAGE Publications Inc; 2017.
- 37. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a

- synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.
- 38. Johnson CD, Green BN. Diversity in the chiropractic profes- sion: preparing for 2050. *J Chiropr Educ*. 2012;26(1):1-13. Spring.
- 39. McGregor M, Puhl AA, Reinhart C, Injeyan HS, Soave D. Differentiating intraprofessional attitudes toward paradigms in health care delivery among chiropractic factions: results from a randomly sampled survey. *BMC Complement Altern Med.* 2014;14:51.
- 40. Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K. Purposeful sampling for qualitative data col- lection and analysis in mixed method implementation research. *Adm Policy Ment Health*. 2015;42:533-544.
- 41. Krieger N. Epidemiology and the web of causation: has any- one seen the spider? *Soc Sci Med.* 1994;39(7):887-903.
- 42. Bronfenbrenner U. *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Har- vard University Press; 1979.
- 43. Bronfenbrenner U. Toward an experimental ecology of human development. *Am Psyhol*. 1977;32(7):513.
- 44. Bronfenbrenner U. *Making Human Beings Human: Bioeco- logical Perspectives on Human Development.* Thousand Oaks, CA: SAGE Publications Inc; 2005.
- 45. Stokols D. Social Ecology in the Digital Age: Solving Com- plex Problems in a Globalized World. Cambridge, MA: Academic Press; 2018.
- 46. McLeroy KR, Norton BL, Kegler MC, Burdine JN, Sumaya CV. Community-based interventions. *Am J Public Health*. 2003;93(4):529-533.
- 47. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecologi- cal perspective on health promotion programs. *Health Edu- cation Q.* 1988;15(4):351-377.
- 48. Nonyel NP, Wisseh C, Riley AC, Campbell HE, Butler LM, Shaw T. Conceptualizing social ecological model in phar- macy to address racism as a social determinant of health. *Am J Pharma Educ*. 2021;85(9):8584.
- 49. Davidson P, Rushton CH, Kurtz M, et al. A social–ecologi- cal framework: a model for addressing ethical practice in nursing. *J Clin Nurs*. 2018;27(5-6):e1233-e1241.
- 50. Israel BA, Schulz AJ, Parker EA, Becker AB. Review of community-based research: Assessing partnership approaches to improve public health. *Annu Rev Public Health*. 1998;19:173-202.
- 51. Israel BA, Checkoway B, Schulz A, Zimmerman M. Health education and community empowerment: conceptualizing and measuring perceptions of individual, organizational, and community control. *Health Educ Q*. 1994;21(2):149-170.
- 52. Hess SA, Schultz JM. Bronfenbrenner's ecological model. In: Kruas KL, ed. *Lenses: Applying Lifespan Development Theories in Counseling*. 2008. 52.
- 53. Qaseem A, Wilt TJ, McLean RM, et al. Noninvasive treat- ments for acute, subacute, and chronic low back pain: a clin- ical practice guideline from the American College of Physicians. *Ann Intern Med*. 2017:166(7):514-530.
- 54. The Future of Chiropractic. JAMA. 1925;85(6):440.
- 55. Kaptchuk TJ, Eisenberg DM. Chiropractic: origins, contro- versies, and contributions. *Arch Intern Med*. 1998;158 (20):2215-2224.
- 56. Ernst E. Chiropractic: a critical evaluation. J Pain Symptom Manage. 2008;35(5):544-562.
- 57. Eisenberg D, Kessler R, Foster C, Norlock F, Calkins D, Delbanco T. Unconventional medicine in the United States: prevalence, costs, and patterns of use. *N Engl J Med*. 1993;328:246-252.
- 58. Eisenberg D, Davis R, Ettner S, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. *JAMA*. 1998;280:1569-1575.
- 59. Moore JS. *Chiropractic in America: The History of a Medi- cal Alternative*. Baltimore, MD: Johns Hopkins University Press; 1993:228.
- 60. Palmer DD. The Chiropractor's Adjuster: A Textbook of the Science, Art and Philosophy of Chiropractic for Students and Practitioners. Portland, OR: Portland Printing House; 1910.
- 61. World Federation of Chiropractic. Support of globally and scientifically accepted healthcare practices by chiropractors. https://www.wfc.org/website/images/wfc/Policies/Position\_ statement\_-

- \_Support\_of\_globally\_and\_scientifically\_accep ted\_healthcare\_practices\_by\_chiropractors\_2021.pdf. Accessed May 21, 2023.
- 62. World Federation of Chiropractic. Core elements of chiropractic health care, health promotion, and public health practices. https://www.wfc.org/website/images/wfc/Poli cies/Core\_elements\_of\_chiropractic\_health\_care\_health\_ promotion\_and\_public\_health\_practices.pdf. Accessed May 21, 2023.
- 63. Johnson C, Rubinstein SM, Cote P, et al. Chiropractic care and public health: answering difficult questions about safety, care through the lifespan, and community action. *J Manipulative Physiol Ther*. 2012;35(7):493-513.
- 64. Chung CL, Cote P, Stern P, L'Esperance G. The association between cervical spine manipulation and carotid artery dis- section: a systematic review of the literature. *J Manipulative Physiol Ther*. 2015;38(9):672-676.
- 65. Houweling TA, Braga AV, Hausheer T, Vogelsang M, Peterson C, Humphreys BK. First-contact care with a medi- cal vs chiropractic provider after consultation with a Swiss telemedicine provider: comparison of outcomes, patient sat- isfaction, and health care costs in spinal, hip, and shoulder pain patients. *J Manipulative Physiol Ther*. 2015;38(7):477- 483.
- 66. Meeker WC, Watkins RW, Kranz KC, Munsterman SD, Johnson C. Improving our nation's health care system: inclusion of chiropractic in patient-centered medical homes and accountable care organizations. *J Chiropr Humanit*. 2014;21(1):49-64.
- 67. Goertz CM, Long CR, Hondras MA, et al. Adding chiro- practic manipulative therapy to standard medical care for patients with acute low back pain: results of a pragmatic ran- domized comparative effectiveness study. *Spine*. 2013;38 (8):627-634.
- 68. Weeks WB, Goertz CM, Meeker WC, Marchiori DM. Char- acteristics of US adults who have positive and negative per- ceptions of doctors of chiropractic and chiropractic care. *J Manipulative Physiol Ther*. 2016;39:150-157.
- 69. Haas M, Sharma R, Stano M. Cost-effectiveness of medical and chiropractic care for acute and chronic low back pain. *J Manipulative Physiol Ther*. 2005;28(8):555-563.
- 70. Hebert JJ, Stomski NJ, French SD, Rubinstein SM. Serious adverse events and spinal manipulative therapy of the low back region: a systematic review of cases. *J Manipulative Physiol Ther*. 2015;38(9):677-691.
- 71. Leininger BD, Evans R, Bronfort G. Exploring patient satis- faction: a secondary analysis of a randomized clinical trial of spinal manipulation, home exercise, and medication for acute and subacute neck pain. *J Manipulative Physiol Ther*. 2014;37(8):593-601.
- 72. Weigel PA, Hockenberry JM, Wolinsky FD. Chiropractic use in the Medicare population: prevalence, patterns, and associations with 1-year changes in health and satisfac- tion with care. *J Manipulative Physiol Ther*. 2014;37(8): 542-551.
- 73. Dunn AS, Green BN, Formolo LR, Chicoine DR. Chiro- practic management for veterans with neck pain: a retro- spective study of clinical outcomes. *J Manipulative Physiol Ther*. 2011;34(8):533-538.
- 74. Gaumer G. Factors associated with patient satisfaction with chiropractic care: survey and review of the literature. *J Manipulative Physiol Ther*. 2006;29(6):455-462.
- 75. Hertzman-Miller RP, Morgenstern H, Hurwitz EL, et al. Comparing the satisfaction of low back pain patients ran- domized to receive medical or chiropractic care: results from the UCLA low-back pain study. *Am J Public Health*. 2002;92(10):1628-1633.
- 76. Coulter ID, Hurwitz EL, Adams AH, Genovese BJ, Hays R, Shekelle PG. Patients using chiropractors in North America: who are they, and why are they in chiropractic care? *Spine*. 2002;27(3):291-296.
- 77. Nyiendo J, Haas M, Goldberg B, Sexton G. Pain, disability, and satisfaction outcomes and predictors of outcomes: a practice-based study of chronic low back pain patients attending primary care and chiropractic physicians. *J Manipulative Physiol Ther*. 2001;24(7):433-439.
- 78. Gemmell HA, Hayes BM. Patient satisfaction with chiro- practic physicians in an independent physicians' associa- tion. *J Manipulative Physiol Ther*. 2001;24(9):556-559.
- 79. Carey TS, Garrett J, Jackman A, McLaughlin C, Fryer J, Smucker DR. The outcomes and costs of care for acute low back pain among patients seen by primary care practitioners, chiropractors, and orthopedic surgeons. The North Carolina Back Pain Project. *N Engl J Med.* 1995;333(14):913-917.

- 80. Meade TW, Dyer S, Browne W, Frank AO. Randomised comparison of chiropractic and hospital outpatient manage- ment for low back pain: results from extended follow up. *BMJ*. 1995;311(7001):349-351.
- 81. Sawyer CE, Kassak K. Patient satisfaction with chiropractic care. *J Manipulative Physiol Ther*. 1993;16(1):25-32.
- 82. Cherkin DC, MacCornack FA. Patient evaluations of low back pain care from family physicians and chiropractors. *West J Med.* Mar 1989;150(3):351-355.
- 83. McGowan JR, Suiter L. Cost-efficiency and effectiveness of including doctors of chiropractic to offer treatment under medicaid: a critical appraisal of Missouri inclusion of chiro- practic under Missouri Medicaid. *J Chiropr Humanit*. 2019;26:31-52.
- 84. Anderson BR, McClellan WS, Long CR. Risk of treatment escalation in recipients vs nonrecipients of spinal manipula- tion for musculoskeletal cervical spine disorders: an analysis of insurance claims. *J Manipulative Physiol Ther*. 2021;44 (5):372-377.
- 85. Corcoran KL, Bastian LA, Gunderson CG, Steffens C, Brackett A, Lisi AJ. Association between chiropractic use and opioid receipt among patients with spinal pain: a sys- tematic review and meta-analysis. *Pain Med.* 2020;21(2): e139-e145.
- 86. Weeks WB, Goertz CM, Long CR, Meeker WC, Marchiori DM. Association among opioid use, treatment preferences, and perceptions of physician treatment recommendations in patients with neck and back pain. *J Manipulative Physiol Ther*. 2018;41(3):175-180.
- 87. Whedon JM, Toler AW, Kazal LA, Bezdjian S, Goehl JM, Greenstein J. Impact of chiropractic care on use of prescription opioids in patients with spinal pain. *Pain Med.* 2020;21 (12):3567-3573.
- 88. Green BN, Johnson CD, Brown R, et al. An international stakeholder survey of the role of chiropractic qualifying examinations: a qualitative analysis. *J Chiropr Educ*. Mar 2020;34(1):15-30.
- 89. Green BN, Johnson CD. Interprofessional collaboration in research, education, and clinical practice: working together for a better future. *J Chiropr Educ*. 2015;29(1):1-10.
- 90. Wilk v American Medical Ass'n, 671 1465 (Dist. Court, ND Illinois 1987).
- 91. Ducret A. The AMA and chiropractic: a trade practices viewpoint. *Australas Chiropr Osteopathy*. 1999;8(1):27-30.
- 92. Sutherland D. The development of chiropractic in the Cana- dian health care system. *The J Can Chiropr Assoc.* 1993;37 (3):164.
- 93. Coburn D. Professionalization and proletarianization: medi- cine, nursing, and chiropractic in historical perspective. *Labour/Le Travail*. 1994;34:139-162.
- 94. Hocken A. Chiropractic in from the cold? *Br Med J.* 1980;280(6207):97.
- 95. Coburn D, Biggs CL. Limits to medical dominance: the case of chiropractic. *Soc Sci Med.* 1986;22(10):1035-1046.
- 96. Copland-Griffiths M. Statutory regulation: the chiropractic experience. *Br J Chiropract*. 1999;3(3):68-73.
- 97. Smith-Cunnien SL. *A Profession of One's Own: Organized Medicine's Opposition to Chiropractic*. Lanham, MD: Uni- versity Press of America; 1998:208.
- 98. Johnson CD, Haldeman S, Chou R, et al. The Global Spine Care Initiative: model of care and implementation. *Eur Spine J*. 2018;27(6):925-945.
- 99. Johnson C, Green BN. Public health, wellness, prevention, and health promotion: considering the role of chiropractic and determinants of health. *J Manipulative Physiol Ther*. 2009;32(6):405-412.
- 100. Globe G, Farabaugh RJ, Hawk C, et al. Clinical practice guideline: chiropractic care for low back pain. *J Manipula-tive Physiol Ther.* 2016;39(1):1-22.
- 101. Lisi AJ, Salsbury SA, Hawk C, et al. Chiropractic integrated care pathway for low back pain in veterans: results of a Del- phi consensus process. *J Manipulative Physiol Ther*. 2018;41(2):137-148.
- 102. Bryans R, Decina P, Descarreaux M, et al. Evidence-based guidelines for the chiropractic treatment of adults with neck pain. *J Manipulative Physiol Ther*. 2014;37(1):42-63.
- 103. Bryans R, Descarreaux M, Duranleau M, et al. Evidence- based guidelines for the chiropractic treatment of adults with headache. *J Manipulative Physiol Ther*. 2011;34 (5):274-289.
- 104. Bussi'eres AE, Laurencelle L, Peterson C. Diagnostic imag- ing guidelines implementation study for spinal

- disorders: a
- randomized trial with postal follow-ups. J Chiropr Educ. 2010;24(1):2-18.
- 105. Bussi'eres AE, Peterson C, Taylor JA. Diagnostic imaging practice guidelines for musculoskeletal complaints in adults
  - -an evidence-based approach: introduction. J Manipulative Physiol Ther. 2007;30(9):617-683.
- 106. Bussi'eres AE, Peterson C, Taylor JA. Diagnostic imaging guideline for musculoskeletal complaints in adults-an evi- dence-based approach-part 2: upper extremity disorders. J Manipulative Physiol Ther. 2008:31(1):2-32.
- 107. Bussi'eres AE, Stewart G, Al-Zoubi F, et al. Spinal manipu- lative therapy and other conservative treatments for low back pain: a guideline from the Canadian chiropractic guideline initiative. J Manipulative Physiol Ther. 2018;41(4):265-293.
- 108. Bussi'eres AE, Taylor JA, Peterson C. Diagnostic imaging practice guidelines for musculoskeletal complaints in adults -an evidence-based approach. Part 1. Lower extremity dis- orders. J Manipulative Physiol Ther. 2007;30(9):684-717.
- 109. Bussi'eres AE, Taylor JA, Peterson C. Diagnostic imaging practice guidelines for musculoskeletal complaints in adults-an evidence-based approach-part 3: spinal disorders. J Manipulative Physiol Ther. 2008;31(1):33-88.
- 110. Weis CA, Pohlman K, Draper C, Stuber K, Hawk C. Chiro-practic care for adults with pregnancy-related low back, pel-vic girdle pain, or combination pain: a systematic review. J Manipulative Physiol Ther. 2020;43(7):714-731.
- 111. Weis CA, Pohlman K, Draper C, da Silva-Oolup S, Stuber K, Hawk C. Chiropractic care of adults with postpartum-related low back, pelvic girdle, or combination pain: a systematic review. J Manipulative Physiol Ther. 2020;43(7):732-743.
- 112. Whalen W, Farabaugh RJ, Hawk C, et al. Best-practice recom- mendations for chiropractic management of patients with neck pain. J Manipulative Physiol Ther. 2019;42(9):635-650.
- 113. Hurwitz EL, Randhawa K, Yu H, Cote P, Haldeman S. The Global Spine Care Initiative: a summary of the global bur- den of low back and neck pain studies. Eur Spine J. 2018;27(Suppl 6):796-801.
- 114. Hoy D, March L, Brooks P, et al. The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. Ann Rheum Dis. 2014;73(6):968-974.
- 115. March L, Smith EU, Hoy DG, et al. Burden of disability due to musculoskeletal (MSK) disorders. Best Pract Res Clin Rheumatol. 2014;28(3):353-366.
- 116. Smith E, Hoy DG, Cross M, et al. The global burden of other musculoskeletal disorders: estimates from the Global Burden of Disease 2010 study. Ann Rheum Dis. 2014;73 (8):1462-1469.
- 117. Buchbinder R, van Tulder M, Gberg B, et al. Low back pain: a call for action. *Lancet*. 2018;391(10137):2384-2388.
  118. Clark S, Horton R. Low back pain: a major global challenge. *Lancet*. 2018;391(10137):2302.
  - 119. Foster NE, Anema JR, Cherkin D, et al. Prevention and treatment of low back pain: evidence, challenges, and prom- ising directions. *Lancet*. 2018;391(10137):2368-2383.
  - 120. Hartvigsen J, Hancock MJ, Kongsted A, et al. What low back pain is and why we need to pay attention. Lancet. 2018;391(10137):2356-2367.
  - 121. Green BN, Johnson CD, Haldeman S, et al. The Global Spine Care Initiative: public health and prevention interventions for common spine disorders in lowand middle-income communi- ties. Eur Spine J. 2018;27(Suppl 6):838-850.
  - 122. Haldeman S, Johnson CD, Chou R, et al. The Global Spine Care Initiative: care pathway for people with spine-related concerns. Eur Spine J. 2018;27(6):901-914.
  - 123. Haldeman S, Johnson CD, Chou R, et al. The Global Spine Care Initiative: classification system for spinerelated con- cerns. Eur Spine J. 2018;27(6):889-900.
- 124. Goldberg CK, Green B, Moore J, et al. Integrated musculo- skeletal rehabilitation care at a comprehensive combat and complex casualty care program. J Manipulative Physiol Ther. 2009;32(9):781-791.
- 125. Krejci LP, Carter K, Gaudet T. Whole health: the vision and implementation of personalized, proactive, patient-driven health care for veterans. Med Care. 2014;52:S5-S8.
- 126. Johnson C, Baird R, Dougherty PE, et al. Chiropractic and public health: current state and future vision. J Manipulative Physiol Ther. 2008;31(6):397-410.
- 127. Salsbury SA, Goertz CM, Twist EJ, Lisi AJ. Integration of doctors of chiropractic into private sector health

- care facili- ties in the United States: a descriptive survey. *J Manipula- tive Physiol Ther*. 2018;41(2):149-155
- 128. Green BN, Johnson CD, Daniels CJ, Napuli JG, Gliedt JA, Paris DJ. Integration of chiropractic services in military and veteran health care facilities: a systematic review of the liter- ature. *J Evid Based Complementary Altern Med.* 2016;21 (2):115-130.
- 129. Green BN, Johnson CD, Lisi AJ, Tucker J. Chiropractic practice in military and veterans health care: the state of the literature. *J Can Chiropr Assoc.* 2009;53(3):194-204.
- 130. Boon HS, Mior SA, Barnsley J, Ashbury FD, Haig R. The difference between integration and collaboration in patient care: results from key informant interviews working in mul-tiprofessional health care teams. *J Manipulative Physiol Ther*. 2009;32(9):715-722.
- 131. Dunn AS, Green BN, Gilford S. An analysis of the integra- tion of chiropractic services within the United States military and veterans' health care systems. *J Manipulative Physiol Ther*. 2009;32(9):749-757.
- 132. Lisi AJ, Goertz C, Lawrence DJ, Satyanarayana P. Characteris- tics of Veterans Health Administration chiropractors and chiro- practic clinics. *J Rehabil Res Dev.* 2009;46(8):997-1002.
- 133. Smith M, Greene BR, Meeker W. The CAM movement and the integration of quality health care: the case of chiroprac- tic. *J Ambul Care Manage*. 2002;25(2):1-16.
- 134. Meeker WC. Public demand and the integration of comple- mentary and alternative medicine in the US health care sys- tem. *J Manipulative Physiol Ther*. 2000;23(2):123-126.
- 135. Johnson C. Health care transitions: a review of integrated, integrative, and integration concepts. *J Manipulative Phys- iol Ther.* 2009;32(9):703-713.
- 136. Dunn AS, Passmore SR. When demand exceeds supply: Allocating chiropractic services at VA medical facilities. *J Chiropr Humanit*. 2007;14:22-27.
- 137. Carmichael JP. Chiropractic residency at Lindell Hospital: a program description. *J Manipulative Physiol Ther*. 1988;11 (3):177-180.
- 138. Lisi AJ, Khorsan R, Smith MM, Mittman BS. Variations in the implementation and characteristics of chiropractic serv- ices in VA. *Med Care*. 2014;52(12 Suppl 5):S97-S104.
- 139. Branson RA. Hospital-based chiropractic integration within a large private hospital system in Minnesota: a 10-year example. *J Manipulative Physiol Ther*. 2009;32 (9):740-748.
- 140. Green BN, Johnson CD, Lisi AJ. Chiropractic in U.S. military and veterans' health care. *Mil Med*. 2009;174 (6):vi-vii.
- 141. Green BN, Gilford SR, Beacham RF. Chiropractic in the United States Military Health System: a 25th-anniversary celebration of the early years. *J Chiropr Humanit*. 2020;27: 37-58.
- 142. Green BN, Johnson CD, Dunn AS. Chiropractic in veterans' healthcare. In: Miller T, ed. *Veterans Health Resource Guide*. Westport, CT: Praeger Publishers; 2012.