THE CURRENT AND FUTURE STATUS OF THE CHIROPRACTIC PROFESSION: A THEMATIC ANALYSIS OF INTERVIEWS OF 30 INFLUENTIAL STAKEHOLDERS

Brian Gleberzon, DC, BA, MHSc[1]

ABSTRACT

Objective: The objective of this study was to perform a thematic analysis of the obstacles, challenges and opportunities facing the chiropractic profession based on interviews of 30 influential stakeholders.

Methods: This project was approved by the Ethics Review Board of the University of South Wales, UK. Prospective interviewees were identified by purposeful sampling, based on a combination of their professional careers, publications, and public statements, representing a broad spectrum of ideologies within the profession. They were contacted via email to participate in this study. If they agreed, they were sent a 'participant information' form and 'consent' form to read and sign. Consenting participants were provided the interview questions in advance. Comments were transcribed contemporaneously. Comments were not directly attributed to any specific individual. Responses were coded and themes identified.

Results: Five themes were identified in the interviewee's responses. These were: leadership; evidence-based care; politicalisation of research; characteristics and practice activities of chiropractors and; the future of the profession.

Conclusion: Interviews of 30 influential stakeholders provided a rich tapestry of perspectives and opinions with respect to the current and future status of the chiropractic profession. Further qualitative research is warranted. *(J Contemporar Chiropr 2022;4:25-43)*

Key Indexing Terms: Chiropractic; Professional Status; Interview; Qualitative Study

INTRODUCTION

"If I have seen further, it is by standing on the shoulders of giants."

Sir Isaac Newton

Since its inception, the chiropractic profession has been plagued by internecine battles. It began during the Palmer hegemony of the 19th century when disgruntled faculty members of the Palmer School of Cure (PSC) often resigned in protest and established their own competitive programs. In one instance, Oakley Smith, Minora Paxson and Salon Langworthy, unhappy with the PSC's limited scientific theories, resigned and founded the American School of Chiropractic and Nature Cure in 1903. (1) Since that program taught a mixture of both manipulation and naturopathic cures, it demarcated the beginning of the intra-profession feud between 'straights' and 'mixers.' (2,3), Three years later, John Howard argued that PSC ought to increase the amount and quality of human dissection. Bartlet Joshua (BJ) Palmer, who by then had purchased and assumed the mantel of leadership of the PSC from his father Daniel David (DD) Palmer, refused, prompting Howard to leave PSC and establish the National College of Chiropractic, which included teaching physiotherapy and ancillary therapies, further inviting BJ's wrath. (1)

There are other examples of acrimonious faculty departures. While investigating ways to enhance diagnostic methods to detect subluxation, BJ learned of a fledging device known as an x-ray machine; a device able to produce 'spinographs.' (4) Seeing the potential value of this technology, BJ was the first healthcare provider to possess an x-ray machine west of the Mississippi River. (4) But Joy Loban, chair of the philosophy department at PSC, was so incensed by the concept of x-raying patients he and 50 of his students uprooted themselves and establish the Universal College of Chiropractic down the street from the PSC. (1) A decade later, during the PSC Lyceum (homecoming) of 1924, BJ unveiled what he stated was the most important scientific development

[1] *Private Practitioner of Chiropractic, Toronto, Ontario, Canada*

Author's Note. *The following abbreviations are used in this manuscript:*

ACA	American Chiropractic Association
AECC	Anglo-European Chiropractic College
AFC	Alliance For Chiropractic
CAC	Chiropractic Awareness Council
CARL	Chiropractic Academy for Research Leadership
CCA	Canadian Chiropractic Association
CCO	College of Chiropractors of Ontario
CCPA	Canadian Chiropractic Protective Association
CMCC	Canadian Memorial Chiropractic College
CPG	Clinical Practice Guidelines
DOD	Department of Defense
EBM	Evidence-Based Medicine
ICA	International Chiropractic Association
JAMA	Journal of American Medical Association
JCCA	Journal of Canadian Chiropractic Association
MSK	Musculoskeletal
NMSK	Neuromusculoskeletal
OCA	Ontario Chiropractic Association
PT	Physiotherapy
RCT	Randomized Clinical Trials
VHA	Veteran's Health Administration
VSC	Vertebral Subluxation Complex
WFC	World Federation of Chiropractic
WHO	World Health Organization

of the profession: the neurocalometer (NCM). (1,2) A handheld device resembling a Geiger counter, it could detect ambient heat emanating from a patient which in turn purportedly indicated the presence of a vertebral subluxation. BJ declared no chiropractor could provide real chiropractic care without one. This caused considerable pushback in the profession, since the NCM could only be leased from BJ (who held its patent) at a cost of $2,400. (1,2) Finally, in the 1930s, BJ further divided the profession when he abandoned the traditional approach of full-spine manipulation in favor of insisting primary subluxations could only be removed by spinal adjustments of the upper cervical spine, principally the atlas. (2,3)

Fast forward to today and we see virtually the same areas of contention. Modern day chiropractors and chiropractic organizations argue over what should be included in curricula of chiropractic programs (especially with respect to how to approach the concept of subluxation). (4-6) They differ on issues of professional identity and how to achieve it. (7-9) Chiropractors are at odds with respect to the profession's position in the health care delivery system and to what extent chiropractors ought to embrace, on the one hand, a focused role of spinal care experts (10) or, on the other hand, the orthodoxy of the Palmer Postulates. (11) There are vehement disagreements over use of x-ray line marking as a method to identify a subluxation, to calculate a uniquely appropriate line of drive to remove it, and as a method to monitor clinical improvement. (12-16) Charts picturing the Meric system – a chiropractic technique system developed by BJ (17) and later promulgated by Langworthy (1) linking specific spinal nerves to specific end organs - are still found in contemporary chiropractors' offices. These charts contribute to the division between field doctors, researchers, advocates, and regulators who line up for and against the management of non-neuromusculoskeletal (NMSK) conditions by chiropractors, each interpreting the same evidence differently. (18,19)

To be fair, there have been times when the profession unified and rallied around existential threats. Historical examples include: Pushing back against the opprobrium of Morris Fishbein, Secretary of the American Medical Association (AMA) and editor of JAMA between 1924-1949 [he famously mused chiropractors were "rabid dogs, playful and cute but they are killers" and that the profession arrived in healthcare "through the cellar, besmirched with dust and grime." (2)]; fighting the AMA's Committee on Quackery in the 1960s which stated its prime mission was to contain and ultimately eliminate chiropractic (2); the successful Wilkes anti-trust suit against the AMA (2); the 2004 Inquest held in Ontario, Canada investigating the death of a patient 28 days following a visit to her chiropractor (20,21) and; widespread profession support for the World Federation of Chiropractic's acceptance as a non-government member of the World Health Organization. (22) Even so, a significant degree of tribalism continues to exist within the profession (see Discussion).

Researchers have for decades explored the chiropractic profession hoping to discern why the cultural authority it seeks has continued to elude it, unlike its sister professions of podiatry (23) and midwifery (24). Researchers have conducted random phone interviews of adults (25,26),

of field practitioners (27-29), of chiropractic students (30,31), and of medical doctors. (32) They have conducted systematic and narrative reviews of the literature (7,8,33), audited chiropractic program curricula (34,35) and reviewed epidemiological data. (36) Considerable insight has been gained, but fundamental questions remain.

This study took a different approach. Bearing in mind any healthcare profession is a matrix of interlocking but independent components including education, regulation, advocacy, research and clinical practice, the author interviewed a group of influential chiropractic stakeholders from these different domains. The purpose of the study is to report on a thematic analysis of the opinions provide during these interviews with respect to the current and future status of the chiropractic profession.

METHOD

This project was approved by the Ethics Review Board of the University of South Wales, UK (ERB #18BG0201)

Prospective interviewees were identified by purposeful sampling, based on the individual's position or career within the profession, their scientific publications [often in the form of reviews, editorials and commentaries (37-40)], their public statements and, in some instances, their relationship with myself, as I had a general familiarity of that person's background, professional role and ideological perspective.

Prospective interviewees were contacted via email to participate in this study. The purpose of the interview was explained by way of a 'Participation Information' form. If they expressed interest to be interviewed, interviewees were asked to sign a 'consent form'. The consent form assured the interviewee that at no time would any specific comment be attributed to them. In other words, all comments and perspectives presented here are anonymized. This 'off the record' approach allowed interviewee's to provide more candid opinions, especially when discussing sensitive or controversial topics. No 'member checking' was used in this study. That is to say, interviewees were not provided a copy of this manuscript for their review and approval prior to its submission for publication. Lastly, no compensation was offered for participation in this study.

Initially, interviews were video-recorded but after the third interview it became apparent it would be impractical and too time consuming to video-record and edit all interviews, especially those conducted with individuals in different geographical locations and therefore different time zones. This was further complicated by the COVID-19 pandemic. Instead, interviews were conducted either by phone or internet (e.g. Skype or Zoom). Interviews were only recorded with the prior consent of the interviewee. Interviews were transcribed contemporaneously or immediately after the interview was concluded. Three of the interviewees opted to only submit written responses to the interview questions and 1 of these participants insisted all their written responses be strictly confidential. Four other individuals were contacted to participate in this study but did not do so, for different reasons (see Limitations).

After their interview, participants often suggested other individuals who could provide additional perspective on this topic (snowball or network sampling – see Discussion below). (41) The author endeavored to interview as diverse a group as possible, representing different roles/careers, ideological perspectives, and geographical locations. When I perceived a saturation point was reached [that is, a point in a study where no new codes were occurred in the data and no new themes emerged (41)] no further prospective interviewees were approached. Additionally, a convenient sample target of number of 30 interviews was used in this study, a number also recommended by experts in qualitative research as reasonable (see Discussion below).

The interview was divided into 2 broad sections. As a means of providing a contextual understanding of the origins of their worldviews, the first set of questions inquired into the person's personal background, asking if they had any experience with chiropractic prior to their association with the profession and what brought them to it, essentially asking them to chronicle their professional journey to the present day. Those interviewees who were chiropractors were also asked to describe their chiropractic education and their experience with providing patient care.

The second set of questions asked them how they would describe the current status of the chiropractic profession, what obstacles or challenges they perceived may be holding the profession back (e.g. why hasn't the profession advanced further than it has), where they saw the profession in 5 or 10 years and whether they were optimistic or pessimistic about its future. If an interviewee provided a vague response, they were prompted to provide more specific details of their perspective. For example, if an interviewee said unethical practice activities are detrimental to the image of the profession, they were asked to provide specific examples of what the types of unethical behaviors they believed were of concern. The interview questions were sent to consenting participants at least a week in advance of the interview.

Interviews were conducted between February 2018 and March 2021. I transcribed each interview contemporaneously (or, in the cases of the initial 3 interviews that were video-recorded, upon receipt of the CD-ROM). Once all the interviews were completed responses were extracted, coded and themes identified.

Table 2: *Examples of Interviewee's Responses Coded into Themes*

Theme	Example of Response
Leadership	• Surprising profession has survived despite tremendous lack of leadership to date • Lack of humility is major challenge to profession globally • Profession too inward looking, too focused on looking at itself • Too many bad colleges (low enrolment requirements), too many students – once on tuition treadmill can't get off it • Regulators must remember they are there to protect the public, not the profession
Evidence–Based Care	• Most important stakeholder is patient • Lack of consistency in technique approach to patient care • Fine to treat MSK manifestation of non-NMSK condition (e.g., asthma) • Never forget you still have to deal with the patient on the proverbial Monday morning who may have a problem that is under-investigated in the research. Don't say it is impossible to treat; perhaps we should ask 'what mechanism could explain it' • If he were alive today, BJ would have encouraged an evidence-based approach
Politicalization of Research	• This is a huge concern, since it can marginalize principled chiropractors and denigrates the profession • Researchers are not using systematic reviews to identify gaps in evidence; rather, they use them as a tool to say, 'do this and don't do that'. This may preclude further studies, becoming a self-fulfilling prophecy and may diminish reimbursement from third party payors
Characteristics and Practice Activities of Chiropractors	• Profession has victim mentality, with a lack of willingness to set guardrails to set expectations of quality, in terms of ethics and best practices • Charlatans and marketers within the profession must be expelled to regain any sense of public trust and credibility, especially from government • Need to develop ethically feasible successful business models; many new grads state they cannot earn by practicing ethically; instead emulate 'old school chiros who practice at border of ethics • Can disagree with subluxation theory but can have courteous discussion, giving people permission to reject arguments, especially since rest of the world outside of chiropractic could care less about subluxation-concerns • Stagnant utilization rate may be due to non-standardized approach to chiropractic, where a patient can go to 15 different offices and get 15 different diagnoses, 15 different explanations of what is wrong with them, 15 different treatment approaches and 15 different plans of management
Future of the Profession	• External environment will limit what we can do and force into the healthcare sandbox • Attempt to placate dominant healthcare players (allopathic medicine, Big Pharm) is a failed strategy of integration • Fragility of the chiropractic is identifying it by an intervention (manipulation) rather than a profession

To expedite the writing process, rather than attribute a response to a specific individual and seek their permission prior to publication (especially if their comment was controversial), I decided not to attribute any specific comment to any of the interviewees.

Reflexivity – that is, acknowledging the role of the author in this process – was managed in a number of ways. (42). I recognized that I had a level of familiarity with the interviewees by either a general knowledge of their careers or, in some instances, direct professional and/or working relationships with them. Regardless of any pre-existing relationship, I did my best to not let this influence or direct the conversation or its transcription. This foreknowledge of many prospective interviewees was also influenced by my involvement in many facets of the chiropractic ecosystem including education, research, regulation, advocacy and private practice; however, at the time of the interview, no interviewee was in a position of authority over me. In other words, the relationship between the interviewee and interviewer was 1 colleague to another.

Trustworthiness of qualitative studies involves ensuring criteria such as credibility, transferability, dependability and confirmability are met. (42) For this study, trustworthiness was sought by following several methodological steps. Collected raw data was archived and reviewed several times in its entirety. I immersed myself into the raw data repeatedly, both immediately after the interview and during its collation, organizing it into codes, subthemes and themes, ensuring there was a 'fit' between the interviewee's responses and my interpretation of them (see Discussion). This enhanced the study's credibility. Contemporaneous notes were made during this process, allowing me to further reflect how best to organize the data, creating an 'audit trail' other readers may use. (37)

To achieve a degree of transferability, each interviewee was asked the same questions during the interview (Table 1). (42) The questions were agnostic in nature (e.g. "when looked at from a national or international perspective, how would you describe the chiropractic profession?"; "what do you see as the profession's major obstacles?"). In addition to be phrased in a neutral tone the questions were open-ended enough to allow the interviewee to answer succinctly or in great detail, as they deemed appropriate.

Table 1: Interview Questions

1. Please describe your pre- chiropractic life
2. What brought you to chiropractic?
3. What was your time at as a chiropractic student like?
4. So you graduated! Congratulations! What happened next?
5. What made you decide to get involved with your organization?
7. What do you consider your most important accomplishment while on that organization? What do you wish you could have accomplished but didn't? What kind of obstacles did you encounter?
8. When looked at from your international perspective, how would you describe the state of the chiropractic profession?
9. What do you see as the profession's major obstacle? What's holding us back?
10. Where would you like to see the profession 5 or 10 years from now?
11. Are you hopeful for the profession, pessimistic or something else entirely

Data derived from the interview – especially direct quotes - were organized into a spreadsheet to facilitate their conversion into separate codes and subsequently categorized into overarching theme (see Table 2). This was done manually. Only the author examined, sorted and organized the data into codes and themes which, unfortunately, did not allow triangulations of the data (see Limitations). Once identified, themes were re-examined, refined and, where warranted, collapsed into overarching themes. To provide more 'punch' [to paraphrase Nowell *et al* (37)] direct quotes were used as appropriate, often ones that represent the extreme margins of a controversial topic.

RESULTS

Interviewees

The following influential stakeholders were interviewed:

- Ayla Azad, Chief Experience Officer, CCA
- Al Breen, Professor of Musculoskeletal Research, AECC
- Caroline Brereton, CEO, OCA
- Richard Brown, Secretary-General, WFC
- Michael Ciolfi, Director, School of Chiropractic, University of Bridgeport
- Carl Cleveland, President, Cleveland University-Kansas City

- Pierre Cote, Research Chair, Disability Prevention and Rehabilitation, Ontario Tech Health Sciences
- Ian Coulter, Past President CMCC, Health Policy Researcher, RAND Corporation
- Allison Dantes, CEO, CCA
- Peter Dixon, President, Royal College of Chiropractors, National Institute of Health and Care Excellence (NICE), UK
- Christine Goertz, Professor in Musculoskeletal Research at Duke Clinical Research Institute; Director of System Development and Coordination for Spine Health in the Department of Orthopaedic Surgery at Duke University
- Alan Gotlib, Past Editor JCCA, Past President CCO
- Robert Haig Past CEO, OCA
- Jan Hartvigsen, Head of Research, Department of Sports Sciences and Clinical Biomechanics, University of Southern Denmark
- Greg Kawchuk, Professor, Department of Physical Therapy, Faculty of Rehabilitation Medicine, University of Alberta
- Deborah Kopansky-Gilles, Assistant Professor, Department of Family and Community Medicine, St Michael's Hospital
- Charmaine Korporaal, Senior Lecturer in Chiropractic and Somatology at DUT
- Gilles Lamarche, Vice-President of Professional Relations, Life University
- Dana Lawrence, Associate Provost of Education and Research, Parker University, President ACA
- Charlotte Leboeuf-Yde, Professor in Clinical Biomechanics, University of Southern Denmark
- Anthony Lisi, Director of Chiropractic Services, VHA
- William Meeker, President, Palmer College of Chiropractic-West
- Jean Moss, Past President CMCC, CEO World Spine Care
- Bernadette Murphy, Professor, Director, Kinesiology, Faculty of Health Sciences, Ontario Tech University
- Stephen Perle, Professor of Clinical Sciences, University of Bridgeport College of Chiropractic
- Katie Pohlman, Director of Research, Parker University
- Steven Silk, Past President, CAC (now AFC). Private practitioner
- Bruce Walker, Associate Dean, Murdoch University. Editor of Chiropractic and Manual Therapies
- Stephen Welsh, President ICA
- Dean Wright, CEO, CCPA

Interviewee Demographic Characteristics and Occupation

Of the 30 interviewees, 20 were males and 10 females. Only two (AA, AD) were BIPOC. 27 were chiropractors and had all at some point in time provided direct patient care; however, at the time of the interview, only 1 (SS) was still in private practice. The 3 non-chiropractor participants were from the field of sociology (IC), social work (AD) and both midwifery and nursing (CB).

With respect to occupation within the chiropractic milieu, interviewees were designated by their primary role, although some were firmly entrenched in more than 1 career. 22 of the interviewees were or had been affiliated with a chiropractic program (AA, AB, RB, MC, CC, IC, PD, AG, DKG, JH, CK, GL, DL, AL, CLY, WM, JM, BM, SMP. KP, BW, SW) whereas 6 (PC, IC, CG, GK, DKG, BM) were currently affiliated with a university with no chiropractic program. Almost all the interviewees had published in indexed, peer-reviewed journals. 17 were primarily researchers (AB, PC, IC, AG, CG, JH, GK, DKG, CK, DL, CLY, AL, WM, BM, SMP, KP, BW) and, although unplanned, 9 had been involved in the Global Summit (PC, IC, CG, JH, GK, CYL, BM, SMP, KP). (16)

Twelve of the interviewees had personal experiences with chiropractic (CC, RH, GK, DKG, GLM, CLY, WM, BM, SPM, KP, SS, DW) prior to enrolling in the program. Thirteen were involved in advocacy (AA, AB, CB, RB, AD, RH, CK, DL, CLY, JM, SS, BW, SW); 6 were CEOs or the equivalent of advocacy associations (CB, RB, AD, RH,DL, SW) and 9 were current or past presidents of advocacy boards (AA, AB, PD, RH, CK, DL, CLY, JM, SS, BW); 5 were involved in chiropractic jurisprudence either in regulatory bodies (RB, PD, AG, GLM,) or malpractice carrier (DW).

Five of the interviewees were past or current chiropractic program presidents or its equivalent (MC, IC, CC, WM, JM) with 1 in a senior executive role (GL). 4 were editors of indexed, peer-reviewed journals (AG, DL, SPM, BW); 2 (MC, AL) were involved with the military (1 served and 1 works for the VHA) and 1 (RB) had been involved in law enforcement. Only 1 (CC) had chiropractic parents or grandparents and 3

(CC,PD, SW) had children who were chiropractors. Lastly, 3 of the interviewees (PC, BM, DW) and were classmates with me, graduating from CMCC in 1989.

Interviewee Demographic Characteristics – Geographical Location

I endeavoured to interview individuals representing different geographical locations to obtain a breadth of perspectives. However, since many of the interviewees were born in 1 location, educated in another, and were working somewhere else, assigning a geographical location to them was a daunting task. The author therefore designated an interviewee's geographical location based on the country or countries they received their chiropractic education as well as where they practiced or currently work. As an example, Ayla Azad was born in Pakistan, received her undergraduate university education in the UK, attended Palmer College of Chiropractic in the United States and moved to Canada where she established her practice, taught at CMCC and currently works for the CCA headquartered in Toronto. Based on the formula described above, her geographical location was designated as 'US/Canada'. By contrast, Carl Cleveland received his chiropractic education and practiced exclusively in the United States. He was therefore designated as American.

Using this strategy, 8 of the interviewees were designated as American (CC, CG, DL, AL, WM, SMP, KP, SW), 8 Canadian (PC, AD, AG, RH, GK, DKG, DW) and 5 had American and Canadian backgrounds (AA, MC, IC, GLM, SS). Four had backgrounds from Canada and the United Kingdom (AB, CB, RB, JM), 1 had Canadian and New Zealand background (BM), and 1 interviewee each were from the UK (PD), Australia (BW), Denmark (JH), South Africa (CK) and 1 interviewee from several European countries along with Australia (CLY).

Thematic Analysis

Five distinct themes were identified from the interviewees. These were leadership; evidence-based care; politicalization of research; characteristics and practice activities of chiropractors and; the future of the profession.

All but 1 theme had a number of subthemes. Table 1 provides examples of extracted comments from the interviewees that were coded and placed into distinct themes. Not every thematic topic was mentioned by each interviewee, and some interviewees provided more than one comment on each theme.

1. Leadership

Several interviewees discussed issues related to leadership in the chiropractic ecosystem. This theme consisted of 3 subthemes, each of which are discussed separately.

1.1 Lack of Leadership

The lack of leadership was mentioned by roughly a third of interviewees, with 1 interviewee expressing their shock that the profession has survived as long as it has without it. More than 1 interviewee observed that the profession is in a state of confusion and a large part of that is because there are too many divergent voices each claiming to represent the profession's future direction. A few interviewees singled out accreditation agencies for not weeding out what they perceived to be 'weak' chiropractic programs and for sitting idly by as admission standards were lowered for financial viability, allowing weak students enrollment because, as 1 interviewee observed, "once you get on the tuition treadmill, you can't get off." Others singled out advocacy associations, especially the ACA, for weak leadership and poor decisions, especially the "Choosing Wisely" initiative. (43)

Perhaps unsurprisingly, there were diametrically opposed opinions with respect to the role researchers should play in filling the leadership void, with one researcher arguing the profession should be led by data and support a more robust research infrastructure whereas another researcher (similarly credentialed) suggesting the research community should not be leading the profession at all.

Relying on imaginative metaphors, 1 interviewee complained "chiropractic is famous for circling the wagons and shooting inwards" and another interviewee suggested the lack of leadership is the due to the fact that "unlike prehistoric dinosaurs [who die out], dinosaurs in the chiropractic profession have proselytized and their worldviews live on."

One interviewee observed many prominent stakeholders seek to assume the mantle of leadership in the profession, comparing it to the HBO fantasy program Game of Thrones where various rulers, kings, queens, and protagonists all fought "to sit the Iron Throne" and rule the Seven Kingdoms of Westeros.

1.2 Need for More Regulatory Oversight

Almost a third of interviewees singled out chiropractic regulatory bodies as being too lenient and tolerant of unethical practice activities, of not providing sufficient oversight over members and of forgetting their role is to protect the public interest, not the interest of the profession. One interviewee stressed regulatory bodies have a role to play in the social contract between the profession and a patient and any breach of that contract, especially patient management tactics that rely on fearmongering, should result in loss of licensure. One interviewee suggested regulatory bodies are "out of sync" with educational

institutions, and another interviewee independently echoed this sentiment by suggesting regulatory bodies should adopt clinical practice guidelines (CPGs). A few interviewees targeted their criticism directly to the inner workings of a particular Canadian regulatory body that they believed had failed to police itself adequately.

Some interviewees also criticized accrediting agencies of chiropractic programs for their lack of oversight. Specifically, it was said these agencies must enhance accreditation standards of chiropractic programs since, according to 1 interviewee, every student who failed out of the program where they teach now has a license to practice because they were able to transfer to a program with lower academic entry requirements and graduate.

1.3 Advocacy

Relatively few interviewees specifically mentioned advocacy associations, but those that did provided recommendations rather than criticism. Interviewees suggested advocacy associations should champion the rights and roles of women and minorities in the profession, that advocacy organization are a vital component to secure positive government relations, that they should not only focus on low back and neck pain and that they are a key driver of success for the profession.

2. Evidence-Based Health Care

Almost all interviewees discussed their perspectives on the topic of the use of evidence-based health care, either its inculcation into private practice or research into its fundamental pillars. Two distinct subthemes on this topic emerged.

2.1 Attitudes Toward Evidence-Based Medicine

Overall, interviewees agreed healthcare has moved toward the doctrines of evidence-based medicine. But where they agreed in principle, they disagreed in specifics.

One smaller group of interviewees, predominately research scientists, adamantly declared that "the data should speak for itself" and chiropractors ought to follow it. Some lament the fact there has not been a lot of change with respect to clinical behaviour when presented with convincing studies, indicative of the limited success of knowledge translation, with 1 interviewee noting "there is a lot of hand-waving toward EBM but relatively few adopters." One interviewee suggested that if a chiropractor does not espouse EBM they should not be eligible for reimbursement by third-party payors. Another interviewee thought the concept of "evidence-informed" medicine was "rubbish." One interviewee took a much softer approach, suggesting chiropractors would "do better if they knew better," with another interviewing predicting 60% of chiropractor would embrace the doctrines of EBM, given time. A larger group of interviewees, many of them also research scientists, took a less Draconian approach to this theme. They noted all the pillars of EBM must be considered equally, especially clinician's expertise and patient preference, and RCTs have limitations, especially when investigating MSK conditions and manual therapy, with 1 interviewee advocating for more practice-based research. One interviewee noted there are over 100 RCTs investigating chiropractic care and only 7 investigating dentistry, and yet no one doubts dentistry's effectiveness (although 1 researcher noted few studies definitively demonstrate the clinical effectiveness of chiropractic care due to small sample sizing). Two interviewees pointed to the 'Quadruple Aim" model (44) as a viable model for chiropractic. More than 1 interviewee who were not research scientists said RCTs can be "soul-crushing" and "can take away from the love of what chiropractors have for what they are doing in the field," with 1 research scientist adding RCTs can contaminate clinical practice since expectations of good outcomes by both the doctor and patient is the best predictor of a successful clinical encounter.

A significant number of interviewees agreed more financial resources must be diverted to research activities and were heartened by the growing community of researchers, as evidenced by the CARL initiative. One interviewee had even more pragmatic advice: rank and file chiropractors must start reading, starting with textbooks and journal articles.

2.2 Patient-Centered Approach

Roughly half of the interviewees lamented the fact that many chiropractors and chiropractic organizations do not focus on the patient first and foremost, with 1 opining the patient is the profession's most important stakeholder. One non-chiropractor interviewee noted that families (especially women) are much more engaged in making healthcare decisions and choices, rather than healthcare providers themselves.

A few interviewees independently suggested chiropractic should be patient-centric and not profession-centric. One interviewee stressed the importance of remembering that, regardless of the state of current evidence in support of treating this or that clinical condition, at some point in time each field doctor confronts the same clinical challenge: What do to with their patient lying on their chiropractic table on the proverbial Monday morning?

"There are too many mavericks in the profession," observed 1 interviewee and another interviewee expanded on this theme by stating "patients are vulnerable when in a chiropractor's office." A third interviewee said, "patient preference must be respected and referred appropriately" and a fourth reminded chiropractors to "embrace altruism and humanism."

A few interviewees identified a lack of standardization of patient care, especially with respect to unethical practice activities (see below) as contributing to a level of untrustworthiness by others (e.g., patients, other healthcare providers, the public at large) toward the profession. One interviewee also commented on the lack of standardization with respect to physical examination and treatment protocols throughout the profession. Lastly, 1 interviewee suggested that a chiropractor's reality should not be defined by their experiences with patients.

3. Politicization of Research

Even among the research scientists there was complete disagreement on this topic. One group of researchers saw no problem with them taking a decisive stance by declaring their findings ought to be applied politically, asking out loud if they do not speak for the profession, who will? They emphasized that the evidence-based guidelines they author are needed for policy makers, government regulators, insurers, and the public.

Another group of researchers, similarly credentialed, believed politicizing research takes away from research and that journal editors have used heavy-handed tactics to prevent certain articles from being published in the peer-reviewed literature. They maintain researchers, especially epidemiologists, have hijacked the profession. They believe epidemiologists see themselves as saviours, are prone to nihilism and have forgotten people are not statistics. One interviewee in this camp suggested that systematic reviews should be used to identify gaps in the evidence base and not be used to justify statements that direct chiropractors to only do this but not to do that. In that person's opinion, this may result in precluding further studies from being conducted, becoming a self-fulfilling prophesy that can culminate in diminished reimbursement from third-party payors since no clinical trials are published reporting on benefits for many clinical conditions for which patients often seek out care. Other interviewees who share this opinion see this as a huge problem since it marginalizes traditional (principled) chiropractors, denigrates the profession and caused unnecessary division within it.

4. Characteristics and Practice Activities of Chiropractors.

This theme generated a great deal of disagreement between interviewees, with 6 subthemes emerging.

4.1 Lack of humility

A third of the interviewees chastised chiropractors and the chiropractic profession for its lack of humility, with 2 interviewees stating this was the single greatest barrier to the profession's advancement. Comments on this theme included "chiropractic is too self-absorbed" and "too internally focused," with 1 interviewee suggesting chiropractors should stop navel gazing and "get out of their own ass."

4.2 Differing Ideologies

Mirroring the general trends observed throughout the profession, interviewees were divided on their perceptions of what should be the dominant ideological perspective. One group were quite insistent that vitalists, 'subluxationists' and chiropractors who embrace the Palmer Postulates must go, that such beliefs are "silly" or "naïve." Statements conveying this sentiment ranged from "they have to go" to "the Palmer Postulates with destroy the profession." One interviewee used an analogy of getting on a bus, in that the profession 'welcomes aboard' those members who want to embrace an evidence-based approach but will leave behind those who choose not to. This interviewee believed that, unlike a marriage, there is no obligation to listen to both sides of this issue. When asked what should be done with a chiropractor who embrace the Palmer Postulates another interviewee had a simple answer: "Take away their f*****g license."

Representing a diametrically opposed position, a group of interviewees stated that healing does not come from the chiropractor but comes from within (or, more precisely, from Above, Down Inside, Out, giving rise to the ADIO principle) and that the power that made the body can heal the body. Another interviewee echoed this opinion by stating the body has the ability to heal itself and a chiropractor can help enable a person to adapt to their environment by removing nervous system interference. Interviewees in this camp were opposed to the statement signed by some chiropractic programs that relegated teaching subluxation theory to only a historical rather than a clinical perspective. (5)

A third group of interviewees found this 'othering' unnecessary, with 1 interviewee saying, "a pox on both their houses." This person stated people can disagree over subluxation theory but can have a courteous discussion, allowing individuals permission to accept or reject each other's argument, especially since the rest of the world outside of chiropractic does not care about the subluxation debate at all. However, when they tried to facilitate a discussion between the parties they were told, in their words, to "f**k off" by the side they were working for.

Of interest, interviewees who held more orthodox or traditional beliefs stated the profession is big enough for these ideological differences and said any disagreement ought not devolve into disrespectful name-calling and demonization – in the words of one interviewee "there can be unity without uniformity." This interviewee also asked aloud "where's the love?"

Depending on when they were interviewed, interviewees were asked to share their opinions on two particularly divisive issues: The presentation by Jan Hartvigsen during the WFC in Berlin (45) and the "Divorce" article published by LeBoeuf-Yde *et al.* (46)

For context, Dr Hartvigsen was invited to discuss the ACC's 'Choosing Wisely' position against the use of routine radiographs for the purpose of vertebral subluxation analysis(43), taking particular umbrage with the statement from Life University opposing that position (45). The "Divorce" article [actual title: 'Chiropractic, one big unhappy family: better together or apart?(46')] made the case for the profession splitting along ideological lines, bearing in mind the intransigence of its opposing tribes.

When asked what they thought of Hartvigsen's presentation (45), a few interviewees were fully supportive of what was said but a larger group of interviewees (all researchers) thought it was too "hard core," with 2 of them saying it unnecessarily denigrated and alienated open-minded members in attendance. With respect to the "Divorce" article (46), a few interviewees thought that such a step would benefit the public, the profession, and the patient. Other interviewees countered that the article was not helpful, that there was no conceivable way of actually splitting the profession into two from a legislative point of view but did acknowledge the conversation it ignited was one that had to take place.

4.3 Vaccination

The topic of vaccination garnered a great deal of discussion from most of the interviewees, and almost all the comments were identical in nature. Every interviewee who mentioned vaccination was supportive of it, with many stressing it is outside of the scope of chiropractic practice. Comments ranged from anti-vaccination stances being a "drag on the profession," "the third rail of the profession" and how such attitudes "make it more difficult for those chiropractors working in multi-disciplinary setting." One interviewee stated anti-vaccination attitudes were a "massive problem," noting that the chiropractic profession was singled out by the WHO for the vaccine-hesitancy beliefs of some of its members. Other interviewees lamented the fact anti-vaxx statements result in a negative image to public health officers as well as government officials which only serves to undermine the profession's credibility. Perhaps these sentiments were best summarized by 1 interviewee who, when asked what they thought about anti-vaccination statements by some of his brethren declared chiropractic "must drop this whole f*****g thing!"

One interviewee told a particularly poignant story: "When a new state law passed requiring all students to be vaccinated as a prerequisite of enrollment in public school classes the state association of chiropractors opposed it. Not only did they [the chiropractic state association] lose but it destroyed many relationships with legislators, relationships that took years to establish."

Two interviewees had slightly different opinions. One interviewee distilled the issue down to the freedom of choice to choose what to do with one's own body, observing that since vaccination carries a risk of harm there should be a discussion of informed consent and a person ought to have the right to refuse it for themselves or, as stated by another interviewee, for their children.

4.4 Management of Non-NMSK Conditions

Overall, interviewees, be they vitalists or 'hard-core' scientists, were parsimonious when it came to chiropractors treating non-NMSK conditions in their offices, with the caveat that it was on a limited, trial basis. Moreover, the interviewees generally agreed chiropractors ought to make the distinction that they were treating the MSK manifestations of a non-NMSK condition rather than the non-NMSK condition itself. Examples provided including treating an asthmatic patient's thoracic spine and surrounding musculature for spinal and muscle pain that may assist in their breathing but by no means did this mean the chiropractor was treating the patient's asthma. That said, all these interviewees cautioned that chiropractors and chiropractic organizations should not advertise any claim of managing non-NMSK conditions on social media platforms, such as Facebook or YouTube, with 1 interviewee citing the "mess in Australia," a reference to the temporary ban prohibiting chiropractors from treating children under the age of 2 culminating in the SaferCare Victoria investigation. (47)

One of the interviewees involved in advocacy stated it was important not to dismiss out of hand the observations by field doctors that some patients respond favorably to chiropractic care for their non-NMSK conditions and that such claims should be rigorously investigated. Indeed, 2 of the research-scientists provided possible explanations for these observations, 1 suggesting it may be due to either central sensitization or neuroplasticity and the other suggesting the "weird s**t" chiropractors observe may be due to psychoneuroimmunology factors.

One interviewee stated that since vitalistic chiropractors maintain they are treating the whole person and not their clinical conditions, nothing is technically out of their scope of practice. Under this model of care the chiropractor's role is to identify and remove what is interfering with the optimal functioning of the patient's nervous system.

4.5 Radiography and X-Ray Line Marking

Only a few interviewees specifically mentioned radiography, with 1 interviewee questioning if it is really necessary for care planning whereas another interviewee suggesting it is a vital tool for patient care. Yet another interviewee stated they were not surprised that the ACA Choosing Wisely (43) position statement - a statement stating chiropractor should not perform routine x-rays - "blew up" since there was no consultation with anyone outside of the organization.

4.6 Unethical Practice Activities

All interviewees, regardless of their ideology, agreed unethical practice activities are the bane of the profession. Interviewees agreed advertising of unsubstantiated claims of cure were unacceptable and undermined the public's trust and the profession's credibility; one interviewee compared the current landscape of advertising to the Wild West where chiropractor "can say whatever the f**k they want on their website." Another interviewee stated unethical practice activities undermine any efforts toward university affiliation and another interviewee recalls these kinds of behaviours were criticized by a group of government policy makers during a social event they attended.

When asked, examples of unethical practice activities identified by the interviewees included lengthy (longer than 6 or 10 treatment) care plans with exorbitant prepayment requirements and overly discounted fee schedules, the use of pressure or scare tactics ('scare care'), block booking, and overly scripted report of findings (some of which insist the patient should be crying by the end of it), all of which result in over-treating patients.

One interviewee involved in education said chiropractic programs have to develop financially feasible successful business models, observing many new grads gravitate to "old school" chiropractors who's practices border on the unethical but generate considerable income. This interviewee continued that the strategy advocated by the ACA for members to pledge to practice ethically (38) was "dumb." That said, 2 interviewees did allude to the fact that the chiropractic community has a role to play by calling out unethical behaviour but many rank and file chiropractors are too afraid to do it.

5. The Future of the Profession

Not surprising, given the diversity of this group of interviewees, there was a wide range of perspectives on where the profession is heading and how it can achieve success. Three distinct subthemes emerged.

5.1 Successful Strategies

Given the diversity of the interviewees it is not surprising they proposed many different potential successful strategies for the profession's advancement, many of which over-lapped. Several bemoaned the opioid crisis and the toll it has taken on people with spinal pain but see it as an opportunity for chiropractors as non-surgical spinal care experts (some suggested spinal care coaches) which favored a non-pharmacological approach. They foresee this as an opportunity for chiropractic to take a leading role in spinal pain management, although a few interviewees thought exclusively focusing on spinal pain was too limited a role for the profession. That said, a few interviewees believed the best strategy for the profession was to "double-down" on the management of MSK conditions and to fund its research accordingly since, to quote one researcher: "you can't bet on every horse."

Although not a conflicting strategy per se, some interviewees suggested emphasizing a wellness approach (1 interviewee stated this would not fly) or championing the importance of health promotion, which would include exercise, proper diet, mental counselling, and the importance of maintaining a positive attitude.

From an entrepreneurial perspective, more than 1 interviewee advocated for enhancing coverage from third-party payors, since their research reported 7 of 10 chiropractic patients have insurance coverage. Another interviewee suggested chiropractic programs better train students on their 'elevator speech' - a brief, potentially persuasive discussion they have with a prospective patient that convinces them to book an appointment.

Two interviewees suggested focusing on the care of the Baby Boomers and older patients offered a very good opportunity for the profession. Other interviewees pointed to successes of the VHA and, to a lesser extent, the DOD, as well as the GLA-D (48) and Spinal Boot Camps (49) programs for various clinical conditions, notably osteoarthritis and spinal stenosis. Some interviewees stated professional success could be achieved by becoming more pluralistic, by working alongside other healthcare practitioners, and by actively supporting university affiliation of chiropractic programs wherever possible. Cultivating stronger 1-on-1 relationships with medical doctors is especially important since medical doctors generally have no understanding of chiropractic education, at least in the opinion of 1 interviewee.

Several interviewees cautioned that the profession should not be defined by its most distinguishing intervention – spinal manipulation. Lastly, more than a few interviewees thought the WFC's #EPIC (50) campaign is broad enough that all chiropractors could rally behind it.

5.2 Integration into Medicine

Perhaps not surprisingly, opinions varied greatly on the theme of integration of chiropractic into medicine.

One group of interviewees believed that chiropractors can no longer work alone and must recognize healthcare is team-based, collaborative and multi-disciplinary. This group point to the success of chiropractors in Switzerland and Denmark, as well as the VHA, where chiropractors work alongside many other healthcare providers. One interviewee adamantly declared that if chiropractic does not integrate into medicine it would "not be separate and distinct, it would be separate and extinct." One interviewee observed the integration decision may be made for us, since factors in the external environment may limit what chiropractors can do and force the profession into the healthcare sandbox. Another interviewee used a push-pull analogy to convey this thought. One interviewee suggested chiropractic should be 'feathered-in" to medicine, essentially threaded into certain specific areas (e.g., hospitals, LTCs).

By contrast, other interviewees strongly opposed any formal integration into medicine, stating the only viable model for the profession's survival is to remain separate and distinct. One interview stated attempts to placate the dominant healthcare players (e.g., allopathic medicine, Big Pharma) is a failed strategy. This interviewee added that only focusing on MSK conditions with result in a blurred boundary between chiropractors and physiotherapists, most likely leaving chiropractic behind. Another like-minded interviewee added that, since medicine tends to treat the body as separate parts whereas the chiropractic model emphasizes treating the patient as a whole, integration will enhance medicine but not chiropractic.

5.3 Opinions About the Future

Overall, the interviewees were evenly split when it came to opinions toward chiropractic's future. One group of interviewees were pessimistic, with 1 interviewee stating the profession's best days were behind it. Another interviewee expressed their only hope lay for programs modeled after the 1 in Denmark (which was described as 'chiropractic Nirvana' and idealized by more than 1 interviewee).

Optimism expressed by interviewees often came with a caveat. One interviewee in this group was only optimistic if the infighting ends, another was hopeful only for vitalistic chiropractors and a third interviewee was convinced it would take another 50 years for the profession to be successful.

DISCUSSION

Surveys of the public, chiropractic patients, chiropractic students, chiropractors, as well as medical doctors provided a rich tapestry of information about the profession; however, to the best of my knowledge, this is the first study to interview influential stakeholders to better understand the chiropractic profession.

Interpreting Themes

Five distinct themes were identified from coding each of the interviewee's responses. Although the tribalism observed in the chiropractic profession was reflected in some of the themes identified in this study, there were a number of subthemes that demonstrated surprising conformity of opinion.

There was consensus that the profession lacked central leadership, although some interviewees proffered that researcher scientists are best positioned to fill the leadership void; not surprisingly, other interviewees vehemently disagreed with that suggestion. These diametrically opposed viewpoints also emerged during interviewee's discussion of the politicization of research, although that disagreement was more focused on the appropriateness of researchers to politicize their findings in the public domain. An example of this situation recently played out during, on the one hand, the conclusion's expressed by the authors of the Global Summit (19) and, on the other hand a dissent article (51) as well as a series of 'Letters to the Editor' (LTE) published in JMPTonline.

The Global Summit, convened in Toronto, Canada between September 14-14, 2019, assembled 50 international research scientists to determine the efficacy and effectiveness of SMT for primary, secondary and tertiary prevention of 6 non-NMSK conditions. (19) They concluded: "Government, payers, regulators, educators, and clinician should consider this evidence when developing policies about the use and reimbursement of SMT for non-musculoskeletal disorders." (19,p2) In response, a dissent article authored by 4 of the Global Summit's participants countered: "Based on the available evidence, some statements generated from the Summit were extrapolated beyond the data, have the potential to misrepresent the literature, and should be used with caution….Governments, insurers, payers, regulators, educators, and clinicians should avoid using systematic review in decision where the research is insufficient to determine clinical appropriateness of specific care." (51) A number of LTEs echoed this statement, with 1 author reminding the reader that "there is considerable risk in extrapolating equivocal scientific findings to health policy. Health policy take years to develop and even longer to reverse" (52) and another author stating "notwithstanding whatever scientific merit the Summit claims, it appears, nonetheless, to be motivated by a

desire to engineer the profession of chiropractic. This motivation in itself is not unjustified but appears to have modulated the methodology in a way that undermines the credibility of its rather far-reaching conclusions." (53)

Interviewees agreed vaccination was outside of scope of chiropractic practice and members should not comment on it publicly. There was consensus opinion that regulatory bodies and accrediting agencies need to take a much more active role in overseeing member's behaviour and chiropractic program requirements, respectively. The few interviewees who mentioned advocacy organizations saw them as important in the profession, although some of the elements for the Choosing Wisely initiative of the ACA (43) invited considerable criticism by the interviewees.

All interviewees opined that the profession's image is tarnished by the unethical practice behaviors of some of its members, especially overly scripted discussions with patients that use any form of fearmongering. Interviewees were generally favorably disposed toward short prepayment packages, provided they do not exceed 10 or 12 visits.

A similar sentiment was expressed in reference to the management of non-NMSK conditions. All the interviewees, including the non-chiropractors and the most hard-nosed research scientists, many of whom were in private practice for a time, acknowledged patients reported unexpected positive experiences while under their care with respect to non-NMSK conditions. There was consensus that a trial of care, perhaps involving no more than 6 treatments, could be scheduled for a patient provided no guarantee of cure was made. Although most interviewees agreed these anecdotal observations ought to be scientifically investigated, the majority believed it was politically unwise to publicly advertise these benefits on any social media platform.

All interviewees were in favor of the 3 pillars of evidence-based medicine and agreed it was a vital component of modern day healthcare. However, some interviewees clearly favored the 'best evidence' pillar whereas the majority of interviewees, including many research scientists, were wary of being overly reliant on RCTs or systematic reviews and developing a nihilistic approach to healthcare in their absence. This group championed the co-equal pillars of clinician's expertise and patient preference. There was widespread agreement that more research funding was needed.

There were diametrically opposed viewpoints from the few interviewees who opined on the clinical value of x-ray line marking. This is perhaps not surprising. A recent qualitative analysis of the perception of attendees at a series of intercollegiate workshops conducted during ACC-RAC conferences that sought to develop a standardized curriculum for teaching chiropractic technique reported no consensus could be reached with respect to teaching x-ray line marking (spinography). (54) Additionally, a 2020 by-law amendment by the College of Chiropractors of British Columbia prohibiting the ordering of routine and repeat radiographs by chiropractors garnered considerable push-back among some rank and file members, who filed a challenge in provincial court. (55)

Two subthemes, integration into medicine and differing ideologies, were in lock step with each other. Specifically, those interviewees who were more traditional/vitalistic in their beliefs rebuffed the urgency of integrating into the broader medical model. In diametric opposition were those interviewees who were already worked alongside medical colleagues or who were embedded in medical settings (including the VHA). This group foresaw the only viable way for the profession to continue was to abandon the 'separate and distinct' canon preferred by their subluxation-based colleagues.

A number of potentially successful strategies the profession ought to pursue were proposed by the interviewees, many of which were not mutually exclusive. All interviewees saw the opioid crisis as an opportunity for the chiropractic to take center stage in the conservative management of noncancerous spinal pain crisis, with some interviewees stating spinal pain is the leading cause of morbidity worldwide, surpassing diabetes, heart disease or mental health challenges. Many interviewees posited the 'chiropractor as spinal care expert' (10) model is the best professional niche. That said, some interviewees cautioned against exclusively focusing on MSK conditions, instead championing a broader wellness doctrine. This aligns with recently published CPGs by Hawk *et al* (56) on the role that chiropractic can provide for health promotion and clinical preventive services for adult patients with MSK pain.

Lastly, interviewees were evenly split with respect to being either optimistic or pessimistic about the profession's future.

Tracking the Profession's Tribalism

Like the principal findings of this study, previous studies have repeatedly reported a large degree of tribalism within the chiropractic profession. (27-33) In the mid 1990s, Biggs, Hay and Mireau (27) sought to identify the attitudes of Canadian chiropractors with respect to chiropractic philosophy and scope of practice. Based on a random sample of chiropractors (n =401) Biggs *et al* reported 18.6% of respondents held what they labeled as 'conservative views'. This group rejected the Palmer Postulates, embracing scientific validation of chiropractic concepts and methods and they believed chiropractic scope of practice should be limited to MSK

care. At the far end of the ideological spectrum, 22% of respondents self-identified as 'liberal,' meaning they adhered to the Palmer Postulates and have a broader view of the profession's scope of practice, which would include treating non-NMSK conditions. (27)

Most respondents in the Biggs *et al* study fell somewhere in-between, accounting for just under 60% of respondents. (27) Using ANOVA and MCA, Biggs *et al* found the best indicator of what they termed a chiropractor's 'philosophy index' was their college of graduation and province of practice. CMCC graduates tended to be more conservative in their views, as were Saskatchewan chiropractors overall. By contrast, non-CMCC trained chiropractors, and those practicing in Quebec, held more liberal views. (27)

Almost 20 years later McGregor and her colleagues conducted a random survey of 503 Canadian chiropractors to differentiate interprofessional attitudes toward health care delivery among chiropractic factions. (28) Similar to the Biggs *et al* study, McGregor *et al* reported less than 20% (18.8%) of chiropractors were aligned with what they defined as an 'unorthodox' view. Chiropractors possessing the most extreme unorthodox view believed subluxation was an obstruction to human health, were more likely to use radiographic imaging not consistent with current evidence and guidelines and were more likely to hold negative attitudes toward vaccination. (28)

By contrast 81% of respondents identified themselves as focusing on biomechanical disorders or MSK joint dysfunctions. (28) A subgroup (53.1%) identified caring for MSK or NMSK problems such as low back or neck pain exclusively. They were more likely to adhere to clinical practice guidelines for the judicial use of radiographs and held positive attitudes toward vaccination. In their study, McGregor *et al* identified 6 subgroups or strata of professional beliefs: general problems; biomechanical; biomechanical/general problems; biomechanical/organic-visceral; chiropractic subluxation as a somatic dysfunction; and chiropractic subluxation as an obstruction to human health. (28)

Using the same dataset, Puhl *et al* (29) reported that the chiropractic program attended was a significant predicator of the orthodox or unorthodox 'faction membership' (using their terminology) and of professional practice characteristics of Canadian chiropractors. Puhl *et al* noted that, despite representing less than 20% of the Canadian chiropractors, a survey of 487 orthopedic surgeons across Canada and the United States conducted by Busse *et al* (32) largely focused on what Puhl *et al* labelled as 'chiropractic dissidents'. Specifically, Busse *et al* identified concerns expressed by orthopedic surgeons including variability of chiropractic treatment and chiropractic training (education), treatment of non-MSK complaints, concerns whether chiropractic care was evidence-based and, lastly, unethical practice activities. Undoubtedly the reader will note the similarity of the themes expressed by orthopedic surgeons and the themes extracted from the interviewees in this study.

Tribalism in the chiropractic profession has been identified even prior to graduation Gliedt *et al* (30) distributed electronic questionnaires to chiropractic students at 12 North American English-speaking chiropractic programs with the purpose of investigation student opinions with respect to professional identify, role and future. A total of 1,247 questionnaires were returned (response rate 16.7%). (30)

A majority of respondents strongly agreed (52.2%) or agreed (34.8%) that chiropractic education should be based on evidence-based practice. A majority also strongly agreed (25.8%) the emphasize of chiropractic intervention is to eliminate subluxation/VSC. A large number (55.2%) of respondents were not in favor of expanding the scope of chiropractic practice to include prescribing medication. Most respondents thought chiropractors should be considered mainstream healthcare practitioners (69.1%) and almost half of respondents (46.8%) thought research should focus on the physiological mechanisms of chiropractic adjustments.

Gliedt *et al* (30) summarized their findings that, while most respondents were in favor of evidence-based practice and showed a preference for participating in mainstream health care, many also expressed a desire to hold on to traditional chiropractic theories and practices. The authors of the study highlighted the contradictory nature of these responses, suggesting there was a degree of cognitive dissonance among chiropractic students.

A survey of chiropractic students enrolled at CMCC and Parker University conducted in 2014-2015 also reported considerable differences with respect to perceptions of the profession's cultural authority, role in healthcare and use of chiropractic linguistics. (31) Students from CMCC, which Puhl *et al* (32) classified as a 'liberal' program compared to Parker which the same study classified as more 'conservative', were found to be more favorably disposed toward MSK care whereas Parker students were more likely to favour a wellness paradigm (both groups reported the profession's cultural authority was predominately with a NMSK care focus). Parker University students were much more likely to use the terms 'vertebral subluxation' and 'innate intelligence' than were CMCC students. (31)

Selecting Interviewees

Initially I did not have a specific number of interviews to conduct in mind. However, further investigation into qualitative research methodologies led to a paper by Baker (57) who had interviewed 14 renowned social

scientists and 5 early career researchers and asked them "how many qualitative interviews is enough?" Not surprisingly, there were a myriad of opinions provided with one glib response being "20 for an MA and 50 for a PhD dissertation." However, the most common number sited in this article was 30, which was the number of interviews conducted in this study.

Onwuegbuzie and Leech (58) referred to the small sub-sample of individuals who are selected to be interviewed as 'key informants,' individuals who must be representative of the study participants who were not selected to be interviewed. They described several different methods for selecting samples (individuals) to be interviewed. For this study, I used a non-random sampling method or purposeful sampling (58), where particular individuals were asked to participate because they were considered to be 'information rich." (47) Upon completing of their interview, these individuals often suggested other prospective interviewees, in a process called network or snowball sampling. (58)

To minimize 'key informant bias' (see Limitations below) the author approached additional individuals to participate in this study. One prospective interviewee declined due to their particular role in the profession, fearing they may have a conflict of interest and any comments they provided may be politically unwise. Two prospective interviewees – both adhering to more traditional/vitalistic ideological perspectives of the profession - were approached. They initially expressed interest in participating; however, after three unsuccessful attempts to schedule a time for an interview the author decided not to pursue them further. A fourth person with a breadth of experience in chiropractic education was asked in-person to participate in this study; however, after expressing their willingness to do so never responded to multiple emails requesting a mutually convenient time be scheduled for an interview.

Qualitative Research Methodology

One of the limitations of the evidence-based pyramid that places meta-analyses of systematic reviews at the apex and expert opinions at the base is it has no level or strata dedicated to qualitative research. And yet, qualitative research has emerged as a vitally important approach in health profession (41,59) since it provides "a source of well-grounded, rich descriptions and explanations of processes in identifiable local contexts" (60, p807) – meaning the descriptions from the data go far beyond only numbers. Castlebury and Nolen wrote that qualitative research allows for an exploration of beliefs, values and motives that explain why behaviour occurs, as compared to qualitative research that focuses on frequency, intensity and duration of behaviors. (60) These authors continued that the primary aim of qualitative research is "to gain a better understanding of phenomenon through experiences of those who have directly experienced the phenomenon" (60, p807-808), which recognized the value of participants' - or in this study, interviewees' - unique viewpoints.

Castlebury and Nolen continued that the descriptive nature of qualitative research allows a researcher to build a complex, holistic picture in a natural setting. (60) They list several types of qualitative research designs, including case study, ethnography, grounded theory, narrative inquiry, and phenomenology, all characterized by specific design assumptions, sampling procedures, data collection and data analysis protocols. In general, there are five qualitative data analysis steps: compiling, dissembling, reassembling, interpreting and concluding. (60)

Compiling involves transcribing the data into a useable form, with many experts recommending the transcription conducted by the person who gathered the data (in this study, the data was transcribed by the PI who was the interviewer). (49) Dissembling data involves taking the data apart and grouping in into codes, which is data that have connections to each other. This is a more deductive process in that codes emerge from the data. (60) Codes, which encompass a complete thought, can consist of various types of data, including phrases, sentences or paragraphs, all of which were used in this study. Coding requires a thorough review of previous research on the topics discussed, which was undertaken prior to beginning this study. (60)

Reassembling involves positioning rated codes into themes, which "capture something important about the data in relation to the research question and represents some level of patterned response or meaning in the data set." (60, p809) Essentially, codes are bricks and themes are walls.

Braun and Clarke (61) emphasized the active role the researcher plays in order to identify patterns or themes in the data, rather than expecting themes to simply emerge. Braun and Clarke argue that there is no 1 ideal theoretical framework for conducting qualitative research and it is therefore important for an author to match the chosen methodology with what the author wants to know and recognize these decisions. (61)

When analysing the data, Braun and Clark suggest a researcher can either provide a rich description of the entire data or – the method used in this study - a more detailed and nuanced account of one particular theme or group of themes within the data. Data can be analysed inductively or deductively (theoretically). (61) This study used more of a semantic rather than latent theme analysis approach, in that the author identified themes within the explicit or surface meanings of the data and did not look for anything beyond what the interviewee said. Lastly,

since the interviewees were influential stakeholder of the profession with a breadth of knowledge and experiences the author relied on a essentialist/realist approach, which theorized motivations, experience and meaning in a straightforward way, because a "simple, largely unidirectional relationship is assumed between meaning and experience and language." (62, p9) The contrast to this approach is a constructionist perspective, where meaning and experience are socially produced and reproduced. (62) Following the thematic analysis step of reassembling, qualitative research requires interpretation and finally providing conclusions. (62)

Limitations

There were several limitations to this study.

Although key informants were approached to be interviewed, it is possible their selection led to key information bias, whereby the author failed to make optimal sampling decisions. (58) This may have led to the underrepresentation of certain key informants and, subsequently, to an underrepresentation of their opinions as well. For example, there were no interviewee's from Central or South America or Asia. No attempt was made to interview stakeholder in jurisdictions that do not regulate chiropractic.

Although it is imperative that a researcher have preconceived knowledge of their subject and be familiar with its context, Bengtsson (62) emphasized that a researcher must take into consideration that their 'pre-understanding,'' during both the planning and analysis processes, may be a source of bias caused by his or her own influence.

Chiropractors with a predominately research background were interviewed in this study, and only 4 of the interviewees could be classified as traditional or vitalistic-leaning chiropractors. Had a more diverse group of stakeholders been interviewed significantly different opinions may have been expressed. That said, two traditional or vitalistic-leaning chiropractors were approached to be interviewed and bost expressed interest, but none would commit to a scheduled time. Lastly, I may have over-relied on my personal relationship and knowledge of prospective interviewees during the recruitment stage.

Since the interviews were conducted over a lengthy time period (between 2018 and 2021) it is possible a person's opinion on a given topic may have changed between the time they were interviewed and the time of this article's publication. Moreover, depending on when they were interviewed, some individuals would not have been asked about their perception of the Global Summit (19), the 'Divorce article' (46) or the presentation by Dr Hartvigsen in Berlin. (45)

I am solely responsible for interviewing, transcribing and coding the data. It is possible errors were made during transcription of interviews and during the coding of responses into different themes since the author did not have assistance in either the transcription or the coding. In other words, a significant limitation of this study was the lack of triangulation. Future studies ought to have more investigators involved in any follow-up study.

CONCLUSION

Interviews of 30 influential stakeholders of the chiropractic profession yielded five distinct themes. Of these, there was consensus opinion on 8 subthemes (lack of humility, patient-centered approach, lack of leadership, need for more regulatory oversight, advocacy, vaccination, management of non-MSK conditions and unethical practice activities). This is the first study to report consensus opinion on some of these topics. There were diverse opinions on the other 7 subthemes (use of x-ray line marking, politicization of research, integration into medicine, differing ideologies, evidence-based medicine, strategies for success and attitudes toward the future).

Looking toward the future many of the interviewees agreed that, if the profession is to move forward, there mustbe far less infighting. This necessitates greater understanding and respect for the other groups' opinions on this or that issue. Perhaps Cicero, the prominent Roman statesmen provided a possible solution when he opined: "If you wish to persuade me you must think my thoughts, feel my feelings and speak my words."

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