



Article

Advancing Chiropractic Care: Opportunities and Challenges for the Future

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Abstract

As the future of the chiropractic profession is explored in this paper, it is important to consider its complexities and potentialities through a six-pillar analysis. Firstly, a thorough examination of the profession can be achieved by using SWOT analysis, macro history, and futures triangle. This analysis helps gain an understanding of the current state of the profession and allows anticipation of potential challenges and opportunities. Secondly, it is essential to analyze emerging issues and trends using the futures wheel. This enables practitioners to anticipate and prepare for future disruptions. Thirdly, practitioners can adapt to changing circumstances by understanding the various patterns that shape the profession, such as linear, cyclical, pendular, and spiral patterns. Fourthly, a deeper analysis can be conducted using causal layered analysis, metaphors, and new narratives. This approach helps identify the underlying drivers of change and their implications for the future. Different perspectives offer alternative lenses to view the challenges faced by the profession. Fifthly, practitioners can break through barriers and create new pathways for the future by addressing the elephants in the room and using transformative scenario planning. Finally, shaping the future of the profession requires visioning, backcasting, and defining next steps. Developing a shared vision and backcasting from that vision allows practitioners to identify specific actions necessary to move towards their desired future state.

Keywords

Chiropractic futures, Six Pillars Analysis, Chiropractic Scenarios

Introduction

This article explores the futures of the chiropractic profession framed by the Six Pillars method to explore and unravel the prospects and challenges facing the profession (Inayatullah, 2008). With its rich and storied history, evolving present, and potential future trajectories, the chiropractic profession stands at a tipping point. By employing an array of futurist tools, this article examines the significant issues potentially shaping the future of the chiropractic profession. Through the lens of the six pillars analysis, the paper examines the profession and pivotal forces driving change, unravel core dynamics, unveil transformative opportunities, identify challenges shaping its future landscape and provide focus for strategy development.

Six Pillars Analysis

Mapping the future of the chiropractic profession requires a profound and comprehensive analytical framework. The Six Pillars analysis supplies an invaluable tool to explore the complexities of the chiropractic landscape and unravel the potential scenarios that lie ahead (Inayatullah, 2008). This approach encompasses six interconnected pillars, each offering unique insights and strategies to navigate the future of the chiropractic profession. By engaging with mapping, anticipating, timing, deepening, and creating alternatives pillars, this paper sheds light on the prospects and challenges facing the chiropractic profession, supplying valuable insights for strategic decision-

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making and proactive adaptation.

PILLAR 1 maps the chiropractic landscape and analyzes factors influencing its trajectory to supply a foundation for envisioning future possibilities and challenges. PILLAR 2 anticipates multiple future scenarios by examining future trends, disruptions and paradigm shifts in the profession to develop future scenarios for strategic planning and changing healthcare dynamics. PILLAR 3 identifies critical transition points and the pace of change to ensure strategy and actions are alignment to maximize impact and success. PILLAR 4 deepens knowledge and capacities within the profession with emphasis on continuous learning, research, and professional development to equip the profession with the tools and skills necessary to navigate future challenges, drive innovation, and deliver high-quality care. PILLAR 5 focuses on innovative and transformative approaches to embrace changing patient needs, exploring and embracing new modalities and technologies, and ensuring future relevance and sustainability. PILLAR 6 provides a roadmap to transform the profession by addressing long-standing issues and developing evidence-based practice guidelines. It enhances collaboration with other providers, addresses regulatory challenges, and embraces technological innovations for improved patient care outcomes and expanded services.

PILLAR 1-mapping: SWOT analysis, macro history, futures triangle

Mapping the future of the chiropractic profession involves understanding current trends, drivers, and uncertainties. The profession must conduct a comprehensive analysis of its strengths, weaknesses, opportunities, and threats (Schneider et al., 2015). Understanding the evolving healthcare landscape, the impact of changing demographics, and the need for interprofessional collaboration and evidence-based practice is essential for mapping the profession's future (Gilmour et al., 2018; Coulter et al., 2018).

SWOT analysis: strengths, weaknesses, opportunities, threats

The SWOT analysis framework is a versatile method of capturing internal strengths and weaknesses alongside external opportunities and threats. Its simplicity, adaptability, inclusiveness, and multidimensional approach make it invaluable for engaging stakeholders, assisting a comprehensive view of the issues, avoiding the risk of overlooking crucial elements, and enabling informed decision-making. It provides a powerful tool to navigate uncertainties and proactively adapt.

Strengths: Chiropractic's unique holistic orientation focuses on the body, mind, and spirit, making it an attractive option for patients seeking comprehensive care. Evidence-based research has also shown chiropractic care to be effective in treating conditions such as low back pain, neck pain, and headaches. A growing demand for wellness and preventative care trends favorably for the profession, highlighting its strength (Bronfort et al., 2018; Guzman et al., 2021).

Weaknesses: Continued misconceptions and misunderstandings about chiropractic care persist, despite growing research in support of it. Lack of standardization, integration, and consistency in evidence-based standards of care pose weaknesses for the profession. The presence of over a hundred techniques and variations in treatment protocols for the same conditions raises credibility issues. The lack of integration and collaboration with other healthcare providers further exacerbates these weaknesses (Hawk et al., 2019; Schneider et al., 2015; Whedon et al., 2018).

Opportunities: Integration into the healthcare system, expansion of services, and advancements in technology broadens opportunities for the chiropractic profession. The Veterans Administration and military have integrated chiropractic care into multiple facilities, resulting in ongoing research, collaboration, and educational opportunities. Integration into mainstream universities and research training in major universities is also evolving. Technological advancements such as computer-assisted manipulation, telehealth, and wearable technologies have the potential to significantly impact the profession (Russell et al., 2020; Weeks, 2014; Zhang et al., 2019).

Threats: Competitive efforts from other healthcare providers (e.g., physical therapists, acupuncturists) pose threats to the chiropractic profession. Declining reimbursement rates, increased competition, regulatory and legal challenges, and licensing disparities also pose significant threats. The failure of the profession to develop a scientifically based definition of "subluxation" and the lack of professional cohesiveness with respect to national professional associations make progress difficult (Bussieres et al., 2019; Elkins et al., 2018).

Figure 1 summarizes the chiropractic profession's strengths, weaknesses, opportunities, and threats. By

addressing weaknesses and capitalizing on opportunities, the profession can continue to evolve, expand, and establish itself as a valued member of the healthcare system.

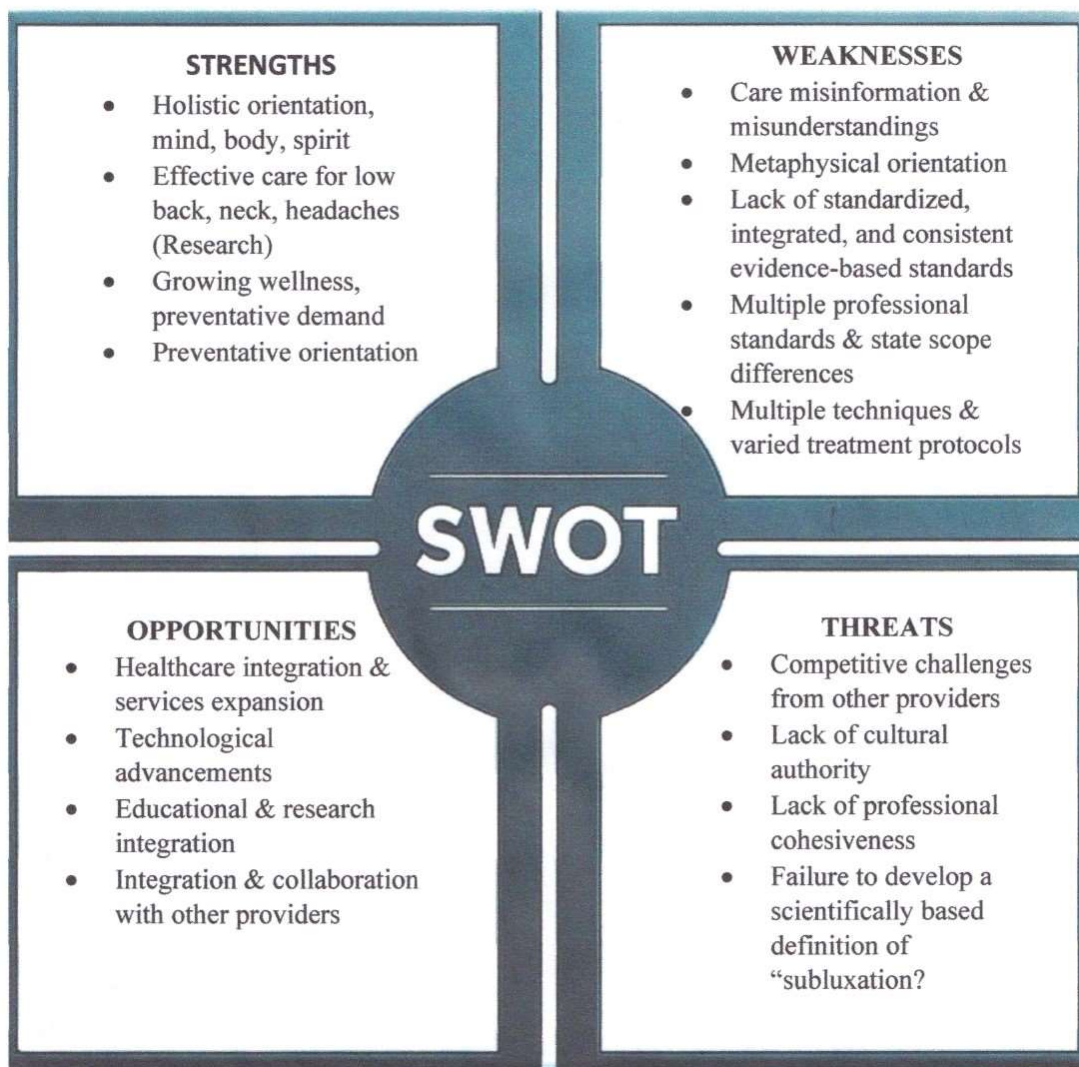


Fig. 1: SWOT Analysis Chiropractic

Macro history: manual medicine/chiropractic

Historically, manual medicine has played a significant role in various ancient civilizations, including Egypt, China, India, and Greece (Bronfort et al., 2004; Ernst, 2011; "Acupuncture: An Introduction," 2018; "Chiropractic: An Introduction," 2018; "The Principles of Ayurveda," n.d.). These cultures developed techniques to address musculoskeletal (MSK) issues (e.g., spinal injuries, joint dislocations) by employing manual methods to enhance mobility and alleviate pain. Egyptian papyrus describes manual techniques for spinal injuries, joint dislocations, and musculoskeletal (MSK) pain. Ancient Greek and Chinese traditional practitioners used manual methods to improve mobility and relieve pain. Latin American sobadores (traditional healers from Aztec and Mayan societies) also used manual techniques for diagnosing and treating physical and emotional conditions. Traditional healing practices in Iran, Ghana, Eritrea, Indonesia, Germany, and Ireland have a history of bonesetting (Gatterman, 1995; Trotter & Chavira, 1997; "The Germanic bonesetters," n.d.; "Irish bonesetters," n.d.; "Traditional African Medicine and Its Relevance to Modern Medicine," n.d.).

Modern manual medicine gained prominence in the 19th century through professions like osteopathy, chiropractic, and physical therapy (Bronfort et al., 2004; Ernst, 2011; "Chiropractic: An Introduction," 2018; "Osteopathic Medicine in the U.S.," n.d.). These disciplines expanded and integrated into conventional medicine, driven by advancements in anatomy, physiology, and increased popularity. The mid-20th century witnessed licensing, professionalization, and advanced training, leading to the recognition of manual medicine as a valued healthcare field. The integration and innovation continued from the late 20th century until the present day, fueled by medical technology advancements, patient needs, and research.

Chiropractic emerged with the belief that health issues stemmed from spinal misalignments causing nerve impingements (Gliedt et al., 2017). The profession aimed to treat these misalignments without drugs or surgery, utilizing manual techniques to restore function (Coulter & Vernon, 2008). In the 1910s-1920s, chiropractic experienced rapid growth and recognition as an alternative to conventional medical care (Keating & Cleveland, 1996). State recognition, establishment of chiropractic colleges and associations, and legal challenges characterized this period. Legal and regulatory issues persisted from the 1930s to the 1960s, leading to arrests and courtroom battles for the right to practice (Mootz & Phillips, 2015). Professionalization efforts in the 1970s and 1980s focused on positioning chiropractic as a mainstream healthcare provider. Collaboration with medical professionals, pursuit of advanced education and certification, and the quest for recognition played essential roles during this time. Since the 1990s, chiropractic has continued to grow and diversify, meeting the increasing demand for its services (Whedon et al., 2018). Integration into the larger healthcare system has improved by the adoption of modern technologies and techniques. Despite facing struggles for recognition, professionalization, and integration, chiropractic has persistently evolved and established itself as a respected member of the healthcare system (Coulter et al., 2018).

Futures Triangle

The Futures Triangle is used to systematically analyze preferred futures, recognize weights of the past, identify the push of the present (change drivers), and establish the motivation for change (pulls). The trends for the profession (pull of the future) include increasing demand for alternative, non-invasive, and natural care (Whedon et al., 2018). The drivers (present) include changing demographics (aging population) with a need for chronic care management (Johnson & Kurtz, 2011) and the changing healthcare system environment to evidence-based care, interprofessional collaboration with other providers for comprehensive care (Hawk et al., 2019), and the need for the profession to establish its cultural authority as a credible and respected member of the healthcare team (Bishop et al., 2019). Regulatory and reimbursement issues are an ongoing uncertainty as the profession seeks its place in the healthcare sector (Schneider et al., 2015). The extent to which integration occurs into the mainstream healthcare sector and its impact on the profession's influence and role is uncertain. History (weights of past) also influences integration and has a lasting impact due to metaphysical perspectives and ongoing rejection of science (e.g., vaccines) by subluxation-based practitioners (Green, 2016). Lastly the development and refinement of evidence-based guidelines and their impact on patient care and outcomes is another uncertainty (Coulter et al, 2018). Figure 2 summarizes the key factors of the Futures Triangle.

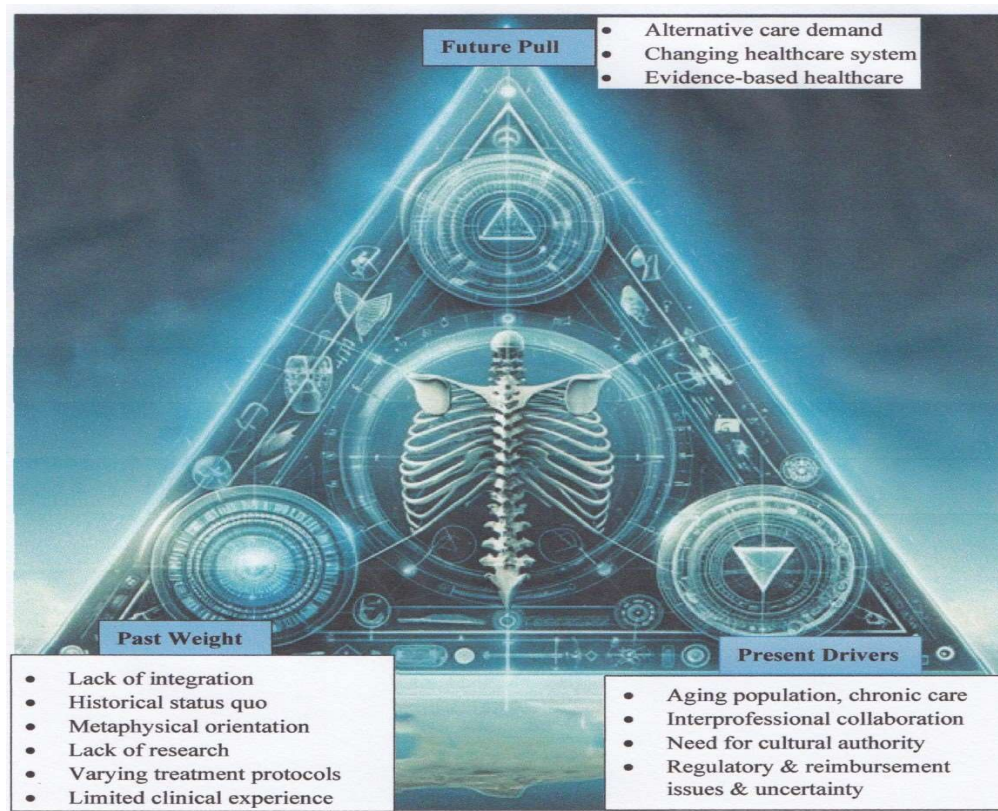


Fig. 2: Chiropractic Futures Triangle (created with DALL-E)

PILLAR 2-Anticipating: emerging issues, Futures Wheel analysis.

Pillar 2 explores the emerging issues facing the profession and analyzes the potential consequences of these drivers through the Futures Wheel.

Emerging issues: Multiple issues emerge that impact the chiropractic profession. The healthcare system is starting to see the profession as an able associate to supply alternative forms of care (Coulter et al., 2018). Although with opportunities, multiple challenges exist. The growing focus on evidence-based practice via high-quality research, developing evidence-based clinical guidelines, and incorporating patient-centered outcomes should improve the profession’s status in the healthcare system (Murphy et al., 2018). Using technological advances to improve outcomes and increase access to care and improve opportunities. The aging population and the need for chronic care and pain management to meet their evolving needs brings opportunities and challenges (Cifuentes et al., 2011). The importance of interprofessional collaboration also creates challenges and opportunities for the profession (Gilmour et al., 2018).

Monitoring emerging issues and considering the potential impacts allows the chiropractic profession to prepare for and adapt to future challenges.

Futures wheel analysis: The Futures Wheel is employed to analyze the potential future developments for the chiropractic profession. The central issue for this analysis is the future of the chiropractic profession and evolving sub-issues, or drivers of change, and their potential consequences. The drivers and their potential consequences follow:

1. *Aging population:* The aging population increases the demand for chiropractic care, particularly for chronic pain management (Cifuentes et al., 2011). This results in an increased demand for chiropractors

- and potential opportunities for professional growth. One example of an opportunity would be the development of advanced practice educational programs for geriatrics, wellness, and lifestyle care.
2. *Technological advances*: Technological advances could result in new treatments and therapies that could complement or replace manual manipulation. This could lead to increased competition from other healthcare providers, but also provide new opportunities for the profession (Weeks, 2014).
 3. *Interprofessional collaboration*: The importance of interprofessional collaboration is increasing in healthcare, and the chiropractic profession is no exception. Collaboration with medical doctors, physical therapists, and other healthcare providers results in improved patient outcomes; however, potential challenges related to integration exist.
 4. *Evidence-based practice*: The chiropractic profession has been focusing on evidence-based practice to improve credibility and integrate into mainstream healthcare. The development and refinement of evidence-based guidelines could improve patient care and outcomes but could also limit the use of certain techniques or treatments that do not meet the standard of care (Coulter et al., 2018).
 5. *Regulatory and reimbursement issues*: Regulatory and reimbursement issues remain a challenge for the chiropractic profession. The extent to which the profession is integrated into mainstream healthcare and the development of evidence-based guidelines could impact regulatory and reimbursement issues (Schneider et al., 2015).
 6. *Cultural authority*: The chiropractic profession has been working to establish cultural authority as a credible and respected member of the healthcare team. Establishing cultural authority involves continued research into evidence-based practice, collaboration with other healthcare providers, and public education (Bishop et al., 2019).

By mapping out the potential future developments using the Futures Wheel, exploring driver effects, and cascading consequences, the chiropractic profession better prepares for potential challenges and opportunities.

PILLAR 3-Timing: linear, cyclical, pendular, and spiral patterns.

Pillar 3 describes the timing of the profession's future through linear, cyclical, pendular, and spiral patterns.

Timing is a critical factor in shaping the future of the chiropractic profession. Determining the opportune moment to pursue changes, e.g., integration into the healthcare system and adopting evidence-based practice, is essential (Hawk et al., 2019). The historical trajectory of the profession, as well as potential future developments, requires analysis of different patterns: linear, cyclical, pendulum, and spiral.

Linear pattern. The linear pattern highlights the historical progression of chiropractic from its founding by D.D. Palmer in the late 19th century to its expansion and recognition throughout the 20th century (Palmer, 1895). Currently, the profession is witnessing a trend of integration into mainstream healthcare (Hawk et al., 2019).

Cyclical pattern. The cyclical pattern reflects the alternating phases of acceptance and rejection, innovation and stagnation, and expansion and contraction experienced by the chiropractic profession. These patterns may continue to occur in the future (Hawk et al., 2019). Acceptance and rejection issues reflect the historical struggles for recognition by mainstream healthcare. Early practitioners faced significant resistance and skepticism by mainstream medicine leading to rejection and marginalization (Ernst, 2008). Accumulating research and evidence supporting efficacy shift attitudes and lead to greater acceptance and integration into multidisciplinary healthcare settings (Hawk et al, 2019). Innovation, illustrated by development of various manipulation techniques, rehabilitation methods, and advances in diagnostic tools, enriches the scope and effectiveness of chiropractic care. Stagnation has

occurred due to resistance to change and adherence to traditional practices limiting evidence-based approaches and hindering advancement (Ernst, 2008). Expansion and contraction factors demonstrate growth and challenges in different regions and times, as evidenced by increased numbers of practitioners, growing public demand for non-invasive care, and legislative support in specific countries and states (Hawk et al, 2019). Multiple regions have experienced contractions due to economic downturns, changes in healthcare policies, and regulatory challenges necessitating strategies to adapt and overcome obstacles (Whedon et al, 2015). By recognizing and understanding cyclical patterns, the profession can effectively prepare for future challenges and capitalize on growth and development opportunities.

Pendular pattern. The pendulum pattern illustrates swings between acceptance and rejection, particularly concerning the scientific validation of chiropractic practices. The profession has witnessed efforts to scientifically validate chiropractic, leading to increased acceptance evidenced by integration into workers compensation systems and the Veterans Administration healthcare system (Cifuentes et al, 2011; Lisi et al, 2016). However, controversies surrounding scientific validity have also emerged (Hawk et al., 2019).

Spiral pattern. The spiral pattern indicates a continuous process of growth and change. Chiropractic has evolved over time through the development of new techniques, expansion of the scope of practice, and integration into mainstream healthcare as previously noted. This pattern is likely to persist, with the profession adapting to new healthcare developments and advancements (Hawk et al., 2019).

Understanding these patterns can help the chiropractic profession navigate the future effectively, making informed decisions and leveraging opportunities as they arise. By recognizing the timing of changes, the profession can proactively shape its trajectory in the evolving healthcare landscape.

PILLAR 4-Deepening: Causal Layered Analysis (CLA), metaphors, in-casting

Chiropractic CLA: Pillar 4 deepens the analysis using CLA.

Litany: confluence of challenges

The chiropractic profession confronts a plethora of challenges at the litany level, which represents the surface-level problems and complaints frequently discussed and debated within the profession and among stakeholders (Hawk et al., 2014; Elkins et al., 2018; Bussi eres et al., 2019). Among these challenges are misconceptions about the profession, lack of standardization, limited integration into the healthcare system, regulatory and legal obstacles, and competition from other healthcare providers.

A growing aging population increases demand for chronic care and pain management services. However, the chiropractic profession may grapple with adapting to the changing patient demographics due to its ongoing challenges. The lack of standardization and integration within the profession can perpetuate confusion and distrust among patients and other healthcare providers.

Innovative scenarios for the chiropractic profession could involve addressing these challenges head-on. One such scenario may include a concerted effort by the profession to educate the public and other healthcare providers on the benefits and evidence-based practices of chiropractic care (Schneider et al., 2015; Whedon et al., 2018). Targeted marketing campaigns, public education initiatives, collaborations with other healthcare providers, striving for professional acceptance, legitimacy, and integration into mainstream healthcare aid in achieving this result.

Systemic challenges: navigating structural hurdles

The systemic layer of the CLA delves into the deeper structural and institutional factors shaping the future of the chiropractic profession (Gliedt et al., 2017; Schneider et al., 2015). These encompass regulatory and legal frameworks, reimbursement models, educational standards, and the broader healthcare system and its policies, which can either facilitate or hinder the integration of chiropractic care.

At this level, the chiropractic profession grapples with challenges related to the structure and functioning of the healthcare system, such as the need for evidence-based practice, interprofessional collaboration, and the

incorporation of alternative forms of care into mainstream healthcare (Coulter et al., 2018; Gilmour et al., 2018; Murphy et al., 2018). Addressing these challenges necessitates systemic changes to foster a more supportive environment for the chiropractic profession.

Multiple systemic trends and opportunities may arise for the chiropractic profession:

1. A surge in growth as more people seek alternative forms of care and demand for holistic health services increases.
2. The healthcare system is increasingly recognizing the value of chiropractic care and working to integrate it more fully into mainstream healthcare services.
3. Technological advances and the expanded use of telehealth and wearable technology significantly broadening access to chiropractic care and enhancing patient outcomes (Stolberg, 2018).

These technological advances and the growing recognition of chiropractic care's value may present opportunities for the profession to surmount these challenges and extend its reach. An innovative scenario at the systemic level could involve increased integration and collaboration with other healthcare providers, leading to improved patient outcomes and greater professional legitimacy (Coulter et al., 2018). This might entail the formation of interprofessional teams comprising chiropractors, medical doctors, physical therapists, and other healthcare providers working together to deliver comprehensive care to patients, including shared electronic medical records, joint treatment plans, and coordinated follow-up care.

Worldview: embracing holistic perspectives and evidence-based practices

The worldview layer of the CLA encompasses the cultural and ideological assumptions that underpin the chiropractic profession, such as its holistic philosophy, emphasis on natural and non-invasive approaches to care, and the concept of subluxation as a central element of its identity (Murphy et al., 2018; Keating, 2005). These assumptions are deeply ingrained in the profession's identity and shape chiropractors' perceptions of themselves and their roles in the healthcare system.

At the worldview level, the chiropractic profession encounters challenges related to its philosophy and perspective on healthcare, including the ongoing debate surrounding the concept of "subluxation" and the need for a scientifically based definition. Additionally, reconciling the philosophical continuum from metaphysical concepts to evidence-based care based on research is crucial for integration and collaboration (Schneider et al., 2015; Whedon et al., 2018; Hawk et al., 2019).

Anticipated worldview trends for the chiropractic profession include:

1. A continued strong emphasis on holistic, patient-centered care, and a whole-person approach to health and wellness.
2. An increased focus on evidence-based practice, with the profession establishing clear standards of care and protocols for various conditions.
3. Greater integration of chiropractic care with other healthcare services, fostering collaborative and comprehensive care.

This emphasis on holistic, patient-centered care, and interprofessional collaboration could contribute to the profession's growth and recognition. An innovative scenario at the worldview level may involve a shift towards a more evidence-based and scientifically grounded view of the profession, leading to enhanced acceptance and legitimacy (Murphy et al., 2018). This could entail establishing a national board or organization responsible for promoting evidence-based practice and standardizing care across the profession, including regular reviews of research and clinical practice guidelines, as well as ongoing education and training for chiropractors.

Metaphor: bridging conventional and alternative approaches to health and wellness

The metaphorical layer of the CLA explores the deeper cultural and symbolic meanings associated with the chiropractic profession. This encompasses the concept of subluxation as a metaphorical misalignment in the body

rectifiable through chiropractic care, and the central metaphor of "wellness" and "prevention" within the profession. The metaphor layer signifies the underlying images and narratives shaping the perceptions of the chiropractic profession and its stakeholders regarding the future, including metaphors such as "the spine as the key to overall health," "chiropractors as gatekeepers to natural and holistic care," and "chiropractors as underdogs fighting for recognition and respect" (Keating, 2005; Coulter et al., 2018).

At the metaphor level, the chiropractic profession confronts challenges related to the broader cultural and social context in which it operates, such as establishing cultural authority within the healthcare system and among the public. Furthermore, addressing changing patient demographics and the need for chronic care management is crucial (Bishop et al., 2019; Cifuentes et al., 2011).

Causal layered analysis underscores the complex and interconnected challenges facing the chiropractic profession at various levels. To tackle these challenges, the profession must engage in strategic foresight and action to forge a more supportive environment and establish its place within the healthcare system. This could involve efforts to enhance research and evidence-based practice, improve interprofessional collaboration, establish standardization and integration, address regulatory and reimbursement issues, and navigate the broader cultural and social context.

Chiropractic care metaphorically is a bridge between conventional medicine and alternative healing practices, offering a unique and valuable perspective on health and wellness. This metaphor highlights the profession's potential to contribute to a more integrative and holistic approach to healthcare, addressing patients' diverse needs and fostering overall well-being.

Multiple metaphors evolve depending on the worldview taken and may effectively drive strategy. The metaphor the profession selects for the preferred future drives daily practice activities, impacts cultural authority, and determines professional integration or marginalization.

CLA incasting: In this analysis, CLA explores the chiropractic profession through the lens of Spaceship Earth, Gaia, Collapsed, and Modernist perspectives.

Spaceship earth perspective. This perspective views the Earth as a finite system with limited resources requiring careful management to ensure sustainability. The chiropractic profession as a part of this system, provides natural and holistic healthcare options prioritizing prevention and wellness. Chiropractors play a role in promoting sustainability by advocating for environmentally friendly practices and encouraging patients to adopt healthy lifestyle choices in harmony with the Earth's ecosystem.

Gaia perspective. This perspective sees the Earth as a living organism that is self-regulating and interconnected. From this viewpoint, the chiropractic profession emerges as a vital part of the Earth's natural healing mechanisms. Chiropractors can help restore balance and harmony to the body's systems, allowing it to function optimally and contribute to the overall health of the planet.

Collapsed perspective: A darker view of the world emerges that highlights the consequences of unsustainable practices and systems. From this viewpoint, chiropractic is a response to the failures of modern medicine and the negative consequences of industrialization. Chiropractors play a role in addressing the health issues that arise from environmental degradation and promoting sustainable lifestyles helping prevent further damage to the Earth's ecosystems.

Modernist perspective. This perspective views the world as a series of problems requiring solutions through scientific inquiry and technological innovation. The chiropractic profession has evolved as a valuable healthcare option grounded in evidence-based research and utilizes advanced technologies to diagnose and treat health issues. Chiropractors continue to contribute to the development of new techniques and technologies that advance the field of natural healthcare.

In conclusion, analysis of the chiropractic profession through the Spaceship Earth, Gaia, Collapsed, and Modernist perspectives considers these different viewpoints and promotes a deeper understanding of the role chiropractors play in promoting sustainable and holistic healthcare practices. With this knowledge, chiropractors work towards building a more sustainable and equitable healthcare system that prioritizes the health of individuals and the planet.

PILLAR 5-Creating alternatives: For the chiropractic profession

Dator's growth, decline, discipline, and transform concepts, summarized in Table 1, serve as a useful framework for scenario development for the future of the chiropractic profession (Dator, 2009). These concepts allow stakeholders to envision multiple plausible future scenarios, helping them understand potential trajectories and challenges. By analyzing these fundamental scenarios, stakeholders can understand the potential trajectories and challenges that lie ahead. This approach fosters foresight and informed professional decision making, adaptive strategy plans, and creates a more resilient and future-ready chiropractic community.

1. Continued growth: "The Renaissance of Chiropractic Wellness"

Scenario Overview: The 21st century witnesses an unprecedented surge in the global recognition and adoption of chiropractic care. As awareness about holistic health and wellness spreads, more people are seeking alternatives to conventional medicine, and chiropractic care stands out as an evidence-based choice.

In this scenario, the chiropractic profession experiences exponential growth. Technological advancements and a rising focus on holistic, non-invasive health interventions propel chiropractic to the forefront of global healthcare. Educational institutions offering chiropractic programs multiply, and research funding in the field sees a significant uptick. With its evidence-based approach and increasing public awareness of its benefits, chiropractic care has become a primary healthcare choice for a growing percentage of the global population.

Key developments.

- *Integration with mainstream medicine:* Hospitals and clinics worldwide start including chiropractic departments, emphasizing integrated patient care.
- *Global expansion:* Previously untouched markets in Asia, Africa, and the Middle East begin to establish chiropractic colleges and research institutions.
- *Regulatory boost:* Governments endorse chiropractic care with favorable policies, insurance coverage, and public health campaigns.
- *Public awareness:* A global health and wellness movement places chiropractic care in the spotlight, with celebrities and influencers advocating its benefits.

2. Discipline: "Guardians of Chiropractic Essence"

Scenario Overview: In a world overwhelmed by rapid technological advancement and commercial healthcare, the chiropractic community chooses to recenter, focusing on preserving and cultivating its traditional essence.

In this scenario, the chiropractic profession remains stagnant, fragmented, and outdated by clinging to traditional ideologies and practices (Mirtz et al,2009). It continues to embrace unscientific metaphysical concepts and fails to achieve consensus on crucial issues resulting in increased marginalization and decreased relevance. The profession appears outdated and unscientific with diminished importance driving patients to seek alternative treatments. The profession loses its leadership as the primary complementary and alternative medicine (CAM) provider. The profession continues to be philosophy and subluxation driven, failing to embrace EBP. Turf wars continue between subluxation-based practitioners and evidence-based practitioners hampering advancements in scope, insurance reimbursements, regulatory changes, and improvements in academic and clinical education. Postgraduate training remains association and vendor based. As a result, the profession struggles to gain acceptance from the broader healthcare community and faces marginalization, becoming a peripheral and less relevant player in the healthcare system (Haldeman, 2023). There's a clear delineation between chiropractic care and other health practices, ensuring that the essence of chiropractic is preserved for future generations.

Key Developments:

- *Core curriculum revival:* Chiropractic educational institutions globally restructure curricula to focus on historical practices, philosophy, and techniques.

- *Regulated expansion:* The global chiropractic community agrees on stringent criteria for the establishment of new colleges and practices, ensuring preservation of quality and essence.
- *Community clinics:* Instead of large commercial ventures, small community-oriented chiropractic clinics become the norm.
- *Holistic retreats:* Chiropractic wellness retreats, focusing on holistic living and spinal health, gain popularity.

3. ***Collapse: "The Eclipse of Chiropractic Legacy"***

Scenario Overview: External pressures, controversies, and internal challenges precipitate a decline in the global stature of the chiropractic profession.

In this bleak scenario, the chiropractic profession faces significant setbacks. A series of unfavorable research outcomes, coupled with a rise in cases of patient dissatisfaction, leads to a decline in trust. External pressures from the broader medical community and increased regulatory scrutiny further marginalize the practice. Chiropractic schools see dwindling enrollment, and the profession struggles to define its unique value proposition in an ever-evolving healthcare landscape.

Key developments:

- *Research backlash:* A few high-profile studies question the efficacy of chiropractic interventions, leading to negative media coverage.
- *Regulatory hurdles:* Governments worldwide implement restrictive regulations making practice and education more challenging.
- *Medical community resistance:* Mainstream medical institutions and professionals launch campaigns emphasizing alternative treatments, sidelining chiropractic care.
- *Public skepticism:* Cases of malpractice, amplified by social media, further dent the profession's credibility.

4. ***Transformation: "ChiroFusion: The Nexus of Tradition and Tech"***

Scenario Overview: The chiropractic profession stands at the crossroads of innovation, embracing innovative technology without forsaking its foundational principles and establishing a niche in the healthcare system.

In this scenario, chiropractic care undergoes a transformation with the integration of advanced technologies. Virtual reality assists in training students, AI-powered diagnostic tools help in patient assessments, and bio-tech innovations enhance therapeutic techniques. This fusion of research and technology with traditional practices leads to the emergence of a new era for chiropractic care, one where the profession retains some core principles but adapts to the demands and opportunities of the 21st century becoming non-surgical spinal care experts.

Key developments:

- *Tech-enhanced diagnostics:* AI and machine learning algorithms assist chiropractors in diagnosing conditions with precision.
- *Virtual reality training:* Chiropractic students use VR to simulate patient interactions and treatments, enhancing their practical skills.
- *Bio-tech innovations:* Wearable devices provide real-time feedback on spinal health, recommending chiropractic interventions when needed.

- *Global collaboration platforms*: Digital platforms facilitate global collaboration, fostering knowledge exchange and innovation in chiropractic techniques.

Table 1: The Four Alternative Futures of the Chiropractic Profession

Scenario	Headline	Key Developments
Continued Growth	The Renaissance of Chiropractic Wellness	<ul style="list-style-type: none"> - Integration with mainstream medicine - Global expansion - Favorable regulatory boosts - Rising public awareness
Discipline	Guardians of Chiropractic Essence	<ul style="list-style-type: none"> - Revival of core chiropractic curriculum - Regulated expansion - Emergence of community clinics - Popularity of holistic retreats
Collapse	The Eclipse of Chiropractic Legacy	<ul style="list-style-type: none"> - Research backlash against chiropractic efficacy - Increasing regulatory hurdles - Medical community resistance - Rising public skepticism
Transformation	ChiroFusion: The Nexus of Tradition and Tech	<ul style="list-style-type: none"> - Tech-enhanced diagnostics with AI - Virtual Reality training for students - Bio-tech innovations with wearables - Global collaboration platforms for practitioners

PILLAR 6-Transforming: Visioning, back casting, next steps

Transforming the chiropractic profession involves addressing long-standing issues, such as standardization of care, integration into the healthcare system, and developing evidence-based practice guidelines. Transforming also involves enhancing collaboration with other healthcare providers and improving public perception and understanding of chiropractic care (Schneider et al., 2015; Hawk et al., 2019). Moreover, transforming the profession requires addressing regulatory and legal challenges and embracing technological innovations to enhance patient care and expand services (Whedon et al., 2018).

Back casting

2035: The chiropractic profession has successfully integrated into the broader healthcare system. Chiropractors work collaboratively with other healthcare providers, leveraging emerging technologies to provide patient-centered care. This integration is the result of a series of developments and trends that have shaped the chiropractic profession over the years.

2025: Chiropractic associations and organizations recognized the importance of collaboration and integration with other healthcare providers. They advocated for policies and programs that promote interdisciplinary care, such as joint clinical guidelines, multidisciplinary care teams, and shared electronic health records. Chiropractic colleges and universities responded by offering joint degree programs, combining chiropractic with other healthcare disciplines.

2020: The healthcare industry has shifted towards a patient-centered and integrated approach, emphasizing

prevention and wellness. Chiropractors played a crucial role in this transformation, promoting the integration of chiropractic care into mainstream healthcare and addressing social determinants of health. Collaborations with public health officials helped develop community-based health promotion programs and reduce health disparities.

2015: Emerging healthcare technologies began reshaping healthcare delivery. Chiropractors embraced these technologies, utilizing telehealth, artificial intelligence, and wearable devices to provide remote consultations, personalized treatment plans, and coordinated care. This allowed for increased collaboration and integration with other healthcare providers across various settings.

2010: Research and evidence-based practice gained prominence within the chiropractic profession. Associations and organizations emphasized the importance of research to improve patient outcomes and inform clinical decision-making. Chiropractors collaborated with other healthcare providers on research projects and integrated findings into their practice.

2005: Chiropractic education adapted to the changing healthcare landscape. Curriculum changes included interdisciplinary education and clinical training, highlighting collaboration and communication skills. Chiropractic students gained exposure to other healthcare disciplines through clinical rotations and joint degree programs.

2000: The chiropractic profession recognized the need for collaboration and integration. Chiropractors established professional networks with other healthcare providers and engaged in multidisciplinary conferences and workshops. Advocacy efforts focused on insurance coverage for chiropractic care and reimbursement for collaborative care models.

In summary, the future of the chiropractic profession depends on proactive, innovative, and collaborative approaches. Key concepts such as mapping, anticipation, timing, deepening, creating alternatives, and transforming are crucial for establishing cultural authority, expanding services, and integrating into the healthcare system. By understanding the historical developments and anticipating future trends, the chiropractic profession can shape its trajectory and effectively contribute to the evolving healthcare landscape.

Conclusions

In this introspective journey through the layers of the chiropractic profession, the Causal Layered Analysis (CLA) brought to light not just the prevailing dynamics but also the conspicuous 'elephants in the room.' Issues such as the debated link to strokes, subluxation definition, billable modalities, and professional rifts cast looming shadows, reminding the profession of challenges yet to be fully addressed.

Dator's scenarios, rich in narrative depth, sketch varied trajectories for the profession—from the buoyant outlook of 'Continued Growth,' to the essence-preserving 'Discipline,' from the cautionary narrative of 'Collapse,' to the innovative blend in 'Transformation.' Each scenario invites reflection, not as a deterministic future but as a spectrum of possibilities shaped by our actions, or in some cases, inactions (Dator, 2009).

For the chiropractic profession, moving forward requires not only the recognition of these unfolding narratives but also a courageous confrontation with its elephants. The profession stands at an inflection point, where silence on contentious issues could be its undoing or acknowledging them could pave the way for rejuvenation. By delving deep, challenging established paradigms, and actively co-creating its preferred futures, the profession can carve a pathway that not only respects the legacy of chiropractic care but also ensures its robust evolution.

The chiropractic profession faces the challenge of determining its future path, whether to continue with the status quo or pursue a transformative scenario as suggested by Haldeman (2023, p.24): “The question is whether the chiropractic profession is willing and able to commit to the role of the primary spine care clinician and become the first clinician the public and other health professions feel is the most qualified and most capable doctor patients should see for spine-related symptoms or concerns.” To avoid marginalization requires strong leadership and a profession-wide movement involving advancements through research, collaboration with mainstream healthcare, evidence-based education, and advocating for policies promoting integration (Haldeman et al., 2018). Embracing telehealth, integrative care, specialized training, digital health, and community outreach can improve patient outcomes and gain acceptance. By establishing evidence-based practices, building collaborative relationships, advocating for policy changes, developing specialized expertise, and embracing technology, the chiropractic profession envisions becoming an integral part of the healthcare system, providing patient-centered care that

improves musculoskeletal health and enhances overall wellness (Haldeman et al., 2018; Haldeman, 2023).

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