

**A comparative analysis of animal  
chiropractic regulation within seven  
countries**

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**Title of research as approved by Faculty**

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I, Christine du Plessis, do declare that this dissertation is representative of  
my own work in both conception and execution (except where  
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## DEDICATION

To Jesus Christ, my Lord and Saviour, who made it possible for me to complete this degree against the odds.

“I can do all things through Christ who strengthens me.”

May I always work in such a way as to bring glory and honour to Your Name.

To my family and friends who have supported ‘the student’ with so much love and encouragement, each in their own way, big or small, throughout my years of study.

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## ABSTRACT

**Introduction:** Chiropractic treatment of animals is a young and dynamic field of interest among chiropractors, veterinarians and animal owners. As a young profession, regulation of animal chiropractic is limited to only a few countries, with regulatory models in various legal paradigms. Bosman (2012) determined through a qualitative investigation that in order for the profession to grow, it would require well defined guidelines, proper governance, appropriate legislation and set educational standards. Presently there is a paucity in the literature regarding animal chiropractic regulation.

Through a comparative study of current international animal chiropractic regulatory models, possible international trends in animal chiropractic regulation can be identified. This could assist in identifying any possible shortcomings or positive developments and possible future areas of progress in the regulation of animal chiropractic.

**Aim:** To determine the regulatory status of animal chiropractic in selected countries, at statutory and professional association level, in order to ascertain whether an international trend in animal chiropractic regulation exists.

**Method:** The study was a comparative analysis. The sample consisted of ten jurisdictions spread over seven countries. These were Australia (Victoria and Queensland), Canada (Ontario and Alberta), Ireland, New Zealand, South Africa, the United Kingdom and the United States of America (Texas and California). The validated data collection sheet (Appendix B) was used to extract quantitative data through the various organisations' web pages and communication with the relevant organisations.

**Results:** The regulation of the practice of animal chiropractic was found to be in various stages of regulation, with it being unregulated or largely unregulated in three out of the ten jurisdictions included in this study. In seven out of the ten jurisdictions the regulation of the practice of animal chiropractic fell under government devolved authority to the veterinary statutory regulatory body, although regulation was not very

extensive in most of these jurisdictions. Four of the jurisdictions with regulation of the practice of animal chiropractic through government devolved authority had national animal chiropractic professional associations and two of the jurisdictions in which the practice of animal chiropractic was unregulated had a national professional association. None of these professional associations held government sanctioned authority. Statutory regulation played a more significant role in regulation of the practice of animal chiropractic in terms of the existence of codes of ethics, complaints and disciplinary procedures and CPD requirements than the national animal chiropractic professional associations did. Significance was also found in the legal requirement of registration as veterinarian or chiropractor in jurisdictions where veterinary referral was a legal requirement for chiropractic practitioners of animal chiropractic and where post-graduate animal chiropractic qualifications were only recognised by the veterinary statutory regulatory bodies if it was a legal requirement for registered veterinarians and chiropractors. No professional statutory regulatory body regulated or required regulation by educational statutory regulatory bodies or international accreditation of animal chiropractic education. The significance of national animal chiropractic professional associations was limited to their codes of ethics as it correlated with their limitation of membership by the professional association to mostly registered veterinary and chiropractic practitioners holding a post-graduate animal chiropractic qualification. Several trends were identified that could either hinder or promote the development of appropriate regulation for the practice of animal chiropractic.

**Conclusion:** From the comparison of the current animal chiropractic regulation it was found that cooperation between veterinary and chiropractic statutory regulatory bodies appears to be important for the development of suitable and effective regulation of the practice of animal chiropractic. The study suggests that there is a need for standardisation and regulation of animal chiropractic education and the definition of the animal chiropractic scope of practice. This study also suggests continuation of cooperation between chiropractors and veterinarians that has been sought since the inception of the animal chiropractic profession. Involvement of functioning national animal chiropractic professional associations with the development of appropriate regulation, defining of animal chiropractic scopes of practice and promotion of the

unity, integrity and identity of the animal chiropractic profession is recommended to achieve growth for animal chiropractic as a profession.



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## GLOSSARY

**Animal/Veterinary Chiropractic:** The science, art and philosophy concerned with good health of animals through restoration and maintenance of a properly functioning neuromusculoskeletal system, without the use of drugs or surgery. Veterinary chiropractic care is a manual therapy, used for many health and performance problems in animals. It focuses on the biomechanical dysfunction of the spine and its effect on the entire nervous system throughout the body (International Veterinary Chiropractic Association, 2016).

This study was concerned with the chiropractic treatment of animals and for the purposes of this dissertation, it was decided to use the term animal chiropractic for ease of understanding and all practitioners of chiropractic on animals regardless of the title they are allowed to use in the respective countries are included by the use of this term.

**Body of Knowledge:** Professional knowledge ascribed to a specific profession including all concepts, terms and activities of that field (Australian Qualifications Framework Council, 2013; Karseth and Nerland, 2007).

**CAMDOC Alliance:** The CAMDOC Alliance is an alliance of four major European medical complementary and alternative medicine (CAM) umbrella organisations, namely, European Committee for Homeopathy (ECH, European Council of Doctors for Plurality in Medicine (ECPM, International Council of Medical Acupuncture and Related Techniques (ICMART), International Federation of Anthroposophic Medical Associations (IVAA) (CAMDOC Alliance, 2010).

**Certification:** Also referred to as accreditation. It is the verification by an organisation or regulator that the qualification an individual holds carries the approval of the organisation by having met organisational prerequisites (Randall, 2000). This is often implemented in the form of a certification exam (Humphris et al., 2010).

**Complementary and Alternative Veterinary Medicine (CAVM):** A heterogeneous group of preventative, diagnostic, and therapeutic philosophies and practices with techniques and theoretical bases that may diverge from veterinary medicine routinely



taught in North American veterinary medical school or may differ from current scientific knowledge, or both (American Veterinary Medical Association, 2014).

**Chiropractic:** The health care profession which includes the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, and the effect of these disorders on the nervous system and general health. Manual treatment is emphasized and includes spinal adjustment and other joint and soft tissue manipulation (World Federation of Chiropractic, 2001).

**Government Administered Regulation:** Regulation of a profession or practice directly by central government (departmental) or through devolved authority to a separate governmental (statutory) regulatory body (CAMDOC Alliance, 2010; United Kingdom, 2007).

**Jurisdiction:** In the context of this study, jurisdiction mostly refers to particular geographically administered areas in law, such as countries, or states or provinces in the case of federal governments. It can also refer to the legal authority over certain territories or persons (Oxford Dictionaries, 2016; Legal Information Institute, 2016).

**Legislator:** Member of Parliament, person with the power to make laws (Australia, 2009).

**Legislature:** Combined body of legislators (Australia, 2009).

**Licensure:** A strict form of professional regulation with specific entrance criteria regarding educational standards and entrance exams, required by a statutory regulator, which provides the licensees monopoly over the practice of the profession (Randall, 2000).

**Limitations:** Restriction or restraint placed on activities through legislation in order to control certain activities (The Law Dictionary, 2016).

**Lobby:** An attempt by interested parties to influence legislators regarding enactment or amendment of legislation (The Law Dictionary, 2016).

**Primary legislation:** The rules of law as generated by governmental authority and include, but is not limited to laws, orders and regulations (Library of Congress, 2015).

**Professional Association:** An organisation formed by a group of associated professionals in order to promote, protect and represent their profession (Shaw, 2014; Matthews, 2012; Kmet et al., 2011).

**Registration:** A form of professional regulation in which one's name and details are added to a regulatory body's register, provided that the criteria for registration have been met (Humphris et al., 2010).

**Self-regulation:** A type of regulation by which non-governmental organisation (like a professional association), the professionals, or the public are responsible for the regulation (independent self-regulation) or the implementation of regulation (government-sanctioned self-regulation) of a profession or practice (CAMDOC Alliance, 2010; Ong, 2010)

**Statutory regulatory body:** A subdivision of central government with devolved power for the regulation of an area or field in order to protect the public (Professional Standards Authority, 2015; College of Registered Nurses of British Columbia, 2012)

**Vertebral Subluxation:** The Association of Chiropractic Colleges (2016) defines a subluxation as “a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health”.

## ABBREVIATIONS

<i>Abbreviation</i>	<i>Expansion</i>
%	Percentage
ABVMA	Alberta Veterinary Medical Association (CAN)
ABPA	Animal Biomechanical Professionals Australia
ACA	American Chiropractic Association
ACAC	Alberta College and Association of Chiropractic (CAN)
ACCC	Animal Chiropractic Certification Commission (USA)
ACES	Animal Chiropractic Education Source (TEX(USA))
AECC	Anglo-European Chiropractic College (UK)
AHPCSA	Allied Health Professions Council of South Africa
ALB	Alberta
AUS	Australia
AVA	Australian Veterinary Association
ASQA	Australian Skills Quality Authority
ATF	Akademie fur Tierarztliche Fortbildung (Germany)
AVCA	American Veterinary Chiropractic Association
AVMA	American Veterinary Medical Association
BCE	Board of Chiropractic Examiners (CAL(USA))
BEVA	British Equine Veterinary Association
BHI	Box Hill Institute (VIC(AUS))
BVCA	British Veterinary Chiropractic Association
CAL	California
CAM	Complementary and Alternative Medicine
CAN	Canada
CAVM	Complementary and Alternative Veterinary Medicine
CoAC	College of Animal Chiropractors
CIA	Central Intelligence Agency
CPD	Continuing Professional Development
CRNBC	College of Registered Nurses of British Columbia
CVO	College of Veterinarians of Ontario (CAN)
DUT	Durban University of Technology
GCC	General Chiropractic Council (UK)
HPRNLA	Health Practitioner Regulation National Law Act (QLD(AUS))
IRE	Ireland
IAVC	International Academy of Veterinary Chiropractic (UK)
IREC	Institutional Research and Ethics Committee
IVCA	International Veterinary Chiropractic Association
MAA	McTimoney Animal Association (UK)
MCC	McTimoney Chiropractic College (UK)
NZ	New Zealand
NZCB	New Zealand Chiropractic Board

NZQA	New Zealand Qualifications Authority
ONT	Ontario
PU	Parker University (TEX(USA))
RCC	Royal College of Chiropractors (UK)
RCVS	Royal College of Veterinary Surgeons (UK)
SA	South Africa
SACSCOC	Southern Association of Colleges and Schools Commission on Colleges (USA)
SAVA	South African Veterinary Association
SAVC	South African Veterinary Council
sEMG	Surface electromyograph
SOAP	Society of Osteopaths in Animal Practice (UK)
TBVME	Texas Board of Veterinary Medical Examiners
TEX	Texas
QAA	Quality and Assurance Authority (UK)
QLD	Queensland (AUS)
UK	United Kingdom
USA	United States of America
VCLC	Veterinary Chiropractic Learning Centre (CAN)
VCAI	Veterinary Chiropractic Association of Ireland
VCI	Veterinary Council of Ireland
VIC	Victoria (AUS)
VMB	Veterinary Medical Board (CAL(USA))
VPRBV	Veterinary Practitioners Registration Board of Victoria (AUS)
VRQA	Victoria Registration and Qualifications Authority (AUS)
VSQB	Veterinary Surgeons Board of Queensland (AUS)

# CHAPTER 1 : INTRODUCTION

## 1.1 Background and context of the study

Chiropractic is a unique profession in that it is a conservative approach to neuromusculoskeletal conditions in which high velocity low amplitude specific adjustments of joints are the general focus of its manual treatment modalities (Yeomans, 2013; World Health Organization, 2005; Painter, 2003; World Federation of Chiropractic, 2001). Although the chiropractic profession is now the third largest profession in primary human healthcare (International Chiropractors Association, 2016; California, 2015; Redwood, 2010), its safety has been proven (World Health Organization, 2005; Haldeman et al., 2001; Dabbs and Lauretti, 1995) and integration is starting to take place (Garner et al., 2008; Langworthy and Smink, 2000), it has faced much adversity in gaining acceptance from its greater professional community throughout its existence (Ernst, 2008).

Like its human counterpart, the animal chiropractic profession is faced with the challenge of finding its identity and establishing itself within its greater professional community (Stephens, 2014; Bosman, 2012). The animal chiropractic situation is unique in that the profession uses theories and therapeutic techniques applied in human chiropractic (BackBone-Academy, 2014; Callender, 2014) to treat the neuromusculoskeletal conditions of animals in a conservative manner (International Veterinary Chiropractic Association, 2016), which is not provided for in traditional veterinary medicine (Hausler, 2000).

The consistently positive clinical results obtained with the chiropractic treatment of animals were sufficient grounds to establish the animal chiropractic profession (Willoughby, 2002). Research shows a notable demand for chiropractic treatment among animal owners (Snow, 2013; Bosman, 2012; Meredith et al., 2011; Rome and McKibbin, 2011).

Collaboration between veterinarians and chiropractors in animal chiropractic practice and education was, and still is, considered essential by the animal chiropractic profession (American Veterinary Chiropractic Association, 2016; International

Veterinary Chiropractic Association, 2016; Bosman, 2012; Taverner, 2011; Willoughby, 2002). Studies have shown that professionals from both professions are positive about the integration of animal chiropractic (American Chiropractic Association, 2001; Taverner, 2011), yet the practice of animal chiropractic is perceived as unscientific by critics in the veterinary field (Stephens, 2014; Kjellin and Kjellin, 2012) and a threat to the ethics of the veterinary profession (Stephens, 2014). Furthermore, the chiropractic profession seems undecided as to which professional community animal chiropractic should fall under, although most chiropractors agree that animal chiropractic should be available as future specialisation for chiropractors (Maurer, 2001). Animal chiropractic may need to assert itself as a profession, clarify under which greater professional community the animal chiropractic profession belongs and determine who should regulate its practice.

Since the credibility and acceptance of a profession is greatly influenced by its regulation (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010) and the need for regulation for the animal chiropractic profession has been identified (Bosman, 2012; Taverner, 2011), this dissertation investigates the regulation of animal chiropractic internationally and the relationship this has with the status of animal chiropractic as a profession.

## **1.2 Research question**

What is the status quo of the regulation of the practice of animal chiropractic internationally and the regulatory roles of the relevant statutory regulatory bodies and professional associations?

## **1.3 Research aim**

The aim of this study was to determine current animal chiropractic regulation (by statutory regulatory bodies and/or professional associations) in selected countries, in order to identify international trends in animal chiropractic regulation.

## **1.4 Research objectives**

The objectives of this study were as follows:

- **Objective One:** To determine the regulatory role of the statutory body on animal chiropractic (education, registration, discipline, code of ethics, scope of practice and continuing professional development) in the selected countries.
- **Objective Two:** To determine the regulatory role of professional associations on animal chiropractic in the selected countries.
- **Objective Three:** To compare the selected countries to identify international trends in animal chiropractic regulation.

### **1.5 Rationale of this study**

This study provides an overview of the regulatory status in the selected countries regarding the animal chiropractic profession as it pertains to legislation, education and the professional associations and highlights any existing trends in animal chiropractic regulation. Trends in existing animal chiropractic regulation can be helpful in establishing which regulations are best suited to promote the establishment and development of the animal chiropractic profession in countries with no or limited animal chiropractic regulation.

Professional associations exist independent from legislation and serve to lobby for appropriate legislation regulating a profession, but can also be responsible for complete regulation of the profession. This study considers the extent of involvement of the professional association in the regulation and establishment of the animal chiropractic profession.

### **1.6 Significance of the study**

There is a paucity in statistics regarding the current status of animal chiropractic and its regulation internationally (Chapman-Smith, Secretary-General, World Federation of Chiropractic, 2015, pers.comm. 16 February). This study could contribute to the understanding of current legislation regarding the practice of chiropractic for animals, globally, and could be useful in the development of future legal frameworks for the practice of animal chiropractic.

## **1.7 Outline of chapters**

This chapter described the scope of interest of this study and the background, research question, aim, objectives, rationale and significance of the study. Chapter Two discusses related literature to this study, followed by Chapter Three in which the methodology used to structure this study is described. Chapter Four presents the results of this study and Chapter Five discusses the results of the study. Chapter Six concludes the study, highlights the limitations of the study and provides recommendations based on the results. The references and related appendices are at the end of the dissertation.



## **CHAPTER 2 : LITERATURE REVIEW**

### **2.1 Introduction**

A profession is a vocation based on a clearly defined and advanced body of knowledge (Macdonald, 2013). The following is needed for a profession to be able to declare itself as such: a code of ethics; complaints and disciplinary procedures; a clearly defined scope of practice; specified educational requirements through certification and/or other entry requirements; a distinct body of knowledge; published research and evidence-based practice; availability of education; the presence of specialities being formed within the profession; a uniting purpose and agreed upon identity; recognition of its title; acknowledgment and approval of its authority by the public and the greater professional community and advocacy of the above through a functioning professional association (Matthews,2012; United Kingdom, 2007; Rops, 2004).

In this chapter, relevant existing literature regarding the profession, professional regulation, statutory regulatory bodies, professional associations, education and the animal chiropractic profession will be reviewed.

### **2.2 Regulation**

The regulation of a profession includes not only regulation through active involvement of the government by statutory regulatory bodies (Volden and Wiseman, 2012) but also through independent non-governmental bodies, such as professional associations (Ong, 2010; World Health Professions Conference on Regulation, 2008).

#### **2.2.1 The statutory regulatory body**

Statutory regulatory bodies are governmental subdivisions that hold devolved regulatory authority through legislation from central government, in order to assure the safety and protection of the public and patients (College of Registered Nurses of British Columbia, 2012; Kmet et al., 2011, Humphris et al., 2010).

### **2.2.1.1 The role of the statutory regulatory body in regulation**

The central task of any statutory regulatory body is to ensure the public interest is protected and is achieved by setting professional practice standards and professional codes of ethics through legislation (Professional Standards Authority, 2015; United Kingdom, 2007). For effective regulation, the statutory regulatory body must develop complaints and disciplinary procedures (Ong, 2010; Schultze, 2007). The statutory regulatory body can also define the profession's scope of practice (Humphris et al., 2010), specify registration requirements for professionals wanting to enter the statutory regulator's register (Ong, 2010; Schultze, 2007) and set and enforce criteria for continued registration (United Kingdom, 2007; Randall, 2000).

Requirements for continued registration are increasingly in the form of continuing professional development (CPD) requirements (World Health Organization, 2013; Kmet et al., 2011). Further roles of the statutory regulatory body are identification of educational programs recognised by the statutory regulatory body (Humphris et al., 2010) and/or setting of educational standards for educational institutions (United Kingdom, 2007).

It is recommended that the statutory regulatory body must be able to work in cooperation with various stakeholders in the profession in the regulation of a profession, including existing professional associations (Professional Standards Authority, 2015; World Health Organization, 2013; United Kingdom, 2007).

### **2.2.2 The professional association**

Professional associations are voluntary organisations established by a group of associated professionals with the aim of representing, protecting and advancing the profession (Shaw, 2014; Matthews, 2012; Kmet et al., 2011).

#### **2.2.2.1 The role of the professional association in regulation**

The pivotal task of a professional association is to promote and represent the profession through interaction with governmental, professional, educational or other bodies (Matthews, 2012; Umaphy and Ritzhaupt, 2011; Dickson and Arcodia, 2010). Professional associations often act as lobbyists in the process of getting a profession regulated (Nerland and Karseth, 2015; Australia, 2009; Rops, 2004), ensure

adherence to legislation, provide professional protection by providing for legal responsibility towards the public, are involved with accreditation for education and training, advocate inter-professional relationships (Bosman, 2012; Kmet et al., 2011), and provide networking opportunities for members (Lukes and Moore, 2010).

The involvement of professional associations has considerable influence over the regulatory process and growing significance in regulation (Humphris et al., 2010; Ong, 2010) and provides a united voice by which professionals can address legislative matters (Lukes and Moore, 2010). The main rationale behind regulation is protection of the public (Kmet, et al., 2011; Randall, 2000) and this is usually the principal supporting motivation driving proposed legislation (Rops, 2004; Randall, 2000). An actively engaged professional association can provide much needed leadership in the process of obtaining statutory regulation for its profession (Rops, 2004).

### **2.3 The need for regulation**

A profession should be regulated if there is a possibility of harm to the public, should the profession be practiced by an unskilled person (Professionals Standards Authority, 2015; Kmet et al., 2011; Ong, 2010; United Kingdom, 2007; Randall, 2000). There is consensus in the literature that the extent of regulation should match the possible risk involved by practicing the profession (Professionals Standards Authority, 2015; Kmet et al., 2011; Ong, 2010; United Kingdom, 2007; Randall, 2000). By regulating a profession, the public is assured that set standards will provide them with quality service and protection (Granger and Watkins, 2014) and recognition of the profession is signified through regulation, providing it with credibility (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010).

The focus of the professional association on advocating the profession, and the concern of the statutory regulatory body regarding protection of the public, is equally important in achieving the above and ultimately to serve the public ethically and competently (Kmet et al., 2011; Randall, 2000). Cooperative work between the statutory regulatory body and other stakeholders can be challenging as expectations of which type of regulation would best serve the profession often vary amongst the stakeholders (Nerland and Karseth, 2015), and furthermore, cooperative work becomes very difficult with over regulation (Professional Standards Authority, 2015).

When considering regulation of a profession, legislators may review, among others, the following criteria: the type of regulation that would be most beneficial and practical for regulation of this profession and whether existing legislation can be adapted to solve the matter, and the extent to which the profession meets the criteria for a profession (Ong, 2010; United Kingdom, 2007; Rops, 2004).

## **2.4 Types of regulation**

There are various types of regulation for professions, and the involvement of government varies with each type (CAMDOC Alliance, 2010; Ong, 2010). Legal paradigms applied to health professions must create an impartial framework in which public trust in the practitioner is retained (United Kingdom, 2007). The types of regulation include: no regulation (Ong, 2010), independent self-regulation – also referred to as voluntary or ‘pure’ self-regulation (Granger and Watkins, 2014; Ong, 2010; CAMDOC Alliance, 2010), government-sanctioned self-regulation (CAMDOC Alliance, 2010; Ong, 2010; Randall, 2000), government devolved authority to a separate statutory regulatory body (Humphris et al., 2010; United Kingdom, 2007), and direct government administered regulation (CAMDOC Alliance, 2010).

Ong (2010) found no clear process for the implementation of legislation, but instead, noted a shift in legal paradigms used. It is proposed that alternative regulatory systems, like self-regulation, be considered (Professional Standards Authority, 2015; Ong, 2010; Randall, 2000).

### **2.4.1 Self-regulation**

Self-regulation is used when governmental administration of regulation is inadequate or absent (Volden and Wiseman, 2012). The main rationale for self-regulation is that the professionals are best equipped with expert knowledge to determine standards for the profession (Ong, 2010; Randall, 2000). Since the professional association is concerned with advocacy of the profession, it has significant motivation to enforce proper disciplinary procedures in order to maintain high standards within the profession (Kmet et al., 2011; Schultze, 2007). Two types of self-regulation, independent self-regulation and government-sanctioned self-regulation, were identified by the CAMDOC Alliance (2010).

Independent self-regulation means the regulation of the profession is administered by a non-governmental organisation, the professional association or the public (Granger and Watkins, 2014; CAMDOC Alliance, 2010; Ong, 2010; Rops, 2004). This type of regulation is voluntary with no existing governmental agreement (Granger and Watkins, 2014; Ong, 2010). Independent self-regulatory bodies, like professional associations, endeavour to provide the public with the services typically rendered by statutory regulatory bodies in order to acquire credibility for the profession (Granger and Watkins, 2014; CAMDOC Alliance, 2010; Ong, 2010). Weak disciplinary compliance due to lack of legal enforcement of disciplinary action by professional associations, decreased transparency due to no requirement of accountability to external bodies and decreased healthy competition within the profession are limitations to self-regulation (World Health Professions Conference on Regulation, 2008).

With government-sanctioned self-regulation various levels of government involvement exist (Ong, 2010; Randall, 2000), and the responsibility to administer the regulation has been delegated by government through legislation to the professional association (Kmet et al., 2011; CAMDOC Alliance, 2010; Ong, 2010). Since the professional association's role is advocacy of the profession and the responsibility of a statutory regulatory body is protection of the public (Kmet, et al., 2011), possible conflict of interest may arise when independent or government-sanctioned self-regulation is used. For this reason, separate statutory bodies and professional associations are recommended (College of Registered Nurses of British Columbia, 2012; Kmet, et al., 2011; Schultze, 2007).

Benefits of self-regulation include the ability to adjust more efficiently to shifting market demands and presenting problems (Ong, 2010; World Health Professions Conference on Regulation, 2008); more independence and control over the profession, allowing it to determine levels of standards, entry requirements, and actions of individual professionals, especially regarding supervision (Ong, 2010; Randall, 2000); better recognition of risk areas in the profession regarding policy, practice or the public; greater compliance from the individuals within the profession (Ong, 2010; World Health Professions Conference on Regulation, 2008); and providing the profession with a pathway to communicate with government (Randall, 2000).

#### **2.4.2 Government administered regulation**

Government administered regulation relies heavily on primary legislation to achieve its objectives (Professional Standards Authority, 2015). Primary legislation could be chosen as a regulatory option if the matter needs to be legislated in the long term, if the matter is of extreme importance, or if amendments to legislation are required (Australia, 2009).

Various approaches in legislation can be used separately or in combination with the regulation of a profession (Humphris et al., 2010; World Health Professions Conference on Regulation, 2008; Rops, 2004). Regulation imposed by a Title Act grants a profession protection of its title (Humphris et al., 2010; Rops, 2004) with no specific scope of practice linked to the title, but it helps the public in utilising the service of only professionals that have met legal entry requirements (Rops, 2004).

Legislation can be implemented through a Practice Act, in which the defined acts of practice are protected and only allowed by individuals from a certain profession (Humphris et al., 2010; Rops, 2004), usually after meeting legal requirements to enter the profession (Rops, 2004). This legislation is based on a profession's scope of practice and is mostly used in cases where unskilled activity can cause considerable harm (Rops, 2004). Conversely, if the practice of the profession is low-risk legislation can consist of the professional having to only meet legal entry requirements in order to register (Rops, 2004). Furthermore, regulation can be instated through limitations, exemptions and/or special rules (Rops, 2004). Limitations control activities or the extent of an activity permitted to be performed by an individual through legislation (The Law Dictionary, 2016).

Restraint on activities or scope of practice can be achieved by legislation requiring the supervision of a professional by another professional (Texas, 2014; Alberta Veterinary Medical Association, 2010; College of Veterinarians of Ontario, 2009). Supervision can function at various levels: general or indirect, in which the supervising professional must be available for communication with the practicing professional; direct, in which the supervising professional must be on the same premises as the practicing professional; immediate, in which the supervising professional must be within visual and audible reach of the practicing professional (Texas, 2014).

Additionally, the Alberta Veterinary Medical Association (Alberta Veterinary Medical Association, 2010) and the College of Veterinarians of Ontario (College of Veterinarians of Ontario, 2009) require several other factors to be taken into consideration when determining the appropriate level of supervision. These include the nature of the practice and the extent of risk associated with it, the level of knowledge regarding the practice of the supervising veterinarian, the level of competence and ongoing education of the Complementary and Alternative Veterinary Medicine (CAVM) practitioner and the accountability of the CAVM practitioner to his/her own self-regulating body.

The general limitations of primary legislation is that it can be hard to manage and restrictive to change (Professional Standards Authority, 2015). Other shortcomings identified included the inability to define the problem at hand precisely; inadequate risk evaluation methods of the professions; ambiguity; inability to provide for all probable scenarios on the one hand, and its complexity and inflexibility on the other hand; disregard of unforeseen consequences; tardy disciplinary action in some instances; high associated expense; and not amending existing legislation but rather creating legislation (Professional Standards Authority, 2015; World Health Professions Conference on Regulation, 2008).

#### **2.4.2.1 Amendments of legislation**

From time to time changes to legislation may be necessary, and this is achieved through amendments to or repealing of legislation by equally weighted legislation (Australia, 2011). Amendments are revision and modification made to bills or acts (The Law Dictionary, 2016), whereas repealing of legislation refers to its discontinuation by reversal through a repealing act when the legislation is being updated or is no longer of use (The Law Dictionary, 2016; Australia, 2011).

New legislation or amendments to legislation can be influenced by insights arising from the study of legal history. Legal history is necessary to expose co-existence of differing or opposing historical legislative views; to provide deeper understanding of legislation by highlighting that development in current legislation must be seen in the context of historical legislative unforeseen events and not in isolation, yet that current law is also sovereign in nature and acts independent in relation to historical changes and

legislation itself; and to provide appreciation of how this understanding of past issues can promote advancement in law (Phillips, 2010).

### **2.4.3 Animal chiropractic regulation**

In the early years of the chiropractic profession, rising pressure from the medical boards resulted in the profession's focus being on getting the chiropractic profession legalised for humans (Callender, 2014) which subsequently, in some jurisdictions, limited chiropractic treatment to only humans (Callender, 2014; Maurer, 2001). This created the notion that chiropractic treatment is human specific (Ramey and Rollin, 2004), thus stalling the progression of regulation for the animal chiropractic profession (Willoughby, 2002).

Countries that have some form of regulation for the practice of animal chiropractic include, but are not limited to: Austria, Canada, Denmark, Germany, Ireland, Japan, New Zealand, South Africa, Sweden, the United Kingdom (UK) and the United States of America (USA) (International Veterinary Chiropractic Association, 2016). Most jurisdictions that do allow the chiropractic treatment of animals, allow it to be performed only by suitably qualified and licensed animal chiropractors under referral from or direct supervision of a veterinarian (Fiala, 2007), of which Louisiana (USA) (Rouge, 2012) and South Africa (Bosman, 2012) are examples.

In a survey conducted by the American Chiropractic Association (ACA) (n=75), 23% of the chiropractor respondents indicated that animal chiropractic could be practiced in their state, however the treatment of animals by chiropractors in the USA was prohibited legally according to just over half the respondents (56%) due to chiropractic regulatory bodies limiting chiropractic treatment to humans only and veterinary regulatory bodies claiming that chiropractic treatment of animals falls within the scope of veterinary practice (Maurer, 2001). Some states did allow chiropractic treatment of animals by chiropractors under some level of supervision by a veterinarian (Maurer, 2001). The stated position of the Australian Veterinary Association (AVA) recommended that a veterinarian should examine an animal prior to CAVM treatment by a non-veterinarian (Australian Veterinary Association, 2012).

In 2008 only a minority of jurisdictions, of which Oklahoma (USA) (Schultz, 2008) is an example, allowed the chiropractic treatment of animals to be practiced



independently without referral from a veterinarian provided the treatment was performed by a suitably qualified and licensed animal chiropractor.

Some jurisdictions have no regulation and the treatment of animals by chiropractors is prohibited or restricted by veterinary and/or chiropractic legislation, as is the case in some European Union countries or some states in the USA, thus making it illegal (Maurer, 2001; Mills, 2001). The majority of countries have no regulation regarding the chiropractic treatment of animals (Maurer, 2001). Taverner (2011) found that 62.4% of the veterinarian respondents in his quantitative study regarding the perception of veterinarians towards animal chiropractic in South Africa believed that the South African Veterinary Council (SAVC) should govern animal chiropractic and recommended that statutory regulatory bodies are needed in each jurisdiction to properly regulate the animal chiropractic profession.

## **2.5 Animal chiropractic as a profession**

With the formal establishment of the animal chiropractic profession in 1986 the need for education, codes of ethics, research, acknowledgement, unification and identity was identified (Willoughby, 2002). According to Ernst (2008), critical evaluation is required in order for a profession to make progress. The rest of this chapter will consider each of the aforementioned criteria to affirm a profession as such and evaluate the application of these criteria to the animal chiropractic profession.

The criteria are: a code of ethics; complaints and disciplinary procedures; a clearly defined scope of practice; specified educational requirements through certification and/or other entry requirements; a distinct body of knowledge; published research and evidence-based practice; availability of education; the presence of specialities being formed within the profession; a uniting purpose and agreed upon identity; recognition of its title; acknowledgment and approval of its authority by the public and the greater professional community and advocacy of the above through a functioning professional association (Matthews, 2012; United Kingdom, 2007; Rops, 2004).

### **2.5.1 Codes of ethics**

The greatest role of regulation should always be that of upholding the public interest (Kmet et al., 2011; Randall, 2000). This responsibility is most frequently attained by

implementation and enforcement of a professional code of ethics (Ong, 2010; Randall, 2000) through statutory regulation (Professional Standards Authority, 2015; United Kingdom, 2007) and/or self-regulation (Ong, 2010). The code of ethics delineates the moral and practice standards that professionals are required to adhere to in order for the professional to provide competent service in an ethical manner in order to attain protection for the public (Professional Standards Authority, 2015; Volden and Wiseman, 2012; Schultze, 2007).

Within a professional association, professional ethical codes or codes of conduct are collective agreements between the members of the professional association to commit themselves to upholding a predetermined set of standards (Thacher, 2013). In its interaction with legislators, the professional association is instrumental in establishing professional codes of ethics (Umapathy and Ritzhaupt, 2011).

No literature was found regarding the codes of ethics of the animal chiropractic profession, but a few animal chiropractic professional associations have defined codes of ethics (British Veterinary Chiropractic Association, 2016; International Veterinary Chiropractic Association, 2016; McTimoney Animal Association, 2016).

### **2.5.2 Complaints and disciplinary procedure**

Complaints and disciplinary procedures allow the public to voice grievances regarding the profession or its professionals (Randall, 2000). For effective regulation, complaints and disciplinary procedures must ensure that the defined code of ethics is upheld and misconduct is investigated and appropriate action taken (Ong, 2010; Schultze, 2007; Rops, 2004).

Although literature regarding complaints and disciplinary procedures of the animal chiropractic profession was absent, the importance of disciplinary procedures has been acknowledged by some animal chiropractic professional associations and complaints and disciplinary procedures are present in these professional associations (British Veterinary Chiropractic Association, 2016; International Veterinary Chiropractic Association, 2016).

### **2.5.3 Scope of practice**

The regulation of a new field or profession often results in discussion over scope of practice, as regulation aims to define who is legally allowed to perform certain procedures (Rops, 2004). The statutory regulatory body defines the activities ascribed specifically to a particular profession (Humphris et al., 2010), but through its interaction with legislators the professional association is instrumental in establishing professional scopes of practice (Umapathy and Ritzhaupt, 2011).

Limitations on the scope of practice imposed by legislation limits what professionals are rationally allowed to do (Rops, 2004) and, if overly strict, can lead to negative effects on a profession which could decrease the extent of the availability of the service (United States of America, 2015; Rops, 2004). Inhibition of the professional's judgement and curbing of innovative practice through legislative limitations, like legal requirement of supervision, can lead to further limitation of the scope of practice (Professional Standards Authority, 2015).

Some critics are of the opinion that CAVM should not be included in the scope of veterinary medicine as it is considered a non-science-based alternative medical approach (Ramey and Rollin, 2004). According to Haussler (2000), traditional veterinary medicine does not provide for the conservative care for neuromusculoskeletal and joint disorders that chiropractic offers, yet the scope of practice of animal chiropractic is still largely undefined and needs further research to substantiate its use.

In a survey conducted by the ACA, 57% of chiropractor respondents felt that the chiropractic scope of practice according to the Chiropractic Practice Act should not be changed to include the chiropractic treatment of animals, 20% felt that more discussion on the topic was needed and 23% felt the chiropractic scope of practice should include animal chiropractic (Maurer, 2001).

Literature regarding the scope of practice for the animal chiropractic profession is limited and the small number of published studies regarding the efficacy of manual therapies and specifics of treatment modalities highlight the need for research in order to define the scope of practice of the profession (Haussler, 2009; Maurer, 2001; Haussler, 2000). However, animal chiropractic continues to provide the kind of

conservative manual care for neuromusculoskeletal disorders to animals that is still not accommodated for in traditional veterinary education (BackBone-Academy, 2004).

#### **2.5.4 Educational standards, certification and other registration requirements**

The statutory regulatory body can define registration requirements for professionals wanting to enter the statutory regulator's register (Ong, 2010, Schultze, 2007), in order to protect the public (United Kingdom, 2007). The various levels of requirements for registration could include registration, licensure, accreditation and/or certification of courses (World Health Organization, 2013; Humphris et al., 2010; Schultze, 2007). This may include setting of educational standards (United Kingdom, 2007), writing of certifying or board exams (Randall, 2000), demonstrating work experience, or presenting of criminal or medical records (World Health Organization, 2013; Humphris et al., 2010). Requisites for continued registration are often in the form of CPD requirements (World Health Organization, 2013; Kmet et al., 2011)

Setting educational standards and CPD requirements ensure high quality professionals are available to the public (Kmet et al., 2011; United Kingdom, 2007). CPD is an increasingly implemented statutory requirement and in recent years the professional association has become instrumental in making CPD opportunities available to its members (Nerland and Karseth, 2015; Matthews, 2012).

Setting educational standards for educational institutions is required of the statutory regulatory body of the profession by central government, expecting professional and educational statutory regulatory bodies to work in cooperation (United Kingdom, 2007). The setting of standards for and the regulation of a profession's education is important, since ultimately, regulation in health professions is considered to be a continuation of the standards required in education (United Kingdom, 2007). Adherence to the standards stipulated by accreditation and/or statutory regulation greatly influences the quality of education and competence of professionals (World Health Organization, 2013).

Humphris et al (2010) found that the licensing of a profession had no positive consequences on service excellence, yet service fees were increased, subsequently leading to the recommendation that regulators consider alternatives such as certification. Professional associations can also set certification as membership

requirements (Kmet et al., 2011; Rops, 2004). However, statutory regulatory bodies prefer comprehensive certification, and, consequently, having various certifying bodies can prove problematic (Rops, 2004). Although certification by professional associations increases the acceptance of the profession (Nerland and Karseth, 2015; Kmet et al., 2011; Morris et al., 2006) and setting of certification and other requirements assures the public of a certain extent of quality, it will not offer the profession the security that comes with governmental regulation (Rops, 2004).

Regarding the animal chiropractic profession, certification of suitably trained animal chiropractors was awarded for the first time in 1991 by the American Veterinary Chiropractic Association (AVCA) (Callender, 2014). Currently, certifications for animal chiropractors are available through the Animal Chiropractic Certification Commission (ACCC) of the AVCA (American Veterinary Chiropractic Association, 2016), the College of Animal Chiropractors (CoAC) (College of Animal Chiropractors, 2016) and the International Veterinary Chiropractic Association (International Veterinary Chiropractic Association, 2016) and these bodies have set CPD requirements. Literature regarding educational standards, licensure, certification and other requirements within the animal chiropractic profession is scarce and no accrediting body for animal chiropractic courses have been found. This can be challenging for the animal chiropractic profession, considering the importance of good standards in education in order to seek regulation (Rops, 2004).

### **2.5.5 Body of knowledge**

Professions are defined by their body of knowledge as it is used to outline, protect and maintain the profession's scope of practice, professional practice standards and competence through CPD and education (Karseth and Nerland, 2007; Morris et al., 2006). Umapathy and Ritzhaupt (2011) found that the professional association has a very important role in the development and regulation of professional knowledge and Karseth and Nerland (2007) found that a profession's validity and quality lies greatly in its capacity to manage its body of knowledge. Through the professional association, the standing of a profession in its wider public and professional community is furthermore influenced by the management of the profession's defined body of knowledge (Nerland and Karseth, 2015; Kmet et al., 2011; Morris et al., 2006).

The interaction and relationships of the professional association with other bodies, such as the statutory regulatory body and educational institutions, is very important in the professional association's role to promote and manage its body of knowledge (Karseth and Nerland, 2007). The professional association may provide guidelines for curricula standards at educational institutions to the relevant statutory regulatory body (Umapathy and Ritzhaupt, 2011; Dickson and Arcodia, 2010) and the statutory regulatory body may stipulate the curriculum and practical component of courses (Churchman and Woodhouse, 1998). A direct regulatory approach, although providing a definite structure, could restrict the professional's ability to incorporate new knowledge in decision-making in practice, whereas a self-regulatory approach enables the professional to adapt with the changing body of knowledge, leaving room for professional judgement (Karseth and Nerland, 2007).

The body of knowledge is traditionally based on academic knowledge, but other sources of knowledge such as practice-based and personal knowledge play an increasingly important role (Karseth and Nerland, 2007). The body of knowledge is instrumental in outlining the scope of practice and thus overemphasis of the academic component can have a limiting effect on the practical application of knowledge (Morris et al., 2006). For the professional association to contribute in keeping the advancements in the body of knowledge acknowledged by the statutory regulatory body there must be collaboration between the statutory regulatory body, educational institutions and the professional association (Karseth and Nerland, 2007; Churchman and Woodhouse, 1998). As much as the professional association must keep the body of knowledge reliable and up to date, advancement in a profession's body of knowledge must be justified through external validation (Karseth and Nerland, 2007; Morris et al., 2006).

D.D. Palmer, who is considered to be the founder of the chiropractic profession, proposed in his journals, *The Chiropractor's Adjuster* and *The Chiropractic*, that based on the similarities of humans and animals regarding the presence of vertebrae and nervous systems in both, the same principles regarding the vertebral subluxations, and thus the same body of knowledge, that applied to humans, could be applied to animals (History of Animal Chiropractic, 2014, Callender, 2014; Ramey and Rollin, 2004; Wardwell, 1992). In recent years, most of the animal chiropractic course curriculum offered at some educational institutions is based on chiropractic theories

and techniques and these are used to back the results obtained in the treatment of animals (BackBone-Academy, 2004). In their unpublished appraisal of two animal chiropractic courses, Kjellin and Kjellin (2012) stated that animal chiropractic is poorly defined and based on a belief system which combines science and pseudoscience and is thus not researchable.

The validation through research a profession requires (Karseth and Nerland, 2007; Morris et al., 2006) is lacking in the body of knowledge of the animal chiropractic profession. This will need attention from the members of the profession in order to establish its scope of practice and practice standards (Karseth and Nerland, 2007; Morris et al., 2006) which will be instrumental in increasing regard for the profession from the public and greater professional community (Nerland and Karseth, 2015; Kmet et al., 2011).

#### **2.5.6 Published research and evidence-based practice**

Research should add to and shape the existing body of knowledge and the professional association can contribute to this by providing funding for research (Morris et al., 2006). The professional association can also assist in this by having its own research publication or by publishing books (Matthews, 2012). The extent of the publishing of results has a big influence on whether the new information will be incorporated into the body of knowledge and thus into educational institutions (Morris et al., 2006) and the scope of practice (Hausler, 2000).

The first unofficial research on animal chiropractic was conducted by a Palmer School of Chiropractic student, Myles Medford, in 1952, with unofficial support of the International Chiropractic Association (ICA) (Callender, 2014). Conducting research on the chiropractic treatment of animals is important as it can determine the utilisation of the animal chiropractic profession (Hausler, 2000). The fact that animal chiropractic has little research was acknowledged by the ACA survey respondents and 63% respondents felt that funds for research on chiropractic for animals should be made available (Maurer, 2001). Rome and McKibbin (2011) identified the lack of high-level research that focuses on the animal as patient, but added that comprehensive studies on spinal manipulation in which animals were the research subjects have been done.

Some published research that was found include a study conducted by Keller et al (2006) in which significant favourable results were obtained regarding the three-dimensional vertebral motion as measured in sheep, a study done by Gomez Alvarez et al. (2008) found that chiropractic treatment of horses had a significant effect on improving the kinematics of the pelvis and thoracolumbar spine. A study conducted by Lesimple et al. (2012) found a high correlation between the accuracy of chiropractic and surface electromyography (sEMG) examinations in detecting back pain in horses, and a study conducted by Langstone, Ellis and Cunliffe (2015) on the effect chiropractic treatment had on the splenius muscle of horses found significant results in the treatment group but no significance in the control group.

According to the literature original research must be actively published in order for a profession to establish its identity in its greater professional community (Fred and Fred, 1997). The animal chiropractic profession has recognized this need and although the number of published research studies regarding the chiropractic treatment is still small, the profession is continually producing some research.

### **2.5.7 Availability of education**

Seeking to attain regulation can be very challenging for a profession if the availability and quality of its education is inadequate (Rops, 2004). Professional higher educational institutions focus on teaching the body of knowledge of the profession and the practical application thereof to the professional (Churchman and Woodhouse, 1998). Although the statutory regulatory body is responsible for setting educational standards in order to ensure quality courses (World Health Organization, 2013), the statutory regulatory bodies were found to avoid being too rigid in their regulation of a profession's education (Churchman and Woodhouse, 1998).

Graduate and post graduate certificates, and graduate and post graduate diplomas are classified to have a credit value of 60 credits and 120 credits respectively and a master's degree to have a credit value of 180 credits (New Zealand Qualifications Authority, 2012). One credit is generally considered to be equal to ten hours of learning (New Zealand Qualifications Authority, 2012; Tuck, 2007) and includes all forms of directed learning, self-directed learning and assessments (Tuck, 2007).



The educational institution is responsible for delivering quality education (Churchman and Woodhouse, 1998) and must ensure that the structure of a course does not overstate the academic part of knowledge as this can limit the practical application of knowledge and thus be detrimental to the profession (Morris et al., 2006; Churchman and Woodhouse, 1998). Furthermore, the educational institution must subject itself to regular internal review, taking research and wider educational development into account (Higher Education Quality Committee, 2004; Churchman and Woodhouse, 1998).

The first one month course for animal chiropractic was formulated to be offered at Palmer School of Chiropractic in the early days of the chiropractic profession, to which a Doctor of Chiropractic Veterinary (D.C.V) diploma would be awarded and would be open to chiropractors and veterinarians (History of Animal Chiropractic, 2014; Callender, 2014; Keating, 2004). Sources vary regarding which year the course was developed, but it is estimated to have been around 1905 (Callender, 2014; Keating, 2004). It is not recorded whether anybody obtained this qualification (Callender, 2014). Nonetheless, the first dually qualified practitioner was Dr S.H. Miller, a qualified veterinarian who proceeded to graduate from Palmer School of Chiropractic as a chiropractor in June, 1912 (Callender, 2014). There is record of an advertisement aimed at recruiting veterinarians to study a course in chiropractic in 1923, although the chiropractic school was not specified (Callender, 2014; Ramey and Rollin, 2004).

Dr Sharon Willoughby formulated the first official 100-hour post graduate animal chiropractic course, available to chiropractors and veterinarians, in 1986 (Willoughby, 2002). This is believed to be when the animal chiropractic profession was formally established (Callender, 2014; McCarthy, 2008).

The majority (71%) of American chiropractors felt that the animal chiropractic option should be available as specialisation to chiropractors in the future and 57% respondents felt that the 100-hour course was not sufficient to train a chiropractor to treat animals. The chiropractic respondents who took part in the survey were divided as to whether chiropractic associations and schools would sponsor or offer post-graduate animal chiropractic courses with 37% saying yes, 31% saying no and 32% saying they were undecided, limitation by legislation being the main reason for respondents saying no (Maurer, 2001). The survey also showed that only 48%

respondents were aware that post-graduate courses for animal chiropractic existed (Maurer, 2001).

Taverner (2011) found in his quantitative perception study (n=254) that 84.4% of the veterinarian respondents in South Africa were in favour of a course for animal chiropractic to be formed in this country, 75.1% thought that both chiropractors and veterinarians should be able to attend this course and 49.1% of the respondents said they would attend this course.

It is encouraging to note the existence of education for the animal chiropractic profession, which includes post-graduate diplomas (Box Hill Institute [Australia] [BHI], 2016) and a Master's degree in Animal Chiropractic at a fully accredited university (McTimoney Chiropractic College, 2016). The presence of formal education helps to validate animal chiropractic as a standalone profession (Rops, 2004).

### **2.5.8 Presence of specialities**

The Canadian Federation of Chiropractic Regulatory and Educational Accrediting Boards (2011) stated that in order for a speciality to be acknowledged by the professional regulatory body, the professional must hold a post-graduate qualification that has a distinct body of knowledge within the broader profession.

Based on this definition, animal chiropractic itself can be considered a speciality and has been identified as such by the Royal College of Chiropractors (Royal College of Chiropractors, 2016). The Veterinary Chiropractic Survey in which 57% of the chiropractor respondents said that chiropractic treatment of animal should not be enacted as part of the chiropractic scope of practice and 20% required further discussion shows there was uncertainty whether the chiropractic treatment of animals should be a specialisation of the chiropractic profession (Maurer, 2001). However, the first animal chiropractic short course offered by Dr Willoughby in 1986 focused on horses only and was termed 'Equine Chiropractic' (Willoughby, 2002). The term 'equine chiropractic' has since been used by researchers (Snow, 2013; Haussler, 2000). Even so, courses for specialities within the animal chiropractic profession were not found.

### **2.5.9 Unifying purpose and agreed upon identity**

The identity of a profession is important for the subsistence, acknowledgement and regulation of a profession (Fred and Fred, 1997). A profession finds its identity and purpose for the most part from its defined area of expertise (Villanueva-Russell, 2011; Morris et al., 2006), but also from its research, publications, history and philosophy (Fred and Fred, 1997) and stipulation of entry requirements for educational courses by the statutory regulatory body can serve to preserve a profession's identity (Churchman and Woodhouse, 1998). However, having to produce a distinct identity may be politically driven by the greater professional community (Villanueva-Russell, 2011; Fred and Fred, 1997).

Nonetheless, a profession that is internally divided is an obstacle in obtaining regulation (Villanueva-Russell, 2011; Rops, 2004). The current body of knowledge and education of the animal chiropractic profession are based on principles applied in human chiropractic (BackBone-Academy, 2014; Willoughby, 2002). However, the chiropractic profession has different professional approaches within itself (Reggars, 2011; Villanueva-Russell, 2011; Ernst, 2008), the one stemming from chiropractic's subluxation-based history and the other focusing on the evidence-based treatment of musculoskeletal conditions (Reggars, 2011; Ernst, 2008), which has challenged the expansion of the profession in Australia and abroad (Reggars, 2011). It has been highlighted that cooperation within the profession is needed to achieve acknowledgement for the chiropractic profession (Jamison, 2007).

It is important to harmonize professional practice through collective agreements between the members of the profession to commit themselves to upholding a predetermined set of standards (Thacher, 2013). The professional association is instrumental in creating this unity through its code of ethics (Thacher, 2013) and the networking opportunities it provides professionals, creating a forum to discuss practice related questions and build internal professional relationships (Lukes and Moore, 2010). Furthermore, the perception of the profession from the professionals, the greater professional community and the public has an influence on the profession attaining identity (Villanueva-Russell, 2011; Keyter, 2010).

In recent years a few studies have been conducted in order to determine the perception of the public and the greater professional community regarding animal

chiropractic and obtained overall favourable results (Snow, 2013; Bosman, 2012; Meredith et al., 2011; Taverner, 2011; Maurer, 2001). The ACA found in a survey that 13% of chiropractors had an interest in veterinary chiropractic, 65% felt the interest in veterinary chiropractic by chiropractors increased over the preceding two to three years and the majority (71%) chiropractor respondents felt that animal chiropractic should be pursued and made available for future chiropractors (Maurer, 2001).

The need to establish animal chiropractic as a profession arose simply from the consistent and positive therapeutic results obtained with the chiropractic treatment of animals and this was the initial unifying motivation (Willoughby, 2002). The benefits of animal chiropractic for animals based on results in practice still holds true (BackBone-Academy, 2004).

#### **2.5.10 Title recognition**

One of the criteria for a profession is recognition of its title (Matthews, 2012; Rops, 2004). This can be achieved through obtaining regulation that defines and protects the title of the profession (Ong, 2010; Rops, 2004). The notion that chiropractic treatment was human specific led to the debate whether practitioners performing chiropractic treatment on animals are allowed to use the term 'chiropractor' (Ramey and Rollin, 2004).

Legal protection has been granted to the title and derivatives of the title 'chiropractor' in many jurisdictions (Alberta, 2006; New Zealand, 2003; United Kingdom, 1994; South Africa, 1982a; California, 1922) and the title and derivatives of the title 'veterinarian' and may only be used by a registered or licensed veterinarian (Ireland, 2005; Texas, 2013; Victoria, 1997; Ontario, 1990; Queensland, 1936).

By the 1980's numerous unqualified therapists claimed to practice chiropractic on animals which created a further challenge for the AVCA to overcome in claiming its title (Willoughby, 2002). In a survey, 60% of chiropractor respondents felt the term 'chiropractic' should not be used by veterinarians and 71% respondents felt that it should not be used when applied to animal treatment (Maurer, 2001).

Literature regarding the title of practitioners practicing chiropractic treatment on animals is scant, but the available literature shows that the challenge in finding a

suitable title for the profession continues, having been excluded from using the terms 'veterinary' or 'chiropractor' in most jurisdictions. This can be detrimental to the growth of the animal chiropractic profession.

### **2.5.11 Acknowledgement and approval by the greater professional community and public**

The fundamental mission of the professional association is to promote and protect the profession and this is achieved through communication with, or education of members, other professionals, the public, or legislators on relevant matters (Matthews, 2012). In doing so, the professional association runs the risk of being biased; however, its objectiveness can be advanced through its inter-organisational relationships or affiliations with other organisations or institutions (Shaw, 2014; Matthews, 2012). Resistance or competition from other professional groups can make seeking regulation for a profession very challenging (Rops, 2004).

The animal chiropractic profession was already met with opposition in the early 1920's when the American Medical Association (AMA) directed chiropractors to limit their treatment to humans only (History of Animal Chiropractic, 2014; Callender, 2014; Keating 2004; Ramey and Rollin, 2004). Consequently, animal chiropractic was recognised as a mode of therapy by the American Association of Equine Practitioners (AAEP) only in 1992 (Callender, 2014), and by the American Veterinary Medical Association (AVMA) in 1998.

The original mission of the AVCA has been to obtain recognition for the practice of animal chiropractic (Willoughby, 2002). However, whether chiropractic treatment of animals should be allowed, and by whom it may be applied, is still a subject of ongoing dispute as evidenced by the number of communications and legal case accounts that are available in the media regarding the subject (Whitcomb, 2011; Fiala, 2007; Pascoe, 2006; Davis, 2002; Imrie, 2001; Ramey et al., 2000; Maurer, 2000). Nonetheless, the interest in chiropractic treatment for animals has increased internationally in recent years, along with the growing interest of the public in human chiropractic (Bosman, 2012; Maurer, 2000). Rome and McKibbin (2011) ascribe the growth of the animal chiropractic profession mainly to the demand from the owners of

animals. It has been recognised that integrating CAVM should be the next logical step in the development of veterinary medicine (Schoen and Wynn, 1998).

The cooperation of veterinarians and chiropractors in animal chiropractic education and practice has been considered crucial by the AVCA since the professional association was founded (Willoughby, 2002). A survey showed that an overwhelming 93% of chiropractor respondents indicated that they believe chiropractors could work in cooperation with veterinarians (Maurer, 2001). However, in a quantitative study (n=110) conducted by Meredith et al. (2011) in New Zealand only 7% of respondents indicated that their use of CAVM therapy was based on referral from a veterinarian, showing a lack of integration between veterinarians and CAVM practitioners in that country.

Taverner (2011) found in his quantitative study on the perception of South African veterinarians (n=254) towards the practice of animal chiropractic that even though inter-professional communication between veterinarians and animal chiropractors is poor or lacking in South Africa, 86.6% of veterinarian respondents were open to referral of animals to animal chiropractors, based on the notion that chiropractic treatment would be helpful for certain veterinary conditions, and 79.9% felt that chiropractors should be allowed to treat animals.

The overall response to animal chiropractic by South African veterinarians was positive and 57.7% veterinarian respondents felt that animal chiropractic could be affiliated to the South African Veterinary Association (Taverner, 2011). Bosman (2012) stated that with proper regulation, the integration of animal chiropractic into mainstream animal health care is more probable in the near future. Rome and McKibbin (2011) stated that animal chiropractors from a veterinary background and professional associations have widely accepted the terms 'chiropractic' and 'subluxation'.

In a study conducted in New Zealand, 62% of respondents (people responsible for the wellbeing of animals) used allied health therapies for the animals in their care, of which chiropractic was the most popular (Meredith et al., 2011). Likewise, Snow (2013) found in her quantitative study (n=83), conducted in KwaZulu-Natal, South Africa, that equine chiropractic was the most used CAVM therapy among the horse rider respondents. A

92% success rate with the chiropractic treatment of their main horse was found (Snow, 2013).

Horse riders in Kwa-Zulu Natal, South Africa, had a positive perception towards chiropractic treatment of their horses and supported the use and future use of chiropractic care for their horses (Snow, 2013). The horse riders had a generally accurate knowledge (75%) of chiropractic care for horses, and a trend indicating that the utilisation of equine chiropractic by the respondents increased with more knowledge of the availability of equine chiropractors and equine chiropractic was found (Snow, 2013).

The available literature suggests that animal chiropractic seems to be well received by the public and a demand for the service is evident. Furthermore, the veterinary professional community seems to have a positive regard for the animal chiropractic profession.

#### **2.5.12 Existence of a functioning professional association**

Since professionals are experts in their profession's knowledge and skill, they are in the best position to educate about and manage their profession through a professional association (Ong, 2010; Randall, 2000). The professional association must have the capacity to govern, the ability to manage its finances, sufficient membership and the capability and availability to communicate with relevant stakeholders in order to be effective in its advocacy (Shaw, 2014).

The first professional association dedicated to the chiropractic treatment of animals, the International Veterinary Chiropractic Association, was established in 1976 by John L. Stump (History of Animal Chiropractic, 2014; Callender, 2014; Keating, 2004). An organisation to promote animal chiropractic and other alternative therapies, Options for Animals, was established in the 1980's in New Jersey (USA) (Willoughby, 2002). The AVCA was established in 1986 and Dr Willoughby, a dually qualified veterinarian and chiropractor, was chosen as president (Willoughby, 2002). Currently there are at least two international professional associations for animal chiropractic requiring certification for membership, including the IVCA (International Veterinary Chiropractic Association, 2016), AVCA (American Veterinary Chiropractic Association, 2016) and four national animal chiropractic professional associations (Animal Biomechanical

Professionals Australia[ABPA], 2016; British Veterinary Chiropractic Association, 2016; McTimoney Animal Association, 2016; Veterinary Chiropractic Association of Ireland, 2016)

Although no literature regarding the professional associations of animal chiropractic is available, a few animal chiropractic specific professional associations exist.

## **2.6 Conclusion**

In order for the animal chiropractic profession to develop, it must be recognised as a profession first. The animal chiropractic profession is still in its infancy (Bosman, 2012) and literature regarding many of the criteria needed to define a profession is lacking or absent. Nonetheless, the profession has had a clear unifying purpose from its commencement, has good quality education available and seems to be well accepted. Through its professional associations the animal chiropractic profession has codes of ethics, disciplinary procedures, certification and CPD requirements, although statutory regulation seems inadequate. The biggest challenges for the animal chiropractic profession appear to be to define its body of knowledge and scope of practice through research, and to find a title and clear identity. Through this study the researcher aims to create a clear picture of the regulation of animal chiropractic as a profession through statutory and/or self-regulation.



## **CHAPTER 3 : METHODOLOGY**

### **3.1 Introduction**

This chapter explains the research methodology used in this research study, and includes a description of the study design, sampling, development of the data collection tool, the data collection process and the statistical analysis of the data.

### **3.2 Study design**

The research was a quantitative descriptive and comparative analysis, and was a desk based study. The data needed for the study was in the public domain, and was collected either from websites or on request from the relevant jurisdictional, governmental or association organizations. The measurement tool was designed to collect quantitative data.

Comparative analysis was decided to be the most appropriate research design for this study because it is a common methodology for comparative international research (Mills et al., 2006). It is useful in the description and evaluation of units in order to compare differences and similarities and give better insight into and between the units (Miller and Brewer, 2003). The units in this study were the various countries' legal frameworks regarding the practice of animal chiropractic.

Full approval by the Durban University of Technology (DUT)'s Research and Higher Degrees Committee was obtained (Appendix A).

### **3.3 Advertising**

No advertising was needed for this study.

### **3.4 Sampling**

According to Bellamy (2012) a modest sample size for comparative studies consists of four to twenty units. Greater depth can be achieved by using this number of units (Lor, 2012). Using a sample size that is too small allows the risk of the research being

statistically unsound. Conversely, using a too large sample size can cause the results to run the risk of being superficial (Mills et al., 2006).

Similar studies have used similar sample sizes (Adams, 2014; Levy and Spiller, 1994). In a quantitative comparative analysis comparing six international chiropractic regulatory systems, Adams (2014) used a sample size of nine jurisdictions spread over six countries. Levy and Spiller (1994) used five countries in a comparative analysis of telecommunications regulation. Therefore, these studies justify a small sample size to be utilized in this study as the studies are similar in nature.

Sampling was accomplished by means of the purposive sampling technique (De Vos et al., 2011). The researcher deliberately sought out the countries that could be included once the inclusion and exclusion criteria were applied. This was used to limit bias which could be caused should too many unsuitable countries be selected through a random sampling technique (Mills et al., 2006).

#### **3.4.1 Population size**

The study population included all countries with animal chiropractors registered with the International Veterinary Chiropractic Association (IVCA) (N = 28) that had legislation regarding the practice of chiropractic on animals available in English (N=7). English speaking countries were chosen because the researcher is English-speaking and the study design required the researcher to read through legislation, websites, etc. Due to the technical language used in the legislation, it was decided that non-English speaking countries would be too cumbersome to attempt to translate legislation into English.

#### **3.4.2 Sample size**

All English-speaking countries with animal chiropractors registered with the IVCA (N = 7) were included in the study. The countries included Australia, Canada, Ireland, New Zealand, South Africa, the UK and the USA. The jurisdictions of a country refer to its defined geographically administered areas, and includes states, districts, provinces or territories (Central Intelligence Agency, 2016; Jurisdiction, 2016; Oxford Dictionaries, 2016). Where a country had more than one jurisdiction, the two jurisdictions within the country with the highest number of animal chiropractors were

selected. The number of animal chiropractors in each jurisdiction was determined by making use of an internet search of the number of members of the relevant professional associations (Appendix E). Countries with multiple jurisdictions were:

- Australia

Australia has 6 provinces and 2 territories (Central Intelligence Agency, 2016), which were regulated at state level, and as such two states were selected based on the highest number of registered animal chiropractors within the province: Victoria (22) and Queensland (14) (Appendix E).

- Canada

Canada has 10 provinces and 3 territories (Central Intelligence Agency, 2016), which were regulated at provincial level, therefore two provinces were selected based on the highest number of registered animal chiropractors within the province: Ontario (35) and Alberta (7) (Appendix E).

- The United States of America

The USA has 50 states and 1 district (Central Intelligence Agency, 2016), which were regulated at state level, and as such two states were selected based on the highest number of registered animal chiropractors within the states: Texas (83) and California (43) (Appendix E).

The final sample size was thus 10 ( $N = 10$ ). The jurisdictions included in the study were Alberta (Canada), California (USA), Ireland, New Zealand, Ontario (Canada), South Africa, Texas (USA), UK, Victoria (Australia) and Queensland (Australia).

### **3.5 Inclusion and exclusion Criteria**

#### **3.5.1 Inclusion criteria**

- The country had to be English-speaking due to researcher language limitation and limitation of funding for translators.
- The country had to have chiropractors and/or veterinarians, registered with their relevant statutory body, practicing the chiropractic treatment of animals.

- The country had to have practicing animal chiropractors who were members of a professional association for animal chiropractic.
- The practice of animal chiropractic had to be regulated through direct government administration, sanctioned self-regulation or independent self-regulation.

### **3.5.2 Exclusion criteria**

- The country did have legislation, but had no practitioners practicing the chiropractic treatment of animals.
- The jurisdiction selected to be used for the pilot study was excluded from use in the main study.

### **3.6 Research procedure**

- Approval was obtained from the Research and Higher Degrees Committee of the DUT's Faculty of Health Sciences (Appendix A).
- An expert group meeting was arranged, consisting of eight members, in order to discuss the Pre-Expert Group Data Collection Tool (Appendix D1). The meeting was voice recorded to ensure no suggestions of changes to the Pre-Expert Group Data Collection Tool were left out.
- Based on suggestions from the expert group meeting, changes were made to the Pre-Expert Group Data Collection Tool (Appendix D1) to create the Pre-Pilot Study Data Collection Tool (Appendix D3).
- The Pre-Pilot Study Data Collection Tool (Appendix D3) was used to conduct the pilot study. Wisconsin (USA) was selected for the pilot study as it had practising animal chiropractors, had an animal chiropractic educational institution, and could still be included into the pilot study once the inclusion and exclusion criteria were applied.
- The pilot study was used to enhance and improve the Pre-Pilot Study Data Collection Tool and resulted in the development of the Final Data Collection Tool (Appendix D5).
- The researcher accessed the internet and obtained the required data from the relevant legal documents and the applicable organisational or institutional

websites. This information was used to answer the Final Data Collection Tool (Appendix D5) for the selected jurisdictions.

- In the event that required documents or information was not available online, the information was requested from the relevant organisation via email by sending the Request for Information Letter (Appendix C).
- Once the data collection sheets were completed, the information was captured by the researcher, and statistically analysed by the researcher and research statistician.
- The analysed results were evaluated and discussed by the researcher and added to this dissertation.
- The completed data collection sheets will be safely stored in a locked facility at the Durban University of Technology (DUT) for a period of 5 years, after which they will be destroyed by authorised personnel.

### **3.7 Data collection tool background and design**

The Pre-Expert Group Data Collection Tool (Appendix D1) was created by the researcher for the purpose of gathering information regarding the regulation of the animal chiropractic profession, after reviewing the literature or data collection sheets of similar regulation type studies (Adams, 2014; Ong, 2010; Levy and Spiller, 1994; Grabouwski et al., 1978). The questions were designed to address the aims and objectives of this study. This data collection tool was then subjected to discussion at an expert group meeting, which resulted in the Pre-Pilot Study Data Collection Tool (Appendix D3). A pilot study, using the pre-pilot data collection sheet was conducted, and a research statistician was consulted (Singh, 2015, pers. comm. 20 August) to complete the refining process, producing the Final Data Collection Tool (Appendix D5).

#### **3.7.1 Expert group meeting**

The purpose of the expert group was to extract the understanding, opinions and expertise of the members of the group regarding the questions of the data collection tool in order to improve and enhance the relevance and clarity of the questions, and thus its validity (De Vos et al., 2011). Once the research proposal was approved by IREC, the expert group meeting was arranged at a time that suited those invited to attend the meeting.

The expert group consisted of the following 8 members:

- The researcher.
- The researcher's supervisor (a qualified chiropractor with previous experience as supervisor for animal chiropractic related research).
- Two qualified chiropractors with a post-graduate animal chiropractic qualification and knowledge of animal chiropractic regulation.
- One qualified chiropractor with experience in chiropractic education and the chiropractic professional association, and knowledge of chiropractic regulation.
- One qualified advocate.
- One research statistician.
- One master's chiropractic student undertaking a questionnaire based dissertations as part of the M. Tech: Chiropractic qualification.

The expert group members were asked to read and sign the Expert Group Letter of Information and Consent (Appendix B). This letter provided the members with information regarding the study, explained the procedures of the meeting, served as written informed consent and ensured confidentiality for the researcher and the expert group members.

The questions of the Pre-Expert Group Data Collection Tool (Appendix D1) were subjected to discussion by the expert group who critically assessed and made suggestions for the modification, inclusion or exclusion of each question. Each question was read aloud by the researcher in sequence. Time was allowed to discuss each question after it was read. The recommendations from the expert group members were used to alter the Pre-Expert Group Data Collection Tool in order to create the Pre-Pilot Study Data Collection Tool (Appendix D3). The meeting was voice recorded to ensure that all suggestions from the expert group members were correctly applied. The voice recording is considered confidential and will be safely stored in a locked facility at the Durban University of Technology (DUT) for a period of 5 years, after which it will be destroyed by authorised personnel. Access to the voice recording is limited to the researcher, the researcher's supervisors and the examiners. The changes suggested and the rationale for the changes to the Pre-Expert Group Data Collection Tool are detailed in Appendix D2 (Alterations to Pre-Expert Group Data Collection Tool).

### **3.7.2 Pilot Study**

The pilot study served as a pre-test of the data collection tool in order to further enhance the relevance of the questions, limit ambiguousness, and ensure that it was able to gather the data that was required, thus increasing its face and content validity (De Vos et al., 2011). A jurisdiction that was not included in the sample, yet met the inclusion and exclusion criteria was selected for the pilot study. Wisconsin (USA) was selected. The results of the pilot study were used to further refine, enhance and produce the final, validated data collection tool. Adaptation of the Pre-Pilot Study Data Collection Tool was made based on the process of conducting the pilot study to increase the reliability of the measuring instrument (De Vos et al., 2011). This was the final validated data collection tool and was used by the researcher for the data collection of the study. The changes suggested and the rationale for the changes to the Pre-Pilot Study Data Collection Tool are detailed in Appendix D4 (Alterations to Pre-Pilot Study Data Collection Tool).

### **3.8 Statistical analysis**

The collected data was analysed using IBM SPSS version 22. Responses to each variable were tabulated or graphed (Singh, 2016, pers. comm. 14 March). Data analysis was descriptive and exploratory, and the researcher focussed on identifying significant differences and trends for each variable (Singh, 2016, pers. comm. 14 March). Since all variables collected were categorical, they were compared using a Fishers exact test and an alpha of 0.05 was deemed significant (McDonald, 2008).

### **3.9 Ethical considerations**

Ethical approval was sought from the DUT Institutional Research and Ethics Committee (IREC). The study was classified as a Category 1 study and was thus exempt from Ethics and Biosafety Research Committee Review (straightforward research without ethical problems).

All information that formed the data for this study was in the public domain and was accessible to the public from the relevant governmental/regulatory bodies, professional associations or educational institutional websites. Where any information required for the research regarding an animal chiropractic regulatory body,

professional association or educational institution was not available online, an email was sent to the applicable organisation, with the Request of Information Letter (Appendix C) attached, and the required information was requested.

Expert group participation was on a purely voluntary basis and participants could choose to end participation at any stage for whatever reason with no ill effects. Participant's identities were kept confidential in the research. Expert Group Letter of Information and Consent (Appendix B) was presented to all participants of the expert group to read and sign.



## CHAPTER 4 : RESULTS

### 4.1 Introduction

This chapter presents the results of the collected data according to the three objectives of this study.

Objective One: To determine the regulatory role of the statutory body on animal chiropractic (education, registration, discipline, code of ethics, scope of practice and continuing professional development) in the selected countries.

Objective Two: To determine the regulatory role of professional associations on animal chiropractic in the selected countries.

Objective Three: To compare the selected countries to identify international trends in animal chiropractic regulation.

### 4.2 Data sources

Primary and secondary data sources were used to compile this chapter. The primary data was sourced by completion of the data collection sheets through desk-based research by the researcher. The data collection sheet consisted of thirty-six items and was divided into three sections which measured various themes as illustrated below:

- A Background Information of Jurisdiction
- B Animal Chiropractic Regulation
- C Animal Chiropractic Professional Association

Secondary data sources for this chapter include personal communications with the research statistician (Singh, 2016), supervisor (Matkovich, 2016) and co-supervisor (Mullinder, 2016).

### **4.3 Data analysis**

The data collected from the responses was analysed with SPSS version 23.0. The results will present the descriptive statistics in the form of graphs, cross tabulations and other figures for the quantitative data that was collected.

For the cross tabulations, inferential techniques included the use of the chi square test values; which are interpreted using the p-values and Eta scores (Singh, 2016, pers. comm. 29 March). A p-value of less than 0.050 was considered significant, and a p-value of 0.050 was considered borderline significant.

Eta scores are used when one variable is nominal and the other is a scale measure (i.e. number) (Singh, 2016, pers. comm. 29 March). In this study the percentage is a number which was compared to various nominal data. Eta scores of 0.10 and less are interpreted to be a small/smaller than the typical strength of a relationship, 0.24 is a medium/ typical strength, 0.37 is a large/larger than typical strength and 0.45 and above is interpreted as a much larger than typical strength of a relationship.

### **4.4 Results**

This section analyses the scoring patterns of the jurisdictions per variable per section. The answers to some questions could be coded and therefore frequencies and descriptive statistics were used in their analysis (Singh, 2016, pers. comm. 29 March). Other questions had open-ended answers and were not quantifiable, therefore, descriptive statistics could not be used when analysing the results from these questions. It will be stated when questions with open-ended answers are reported on.

At the end of this section the relevant regulatory information is compared per country in a table that is used to identify any current trends in animal chiropractic regulation in order to address Objective Three.

#### **4.4.1 SECTION A: Background information of jurisdictions**

Section A indicates the researched countries and the number of the selected jurisdictions per country. All of the seven selected countries were researched. Of these, three countries have multiple jurisdictions and two states from Australia (AUS) (Queensland (QLD) and Victoria (VIC)), two provinces from Canada (CAN) (Alberta

(ALB) and Ontario (ONT)), and two states from the United States of America (USA) (California (CAL) and Texas (TEX)) were selected and all were included in the research (as listed in Table 4.1).

**Table 4.1: Researched jurisdictions per country**

	<i>Frequency of Jurisdictions</i>	<i>Percentage</i>
<i>AUS</i>	2	20.0
<i>CAN</i>	2	20.0
<i>IRE</i>	1	10.0
<i>NZ</i>	1	10.0
<i>SA</i>	1	10.0
<i>UK</i>	1	10.0
<i>USA</i>	2	20.0
Total	10	100.0

#### **4.4.2 SECTION B: Animal chiropractic regulation**

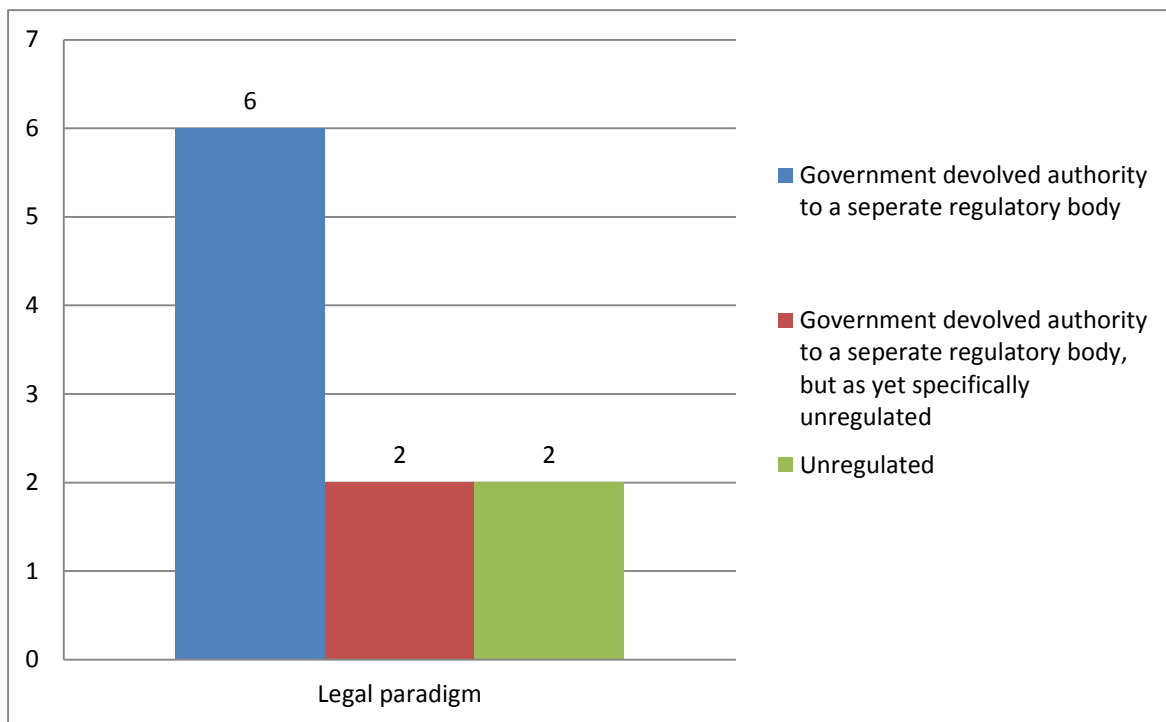
##### **4.4.2.1 B1: Background: Regulatory model and legislative instruments of geographical administered area**

###### **4.4.2.1.1 Question B1.1 Legal paradigms of animal chiropractic**

As can be seen from Figure 4.1 animal chiropractic was regulated in eight jurisdictions (ALB(CAN), CAL(USA), IRE, NZ, ONT(CAN), SA, TEX(USA), UK) by government devolved authority to a separate regulatory body.

In two jurisdictions (NZ, SA) the practice of animal chiropractic was regulated by government devolved authority to a separate regulatory body but was as yet specifically unregulated.

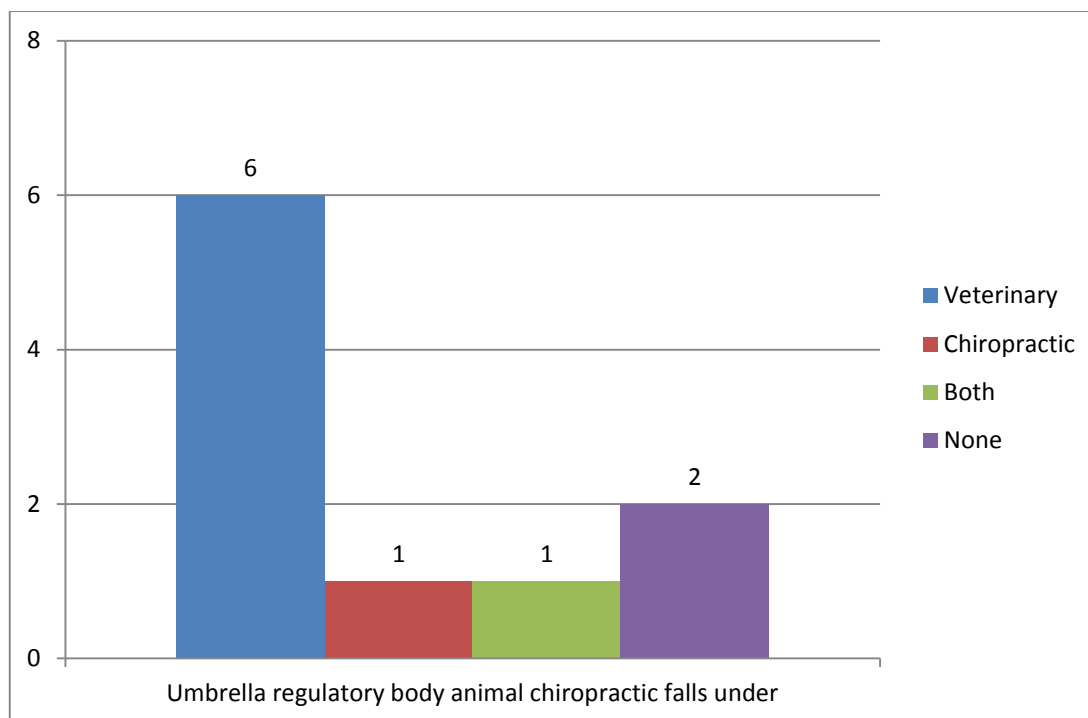
In two jurisdictions (QLD(AUS), VIC(AUS)) the practice was unregulated.



**Figure 4.1: Legal paradigm animal chiropractic falls under**

#### **4.4.2.1.2 Question B1.2 Regulatory bodies regulating the practice of animal chiropractic**

As can be seen from Figure 4.2, animal chiropractic fell under the veterinary statutory regulatory body in six jurisdictions (ALB(CAN), IRE, ONT(CAN), SA, TEX(USA), UK). In one jurisdiction (NZ) it fell under the chiropractic regulatory body, in one jurisdiction (CAL(USA) it fell under both chiropractic and veterinary regulatory bodies, and in two jurisdictions (QLD(AUS), VIC(AUS)) it did not fall under either of these.



**Figure 4.2: Umbrella regulatory body animal chiropractic falls under**

Tale 4.2 reports on the open-ended answers of this question regarding the names of the umbrella regulatory bodies.

The practice of animal chiropractic was regulated by the veterinary statutory regulatory body in ALB(CAN), CAL(USA), IRE, ONT(CAN), SA, TEX(USA) and the UK. Only in CAL(USA) and NZ did the chiropractic regulatory body have jurisdiction over the practice of animal chiropractic.

**Table 4.2: Statutory regulatory bodies animal chiropractic falls under**

<i>Jurisdiction</i>	<i>Veterinary Regulatory Body</i>	<i>Chiropractic Regulatory Body</i>
ALB(CAN)	Alberta Veterinary Medical Association (ABVMA)	
CAL(USA)	Veterinary Medical Board (VMB)	Board of Chiropractic Examiners (BCE)
IRE	Veterinary Council of Ireland (VCI)	
NZ		New Zealand Chiropractic Board (NZCB)
ONT(CAN)	College of Veterinarians of Ontario (CVO)	
SA	South African Veterinary Council (SAVC)	
TEX(USA)	Texas Board of Veterinary Medical Examiners (TBVME)	
UK	Royal College of Veterinary Surgeons (RCVS)	

#### **4.4.2.1.3 Question B1.3 Current legal instruments regulating the practice of animal chiropractic**

The following reports on the open-ended answers of this question regarding the legislative instruments and their enactment dates as it pertains to animal chiropractic practice.

- Alberta, Canada

In accordance with the Alberta Veterinary Professions Act 2000 (Alberta, 2000), Sections 1(p), 2(1) and (2), the ABVMA Council Guidelines included the chiropractic treatment of animals in the scope of veterinary medicine and the practice was legal provided the practitioner was a veterinarian with post-graduate training, or, under the referral and supervision of a veterinarian if the practitioner was a non-veterinarian with post graduate training (Alberta Veterinary Medical Association, 2010). The Alberta College and Association of Chiropractors (ACAC) Standards of Practice require chiropractors to work in consultation with a veterinarian in all circumstances (Alberta College and Association of Chiropractors, 2014).

- California, USA

The California Code of Regulations 1998, Section 2038, (California, 1998) states that the practice of chiropractic on animals constitutes veterinary medicine and may only be performed by chiropractors licensed by the Board of Chiropractic Examiners (BCE) of California under referral and supervision of a veterinarian licensed by the Veterinary Medical Board (VMB) of California who must be on the premises or in the surrounding area during treatment of the animal or by a California licensed veterinarian. This was confirmed via an e-mail communication with the BCE (2016, pers. comm. 15 June). However, the BCE Rules and Regulations 2015, Section 302(a)(1) states that 'a duly licensed chiropractor may manipulate and adjust the spinal column and other joints of the human body'.

- Ireland

All treatment of animals is included in the Veterinary Practice Act 2005 of Ireland, Section 53(1). The Ireland Veterinary Practice (Amendment) Act No 25 of 2012, Section 2 (Ireland, 2012), makes provision that the Minister could prescribe

procedures that may be performed by non-veterinarians, but to date no such provision has been made regarding the chiropractic treatment of animals and thus the legal position of the chiropractic treatment of animals in Ireland is illegal unless performed by a veterinarian.

- New Zealand

The New Zealand Chiropractic Board (NZCB) Scope of Practice 2004, in accordance with the New Zealand Health Practitioners Competence Assurance Act 2003 (Section 11), (New Zealand, 2004) states that chiropractors may extend their scope of practice to include animals. However, the NZCB Registrar-General Manager, Sinclair, stated that the NZCB neither restrict, nor regulate chiropractors who treat animals and that the work of the NZCB is strictly limited to human patients (2015, pers.comm. 4 December). The Veterinary Council of New Zealand (VCNZ) Codes of Professional Conduct 2015, Section 6(b), states that the use of complementary and alternative therapies fall outside the mainstream of conventional therapy and according to VCNZ Professional Advisor, Beban, the practice of animal chiropractic was not regulated or restricted by the VCNZ (2015, pers.comm. 3 December).

- Ontario, Canada

The Position Statement of the College of Veterinarians of Ontario (CVO) regarding CAVM includes chiropractic treatment of animals in the scope of veterinary practice and requires veterinarians and chiropractors to undergo post-graduate animal chiropractic training in order to treat animals with chiropractic. Furthermore, these chiropractors may only practice on animals under the referral and supervision of a veterinarian (College of Veterinarians of Ontario, 2009). According to the College of Chiropractors of Ontario (CCO) Standards of Practice S-009 (College of Chiropractors of Ontario, 2008), the primary responsibility of the care of an animal lies with the veterinarian regarding the chiropractic care of animals, chiropractic treatment must be done with appropriate consultation with a veterinarian, consent from the owner must be obtained and a chiropractor treating an animal must hold a post-graduate qualification of a minimum of 200 hours (College of Chiropractors of Ontario, 2008). The Ontario Chiropractic Act 1991, Section 3, (Ontario, 1991) does not specify the chiropractic scope of practice to be human specific.

- Queensland, Australia

Non-veterinarians in Queensland, Australia, are prohibited from practicing veterinary science, claim to be a veterinarian or use veterinary titles according to the Queensland Veterinary Surgeons Act 1936, Section 25M, 25P, 25Q (Queensland, 1936). The Veterinary Surgeons Board of Queensland (VSBQ) (Veterinary Surgeons Board of Queensland, 1997) states in its general policy regarding Acts of Veterinary Science that chiropractic treatment of animals is not considered veterinary science unless diagnosis or administration of restricted drugs are required.

- South Africa

According to the South African Veterinary and Para-Veterinary Professions Act 19 of 1982, Section 23(2)(ii)(d), (South Africa, 1982b) treatment or prevention of any pathological condition in an animal constitutes veterinary practice, thus the treatment of animals in South Africa is prohibited by persons not registered with the SAVC in accordance with Section 24 of the Act, thus excluding chiropractors. The South African Allied Health Professions Act 63 of 1982, Section 1(2), (South Africa, 1982a) specifies that the practice of the professions regulated under the Act, which includes chiropractic, includes humans only, thus prohibiting chiropractors from treating animals. However, in a meeting between the SAVC and the Allied Health Professions Council of South Africa (AHPCSA) (South African Veterinary Council, 2001), legal dispensation was granted to registered chiropractors to treat animals upon referral from a veterinarian.

The regulation of the practice of animal chiropractic in South Africa is as yet specifically unregulated and currently undergoing reform. In a meeting between the AHPCSA and SAVC (South African Veterinary Council, 2011), reference was made to the SAVC guidelines for the registration of para-veterinary professions. The need for specialities within the veterinary community was acknowledged by the SAVC, although it was pointed out that further discussion and investigation regarding post-graduate animal chiropractic education, definition of a scope of practice and acceptance of animal chiropractic was needed (South African Veterinary Council, 2011). According to the registrar of the SAVC, Havinga (2015, pers. comm. 18 December), no progress has been made since the 2011 meeting regarding this matter, thus leaving the legal position of animal chiropractic in South Africa unchanged since 2001.



- Texas, USA

The Texas Veterinary Licensing Act 2013, Section 801.002 (5)(A) (Texas, 2013) states that the practice of veterinary medicine includes manipulation, but the Texas Administrative Code 2014, Section 573.14(b)(2) (Texas, 2014) makes provision for non-veterinarians to be able to provide chiropractic care to an animal under direct or general supervision of a veterinarian. This was confirmed in the Texas Board of Chiropractic Examiners (TBCE) Newsletter, August 2011. However, the chiropractic scope of practice is human specific and includes the use of 'objective or subjective means to analyse, examine, or evaluate the biomechanical condition of the spine and musculoskeletal system of the human body' according to the Occupations Code 1999, Section 201.002 (b)(1) (Texas, 1999).

- United Kingdom

According to the United Kingdom Veterinary Surgeons Act 36 of 1966, Section 19(4)(e) (United Kingdom, 1966), no unqualified person was allowed to apply treatment to animals unless provision through an order was made by the Minister. The Veterinary Surgery (Exemptions) Order 1962, Section 4 (United Kingdom, 1962) allowed physiotherapy of animals by non-veterinarian practitioners in the UK under referral from a veterinarian. The Royal College of Veterinary Surgeons (RCVS) Code of Conduct, Section 19(4) (Royal College of Veterinary Surgeons, 2015a) states that chiropractors were included under the exemptions order and Section 19(13) stated that chiropractic treatment was included under the definition of physiotherapy. In an e-mail communication on the 14<sup>th</sup> of December 2015, the General Chiropractic Council (GCC) stated that it does not recognise or regulate the practice of animal chiropractic by chiropractors. According to the GCC Policy regarding treatment of animals by chiropractors the Chiropractors Act 1994 was "designed to cover human patients" (General Chiropractic Council, 2003).

- Victoria, Australia

The Veterinary Practice Act No. 58 of Victoria 1997 (Victoria, 1997) did not restrict any acts provided non-veterinarians adhered to Section 57(1) of the Act which includes that a non-veterinarian may not use the veterinarian title, claim to be registered with

the Veterinary Practitioners Registration Board of Victoria or carry out any act that is required to be performed by a veterinarian.

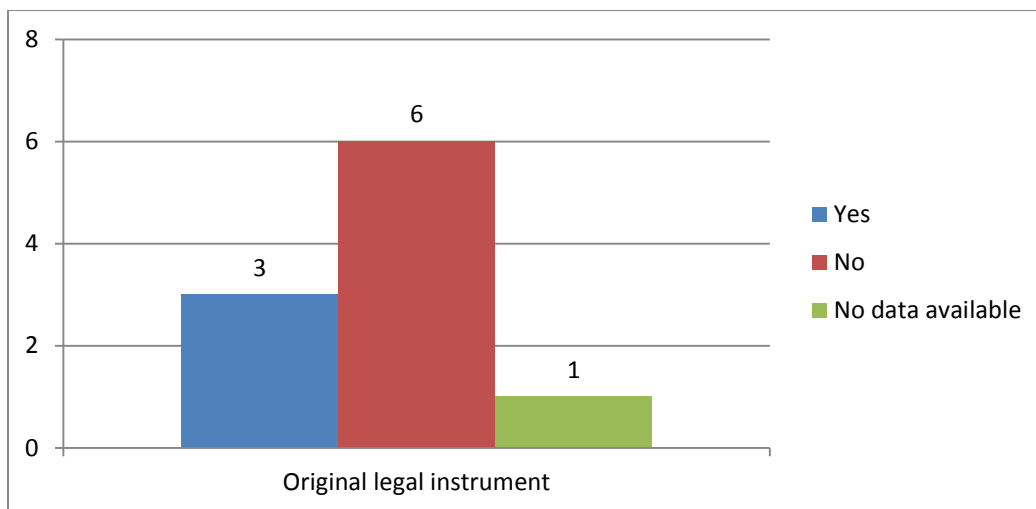
Table 4.3 is a summary of the legal instruments and enactment dates as discussed above.

**Table 4.3: Legal Instruments and enactment dates of legislation relating to animal chiropractic**

<i>Jurisdiction</i>	<i>Legislative Instrument</i>	<i>Enactment date</i>
ALB(CAN)	Veterinary Professions Act, Section 1(p) and 2(1) and (2); ABVMA Council Guidelines – The responsible use of complementary and alternative veterinary modalities; ACAC Standards of Practice.	2000 ; 2010; 2014
CAL(USA)	VMB Code of Regulation. Title 16. Division 20. Article 4. Section 2038; BCE Rules and Regulations, Section 302(a)(1).	1998; 2015
IRE	Veterinary Practice Act, Section 53(1); Veterinary Practice (Amendment) Act, Number 25 of 2012, Section 2.	2005; 2012
NZ	New Zealand Health Practitioners Competence Assurance Act No 48, Section 11; NZCB Scope of Practice, Section 2(ii); VCNZ Code of Professional Conduct, Section 6(b).	2003; 2004
ONT(CAN)	CVO Position Statement - The Practice of Complementary and Alternative Veterinary Medicine; The Chiropractic Act 1991, Section 3; CCO Standards of Practice S-009 – chiropractic Care of Animals.	2009; 1991; 2008(1998)
QLD(AUS)	Veterinary Surgeons Act 1936, Sections 25M, 25P and 25Q. VSBQ Policy (general) - Acts of Veterinary Science, Section 3.	1936, 1997
SA	Veterinary and Para-Veterinary Professions Act No. 19 of 1982, Sections 23(2) and 21(1) and (2); Minutes of meeting between SAVC and AHPCSA; Allied Health Professions Act 63, Section 1(2),	1982; 2001; 1982
TEX(USA)	Veterinary Licensing Act Ch. 801.151(c)(2); Texas Administrative Code, Title 22, Part 24, Ch. 573.10(a)(2) and 573.14; Texas Occupations Code, Section 201.002 (b)(1).	2013; 2014(2012); 1999
UK	Veterinary Surgeons Act. Chapter 36. Section 19(4)(e); Veterinary Surgery (Exemptions) Order, Section 4; RCVS Code of Conduct, Section 19(4)(g), (13) and (14); GCC Policy in respect of the misuse of the title 'Chiropractor' and the treatment of animals by Chiropractors	1966; 1962; 2003
VIC(AUS)	Veterinary Practice Act No. 58, Section 57	1997

#### 4.4.2.1.4 Question B1.4 History of legal instruments

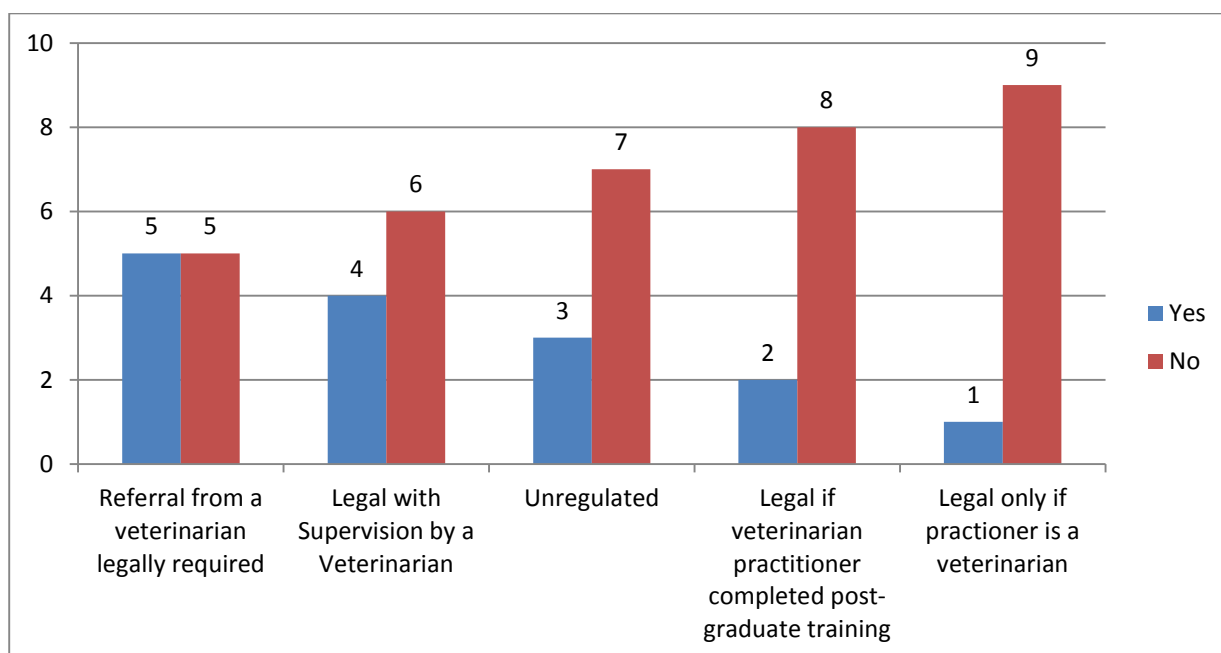
As shown in Figure 4.3 the current legal instrument was the original in three jurisdictions (QLD(AUS), SA, TEX(USA)), but this was not the case in six jurisdictions (ALB(CAN), IRE, NZ, ONT(CAN), UK, VIC(AUS)). One jurisdiction (CAL(USA)) did not have this information available.



**Figure 4.3: Original legal instruments**

#### 4.4.2.1.5 Question B1.5 Legal position of animal chiropractic in selected jurisdictions

For this next question, more than one option regarding legal position could apply to a jurisdiction since each option was compared against all selected jurisdictions (Figure 4.4).



**Figure 4.4: Legal position of animal chiropractic**

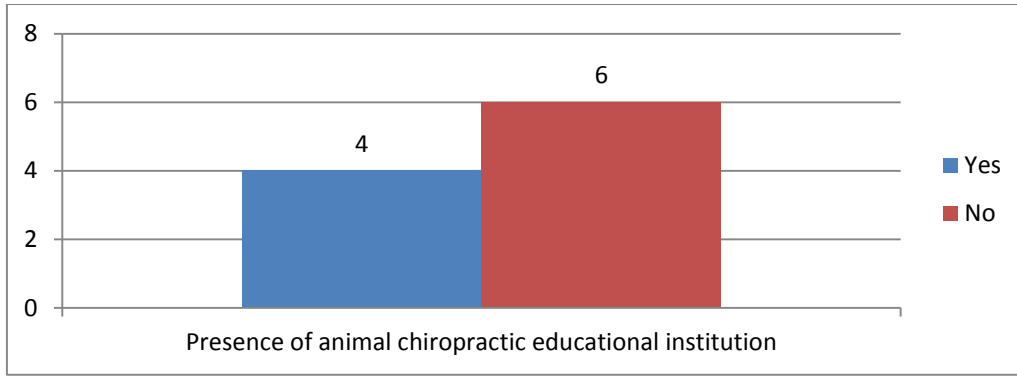
The practice of animal chiropractic was legally required to be done under referral from a veterinarian if the practitioner was a non-veterinarian in five jurisdictions (ALB(CAN), CAL(USA), ONT(CAN), SA, UK) and in four jurisdictions (ALB(CAN), CAL(USA), ONT(CAN), TEX(USA)) regulation of the practice required supervision by a veterinarian if the practitioner was a non-veterinarian. In three jurisdictions (NZ, QLD(AUS), VIC(AUS)) it was specified as being unregulated. Two jurisdictions (ALB(CAN), ONT(CAN)) required registered veterinarians or chiropractors to have completed post-graduate training in animal chiropractic. In one jurisdiction (IRE) the practice of animal chiropractic was illegal unless the practitioner was a veterinarian.

Referral from a veterinarian for the practice of animal chiropractic was recommended in the three jurisdictions in which it was unregulated (NZ, QLD(AUS), VIC(AUS)). The VCNZ (Beban, VCNZ Professional Advisor, 2015, pers.comm. 3 December) recommended that chiropractic treatment of animals be done under referral from a veterinarian. The position of the Australian Veterinary Association (AVA) on CAVM was that it recommended examination of an animal by a veterinarian prior to CAVM treatment by a non-veterinarian (Australian Veterinary Association, 2012). The Chiropractors' Association of Australia Queensland (CCAQLD) had no official position on treatment of animals by chiropractors (Donaldson, CCAQLD Office Manager, 2016, pers. comm. 20 January).

#### **4.4.2.2 B2: Background: Educational institution and course requirements within the geographical administered areas**

##### **4.4.2.2.1 Question B2.1 Animal chiropractic institutions within jurisdictions**

Figure 4.5 shows that four jurisdictions (ONT(CAN), TEX(USA), UK, VIC(AUS)) had an educational institution offering a course in animal chiropractic. Two of these had two educational institutions each, thus giving a total of six animal chiropractic educational institutions across the selected jurisdictions.

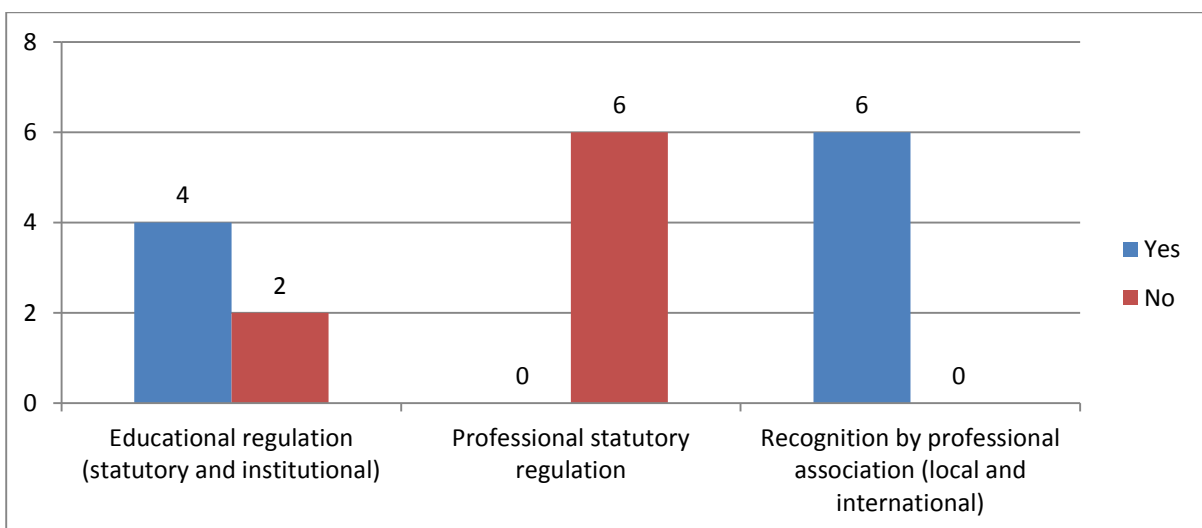


**Figure 4.5: Presence of animal chiropractic educational institution within jurisdiction**

The educational institutions were the Animal Chiropractic Education Source (ACES) and Parker University (PU) in TEX(USA), the International Academy of Veterinary Chiropractic (IAVC) (hosted at Anglo European College of Chiropractic) and McTimoney Chiropractic College (MCC) in the UK, the Veterinary Chiropractic Learning Centre (VCLC) in ONT(CAN) and Box Hill Institute (BHI) in VIC(AUS).

**4.4.2.2.2 Question B2.2 Regulation and recognition of educational institutions**

Figure 4.6 shows that four (BHI, MCC, PU, VCLC) of the six educational institutions had educational regulation, none were regulated by a professional statutory regulatory body and all educational institutions were recognised through accreditation, certification or approval by animal chiropractic professional associations.



**Figure 4.6: Regulation and recognition of educational institutions**

For the second part of this question (Table 4.4), more than one option of regulation could apply to an educational institution. Therefore, each option was compared against all educational institutions resulting in an n-count of more than the number of educational institutions (six).

Two educational institutions (MCC, VCLC) were regulated by another educational institution, one educational institution (BHI) was regulated by an educational statutory regulatory body at regional (state) level, three educational institutions (BHI, MCC, PU) were regulated by an educational statutory regulatory body at national level, and two educational institutions (ACES, IAVC) had no educational regulation.

None of the animal chiropractic educational institutions were regulated by a professional statutory regulatory body.

There were five (ACES, BHI, IAVC, MCC, PU) out of six educational institutions that were recognised by professional associations at national level, and three (IAVC, PU, VCLC) that were recognised by international professional associations.

**Table 4.4: Level of regulation and recognition of animal chiropractic educational institutions**

		<i>Educational regulation of educational institution</i>	<i>Professional statutory regulation of educational institution</i>	<i>Professional association regulation of educational institution</i>
Level of regulation	<i>Educational Institution</i>	2	0	0
	<i>Regional (State)</i>	1	0	0
	<i>National</i>	3	0	5
	<i>International</i>	0	0	3
	<i>None</i>	2	6	0

Table 4.5 reports on the open-ended answers of this question regarding the statutory, educational and professional bodies that regulate, accredit, certify and/or approve the listed animal chiropractic educational institutions. Four educational institutions (BHI, MCC, PU, VCLC) had some level of educational regulation, and two (ACES, IAVC) were only regulated or recognised by professional associations. Two educational institutions (MCC, VCLC) were regulated at educational institutional level, one (BHI) was regulated at regional (state) level, four (BHI, IAVC, MCC, PU) were regulated or recognised at national level, and four (ACES, IAVC, PU, VCLC) were recognised at

international level. None were regulated at all levels, and five (BHI, IAVC, MCC, PU, VCLC) were regulated and/or recognised at two levels.

**Table 4.5: Level at which educational institutions are regulated or recognised by educational regulatory bodies\* and professional associations**

	<i>Institutional</i>	<i>Regional</i>	<i>National</i>	<i>International</i>
<i>ACES</i>				AVCA
<i>BHI</i>		<b>VRQA*</b>	<b>ASQA*</b> , ABPA	
<i>IAVC</i>			BVCA, MAA, RCC	IVCA, ATF
<i>MCC</i>	<b>BPP University*</b>		<b>QAA*</b> , BEVA, MAA, RCC, SOAP	
<i>PU</i>			<b>SACSCOC*</b> , AVCA	CoAC
<i>VCLC</i>	<b>The Healing Oasis Wellness Centre*</b>			AVCA, CoAC

#### 4.4.2.2.3 Question B2.3 Entrance requirements of animal chiropractic educational institutions

Qualification requirements (Table 4.6): All animal chiropractic educational institutions (ACES, BHI, IAVC, MCC, PU, VCLC) accepted a chiropractic qualification as entrance requirement. Five educational institutions (ACES, BHI, IAVC, PU, VCLC) accepted a veterinary qualification and the sixth (MCC) required veterinarians to complete a bridging course before being accepted for its animal chiropractic course. Two educational institutions (BHI, MCC) would accept an osteopathic qualification. One educational institution (MCC) would accept a physiotherapy degree or a graduate diploma in animal therapy.

**Table 4.6: Entrance requirements of animal chiropractic educational institutions**

		Educational Institution					
		ACES	BHI	IVCA	MCC	PU	VCLC
Entrance Requirement	Chiropractic qualification	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
	Veterinary qualification	<b>X</b>	<b>X</b>	<b>X</b>	<b>X*</b>	<b>X</b>	<b>X</b>
	Osteopathic qualification		<b>X</b>		<b>X</b>		
	Physiotherapy qualification				<b>X</b>		
	Graduate diploma in animal therapy				<b>X</b>		

\*Provided the veterinarian has completed the required bridging course

General/other requirements: Four educational institutions (ACES, BHI, PU, VCLC) required prospective students to be registered to practice their profession in their country of origin. One educational institution (BHI) required practical experience in the relevant profession. BHI also provided for recognition of prior learning and specified that physical agility was required. Three educational institutions (BHI, IAVC, MCC) required language proficiency. Four educational institutions (BHI, MCC, PU, VCLC) had additional requirements.

#### 4.4.2.2.4 Question B2.4 Number and allocation of educational institutions' course hours

Figure 4.7 shows that there were three educational institutions (ACES, IAVC, PU) with 200-250 course hours, two (BHI, MCC) with more than 250 hours and one with no data available (VCLC).

ACES had 240 course hours of which 111 (46%) were practical hours, BHI had 980 course hours of which 460 were practical (47%), IAVC had 210 course hours of which 75 (36%) were practical hours, MCC had 300 course hours of which 150 (50%) were practical hours and PU had 223 course hours of which 77 (35%) were practical hours.

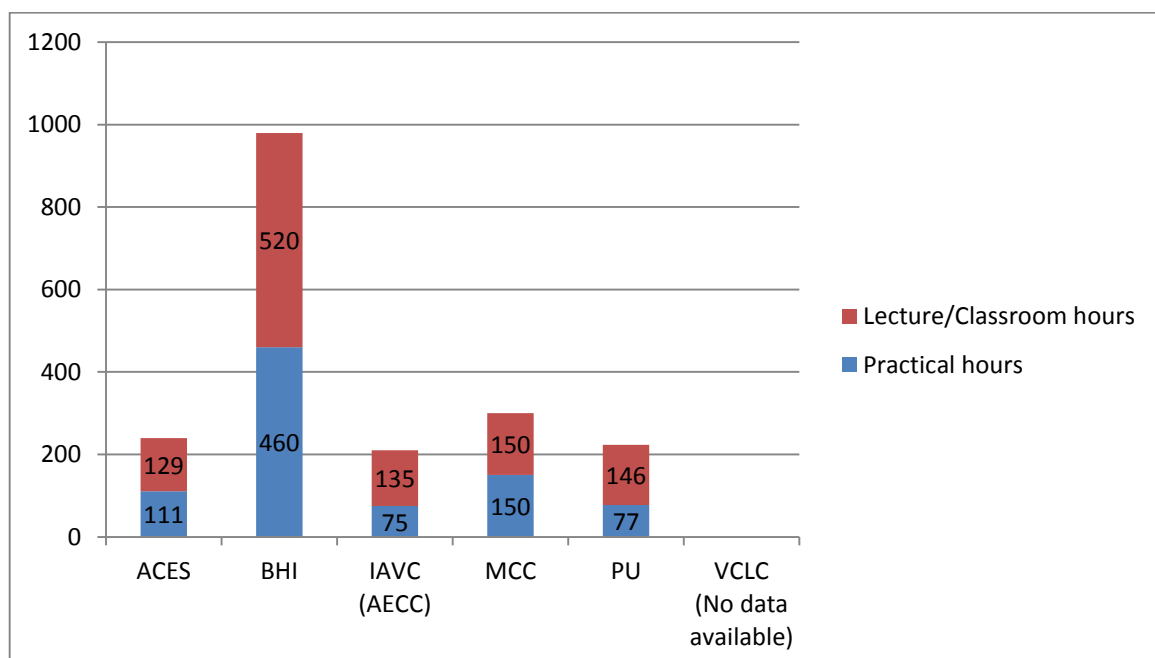


Figure 4.7: Number of course hours of animal chiropractic educational institutions



Table 4.7 reports on the open-ended answers of this question regarding the self-study components of the various courses.

All educational institutions had a self or home study component. ACES specified 40 hours of online lectures prior to each module. BHI did not specify time required for the self-study component, but requires reading and online lectures to be done. IAVC did not specify time required for the self-study component, but requires reading, case reports and review of practical and clinical techniques to be done. MCC's self-study component requires 10-15 hours per week for the duration of the course (two years) and includes reading, online lectures, case reports and a master's research dissertation. PU specified 41 hours' online lectures for the self-study component of its animal chiropractic course. VCLC did not specify time required for the self-study component, but requires reading, case reports and home tests to be done.

**Table 4.7: Composition of self-study components of animal chiropractic courses**

	<i>Reading</i>	<i>Online lectures</i>	<i>Case reports</i>	<i>Other</i>
<i>ACES</i>		<b>X</b>		
<i>BHI</i>	<b>X</b>	<b>X</b>		Work placement
<i>IAVC</i>	<b>X</b>		<b>X</b>	Review of practical techniques
<i>MCC</i>	<b>X</b>	<b>X</b>	<b>X</b>	Master's dissertation
<i>PU</i>		<b>X</b>		
<i>VCLC</i>	<b>X</b>		<b>X</b>	Home tests

Three educational institutions required between 200-250 course hours with additional self-study components. The total course requirement, including home study components and practical work (unless indicated otherwise), were:

- ACES: 360 hours, translating to 36 credits
- BHI: 980 hours (excludes home study component as it was not specified), which translates to 98 credits
- IAVC: 210 hours (excludes home study component as it was not specified), translating to 21 credits
- MCC: a minimum of 2100 hours, translating to 210 credits
- PU: 264 hours, translating to 26.4 credits.

#### 4.4.2.2.5 Question B2.5 Structure of animal chiropractic courses

Figure 4.8 shows that all courses had mixed course structures that included classroom lectures, practical lectures and case-based learning. Five of the six courses (ACES, BHI, IAVC, MCC and PU) included demonstrations and five (ACES, BHI, IAVC, MCC and VCLC) included reading of text books or articles in their course structure. There were four courses (ACES, BHI, MCC and PU) that included online learning in their course structure.

Four courses had other components to their course structure including work placement (BHI), home tests (VCLC), review of practical and clinical techniques at home and question and answer sessions with an expert panel (IAVC), and a master’s research dissertation (MCC). Two courses (IAVC and MCC) included group discussions in their course structure.

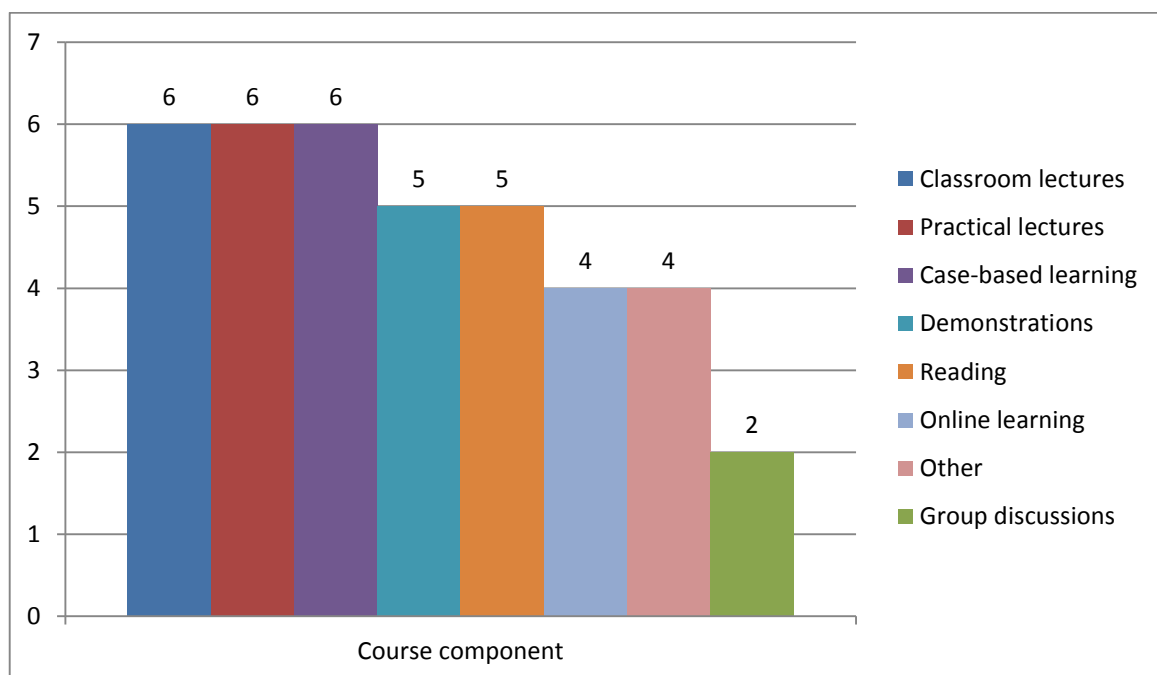
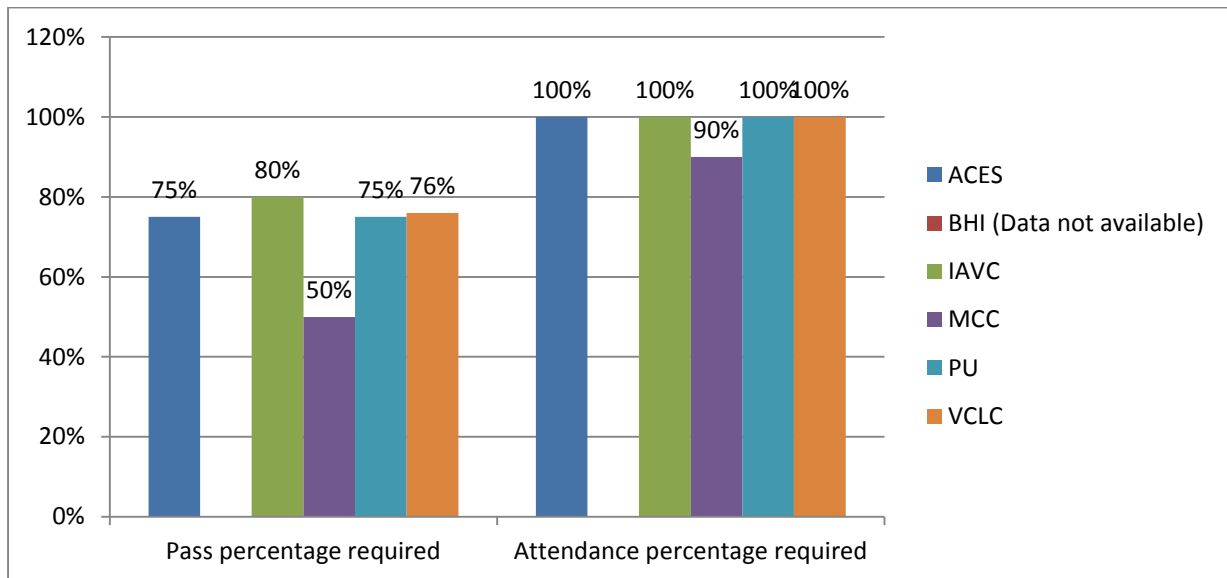


Figure 4.8: Structure of animal chiropractic courses

#### 4.4.2.2.6 Question B2.6 Minimum pass requirements

As can be seen from Figure 4.9, one educational institution (IAVC) required a minimum pass percentage of 80%, one (VCLC) required a 76% pass percentage, two (ACES and PU) required 75% or more and one (MCC) required 50% or more in order to pass

their courses. There were four educational institutions (ACES, IAVC, PU and VCLC) that required a 100% attendance, and one (MCC) required a 90% attendance in order to pass the course.



**Figure 4.9: Minimum requirements to pass animal chiropractic courses**

The following reports on the open-ended answers of this question regarding additional requirements in order to pass animal chiropractic courses.

One educational institution required the completion of a master’s research dissertation (MCC), one required a case presentation assignment (VCLC), one required 90% for open book quizzes at the end of each lecture (ACES) and two required the course to be completed within a specified duration (ACES – three years, and PU – two years).

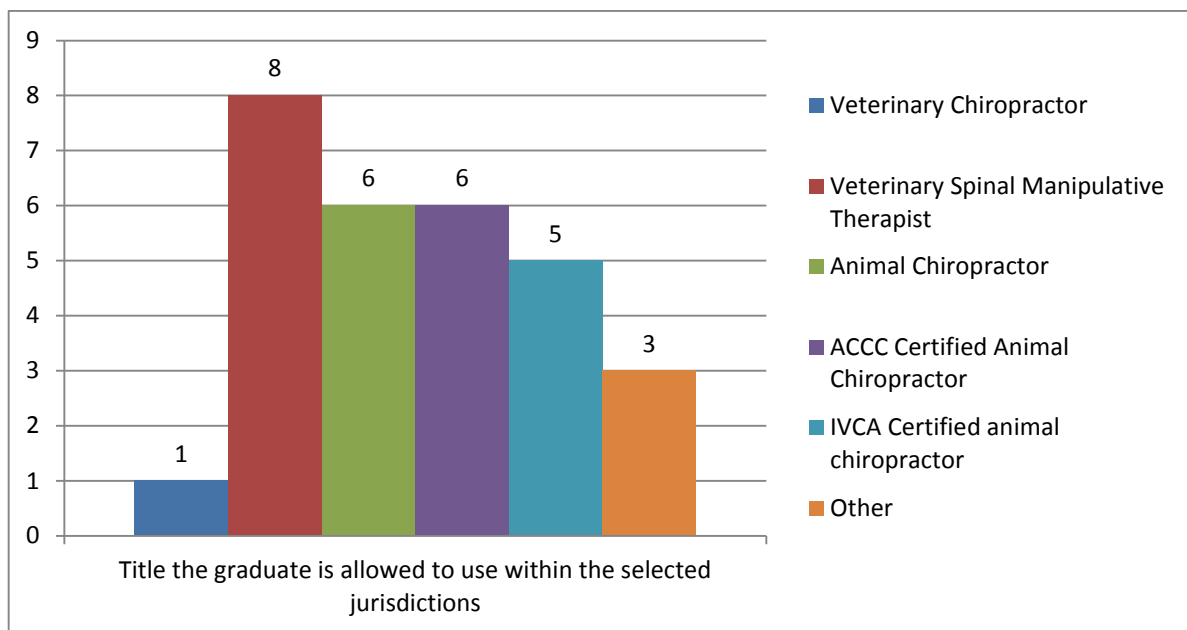
#### **4.4.2.2.7 Question B2.7 Titles legally allowed to be used by graduates in jurisdiction of origin**

More than one title option could be legal in each jurisdiction, resulting in the overall count being greater than ten.

As can be seen from Figure 4.10, the title ‘veterinary chiropractor’ could legally not be used in all jurisdictions, except in Ireland, where veterinarians could use this title and the chiropractic title was not protected. The title ‘veterinary spinal manipulative therapist’ could be used in eight of the ten jurisdictions (ALB(CAN), CAL(USA), IRE, NZ, ONT(CAN), SA, TEX(USA), UK) provided that the practitioner was a veterinarian.

'Animal chiropractor' and 'ACCC certified animal chiropractor' could be used in six jurisdictions (ALB(CAN), CAL(USA), IRE, NZ, ONT(CAN), TEX(USA)) and 'IVCA certified animal chiropractor' could be used in five of the jurisdictions (ALB(CAN), CAL(USA), IRE, NZ, ONT(CAN)).

Three jurisdictions (QLD(AUS), UK, VIC(AUS)) had other titles that could be used, which were 'animal biomechanical professional', 'animal manipulative practitioner/therapist' and 'McTimoney practitioner/therapist'.



**Figure 4.10: Title graduates are allowed to use within the selected jurisdictions**

#### **4.4.2.3 B3: Recognition of foreign animal chiropractic qualifications within this geographical administered area**

##### **4.4.2.3.1 Question B3.1 Recognition of foreign animal chiropractic qualifications by educational authorities**

The qualifications authorities of all jurisdictions allow animal chiropractic qualifications to be submitted for evaluation if the qualification was recognised by the educational statutory regulatory bodies or educational authorities in its country of origin.

#### 4.4.2.3.2 Question B3.2 Recognition of foreign animal chiropractic qualifications by professional statutory regulatory bodies

Figure 4.11 shows that there were two jurisdictions with professional statutory regulatory bodies that recognised animal chiropractic qualifications from other jurisdictions. Both these jurisdictions were in Canada (ALB, ONT) and the animal chiropractic qualifications obtained in other jurisdictions were recognised by the veterinary statutory regulatory bodies (ABVMA and CVO respectively) of the jurisdictions.

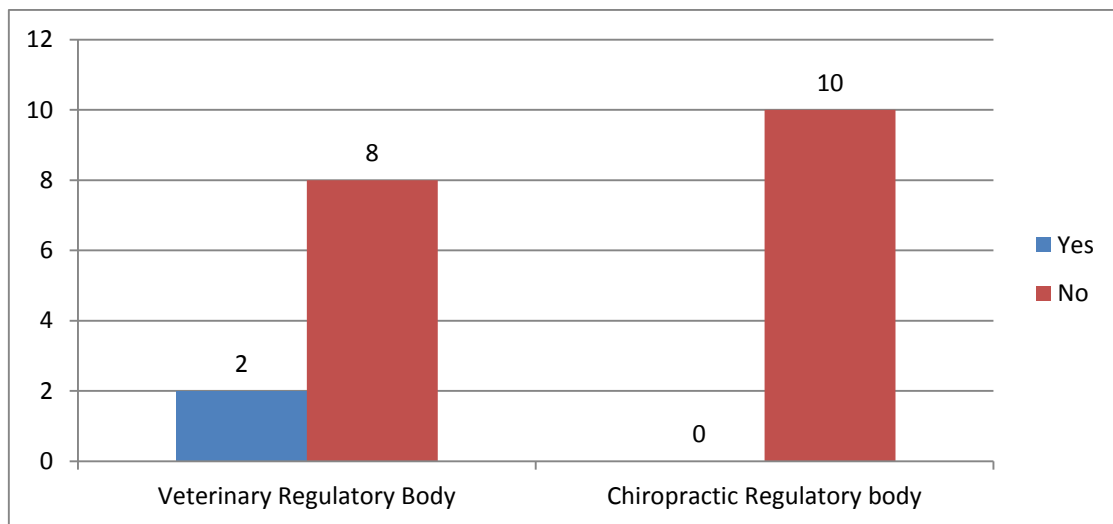
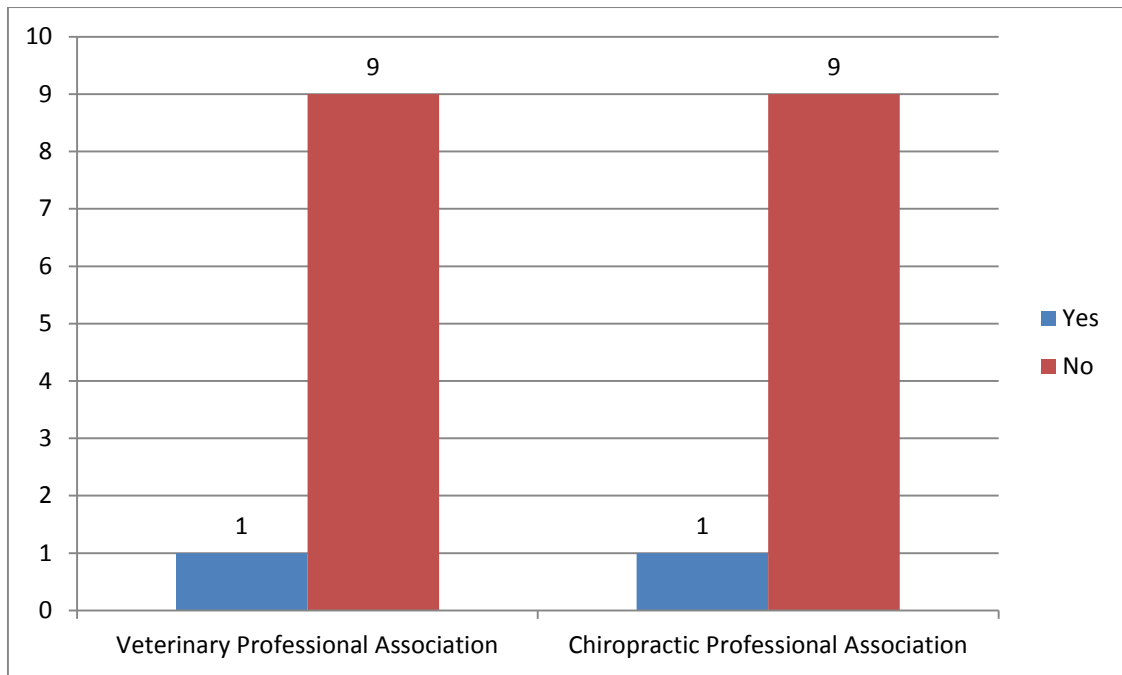


Figure 4.11: Recognition of animal chiropractic qualifications from another jurisdiction by local professional statutory regulatory bodies

#### 4.4.2.3.3 Question B3.3 Recognition of foreign animal chiropractic qualifications by local veterinary or chiropractic professional associations

Figure 4.12 shows that there was one jurisdiction (ALB(CAN)) with a veterinary professional association (ABVMA) that recognised animal chiropractic qualifications from other jurisdictions, and one jurisdiction (IRE) with a chiropractic professional association, the Chiropractic Association of Ireland (CAI), that recognised animal chiropractic qualifications from other jurisdictions.

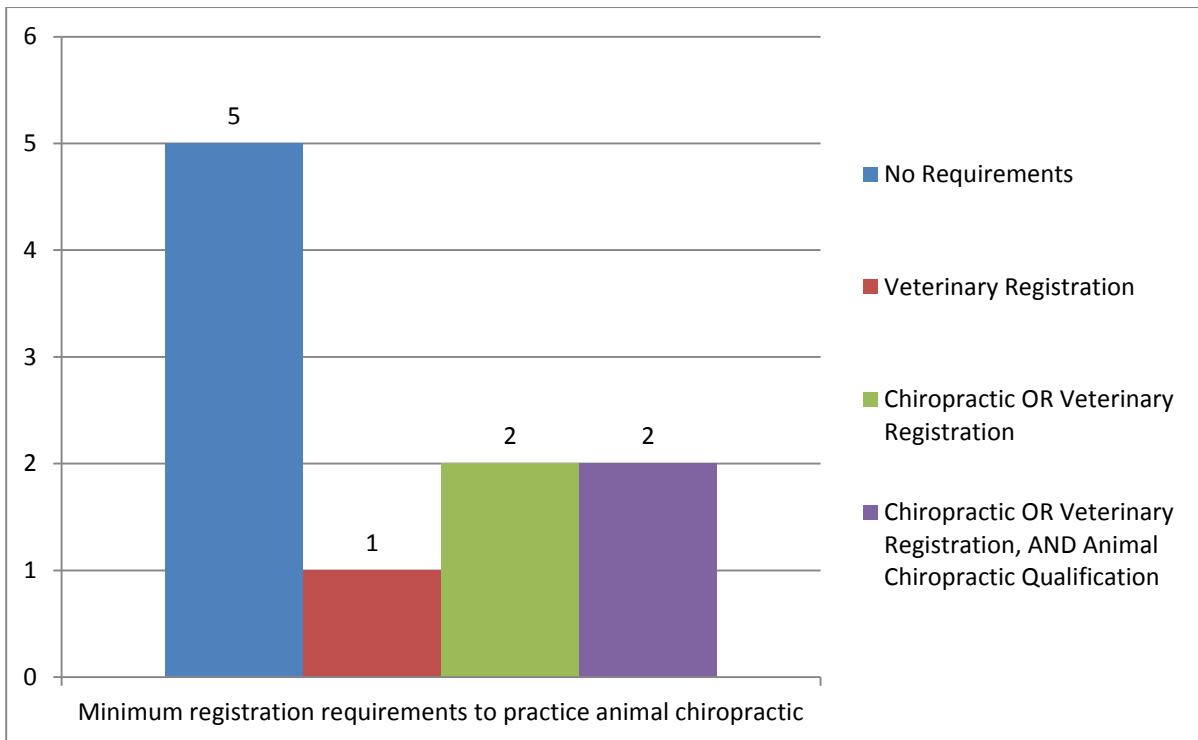


**Figure 4.12: Recognition of animal chiropractic qualifications from another jurisdiction by local veterinary or chiropractic professional associations**

**4.4.2.3.4 Question B3.4 Registration requirements to practice animal chiropractic within the jurisdictions**

Figure 4.13 shows that there were five jurisdictions (NZ, QLD(AUS), TEX(USA), UK, VIC(AUS)) that had no registration requirements in order to practice animal chiropractic within their jurisdictions. One jurisdiction (TEX(USA)) had no requirements, but specified that it would allow registered veterinarians to practice animal chiropractic.

One jurisdiction (IRE) required registration as a veterinarian and two jurisdictions (CAL(USA), SA) required registration as a chiropractor or veterinarian. Two jurisdictions (ALB(CAN), ONT(CAN)) required either a chiropractic or veterinary qualification, each with a post-graduate animal chiropractic qualification. The two jurisdictions (ALB(CAN), ONT(CAN)) that required an animal chiropractic qualification accepted qualifications from all animal chiropractic educational institutions.



**Figure 4.13: Minimum registration requirements to practice animal chiropractic in various jurisdictions**

#### **4.4.2.3.5 Question B3.5 Accreditation of animal chiropractic course required in order to register to practice animal chiropractic**

There were no jurisdictions that required accreditation of an animal chiropractic course for a practitioner of animal chiropractic to register with a statutory regulatory body regulating the practice of animal chiropractic within their jurisdictions.

#### **4.4.2.4 B4: Practitioner registration or licensing within jurisdictions**

##### **4.4.2.4.1 Question B4.1 Requirement of separate registration as animal chiropractor in order to practice animal chiropractic**

There were no jurisdictions that required separate registration as animal chiropractor in order to register with a statutory regulatory body responsible for the regulation of the practice of animal chiropractic within their jurisdictions after graduating from an animal chiropractic course.

#### 4.4.2.4.2 Questions B4.2 and B4.3 Limitations on registration of animal chiropractors

As can be seen from Figure 4.14, animal chiropractic was subject to limitations through legislation in all but one jurisdiction (NZ). There were just as many jurisdictions that had national professional associations that imposed limitations (ALB(CAN), CAL(USA), IRE, TEX(USA), UK) as there were jurisdictions that did not (NZ, ONT(CAN), QLD(AUS), SA, VIC(AUS)).

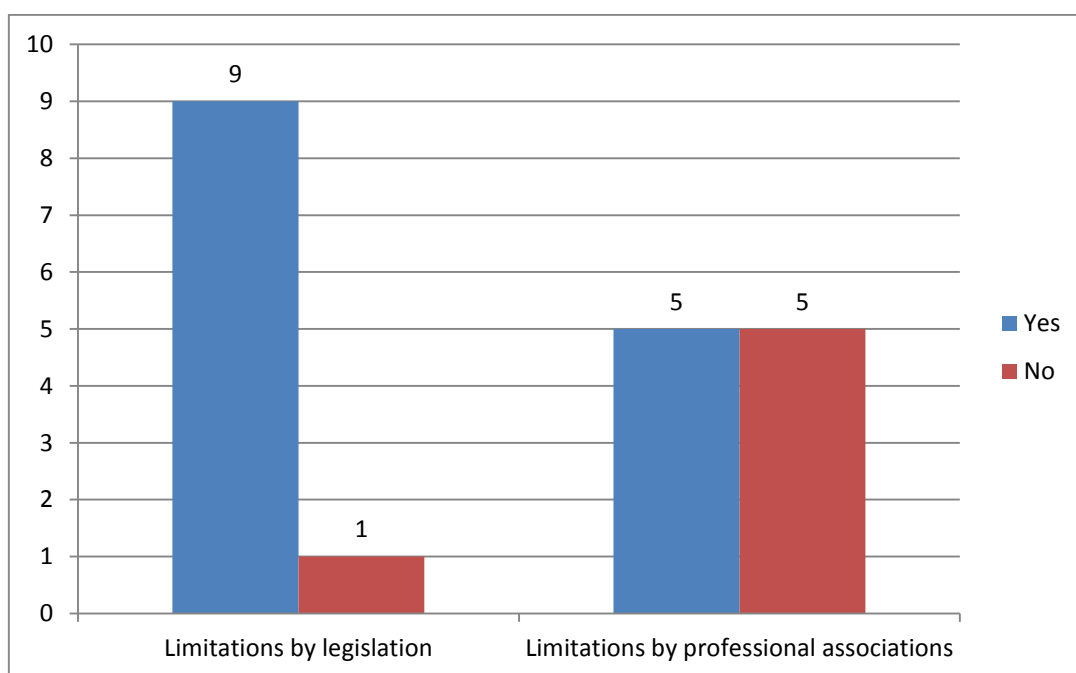


Figure 4.14: Limitations on animal chiropractic

Table 4.8 is a summary of the open-ended answers of this question regarding limitations imposed by legislation.



**Table 4.8: Limitations on registration of animal chiropractors imposed by legislation**

<i>Jurisdiction</i>	<i>Limitation</i>	<i>Regulatory body</i>
ALB(CAN)	Only registered veterinarian or chiropractor with post-graduate qualifications are allowed to practice animal chiropractic; appropriate veterinary supervision is required if the animal chiropractor is non-veterinarian	ABVMA
CAL(USA)	Animal chiropractic may only be performed by a licensed veterinarian or chiropractor; appropriate supervision by veterinarian is required if the practitioner is a non-veterinarian animal chiropractor	VMB and BCE
IRE	Non-veterinarian may not perform acts that constitutes the practice of veterinary medicine	VCI
ONT(CAN)	Only registered veterinarian or chiropractor with post-graduate qualifications are allowed to practice animal chiropractic; appropriate veterinary supervision is required if the animal chiropractor is non-veterinarian	CVO
	Registered chiropractors with post-graduate animal chiropractic qualifications must abide by CVO regulations	CCO
QLD(AUS)	Only veterinarian may diagnose animals or administer restricted drugs to animals	VSBQ
	Cervical spine manipulation may only be performed by chiropractors, osteopaths, physiotherapists or medical professionals	QLD(AUS) HPRNLA 2009
SA	Non-registered persons may not perform services of veterinarian or para-veterinarian. Legal dispensation granted to chiropractors registered with AHPCSA to treat animals under referral of a veterinarian	SAVC
TEX(USA)	Veterinarians and non-veterinarians are allowed to perform the practice of animal chiropractic; supervision by veterinarian is required if a non-veterinarian performs the practice of animal chiropractic on an animal (level of supervision may be determined by the veterinarian)	TBVME
UK	Physiotherapy on animals, which includes chiropractic, may be performed by registered physiotherapists, chiropractors, osteopaths under veterinary direction	RCVS
VIC(AUS)	Use of the veterinary title is regulated to be used only by veterinarians; non-veterinarians may not claim to be registered or a veterinarian, and may not carry out acts required to be done by a veterinarian	VPRBV
	Cervical spine manipulation may only be performed by chiropractors, osteopaths, physiotherapists or medical professionals	The VIC(AUS) HPRNLA

The following reports on the open-ended answers of this question regarding limitations imposed by professional associations.

In Alberta (CAN) only registered veterinarians or chiropractors with post-graduate qualifications are allowed to practice animal chiropractic and appropriate supervision by veterinarian is required if the practitioner is a non-veterinarian animal chiropractor according to the ABVMA.

In Ireland, registered chiropractors and veterinarians who have completed a post-graduate animal chiropractic course are eligible for VCAI voluntary membership. However, the CAI would only allow membership to chiropractors.

In California (USA) membership requirements must be met for voluntary membership with the AVCA or the CoAC and in Texas (USA) the AVCA requires membership requirements to be met for voluntary membership. The AVCA and CoAC allowed membership only to licensed veterinarians or chiropractors holding approved post-graduate animal chiropractic qualifications and certification.

In the UK, three professional associations have limitations imposed on animal chiropractors. The BVCA requires practitioners to hold an IVCA recognised veterinary chiropractic qualification for voluntary membership. The IVCA allowed membership only to registered veterinarians or chiropractors with IVCA approved post-graduate animal chiropractic qualifications. The MAA requires practitioners to hold the MSc Animal Manipulation degree from MCC for membership and the RCC requires chiropractors to be licensed with the GCC and hold a post-graduate qualification in animal chiropractic for membership.

#### **4.4.2.4.3 Question B4.4 Registration as animal chiropractic student and board exam requirements by professional statutory regulatory body**

There were no jurisdictions with a professional statutory regulatory body regulating the practice of animal chiropractic that required registration during animal chiropractic education or board exams to be written in order to practice animal chiropractic within the jurisdictions.

#### **4.4.2.5 B5: Other roles of regulatory bodies: Code of ethics, scope of practice and CPD requirements**

##### **4.4.2.5.1 Question B5.1 and B5.2 Regulation regarding codes of ethics and scopes of practice for the animal chiropractic profession**

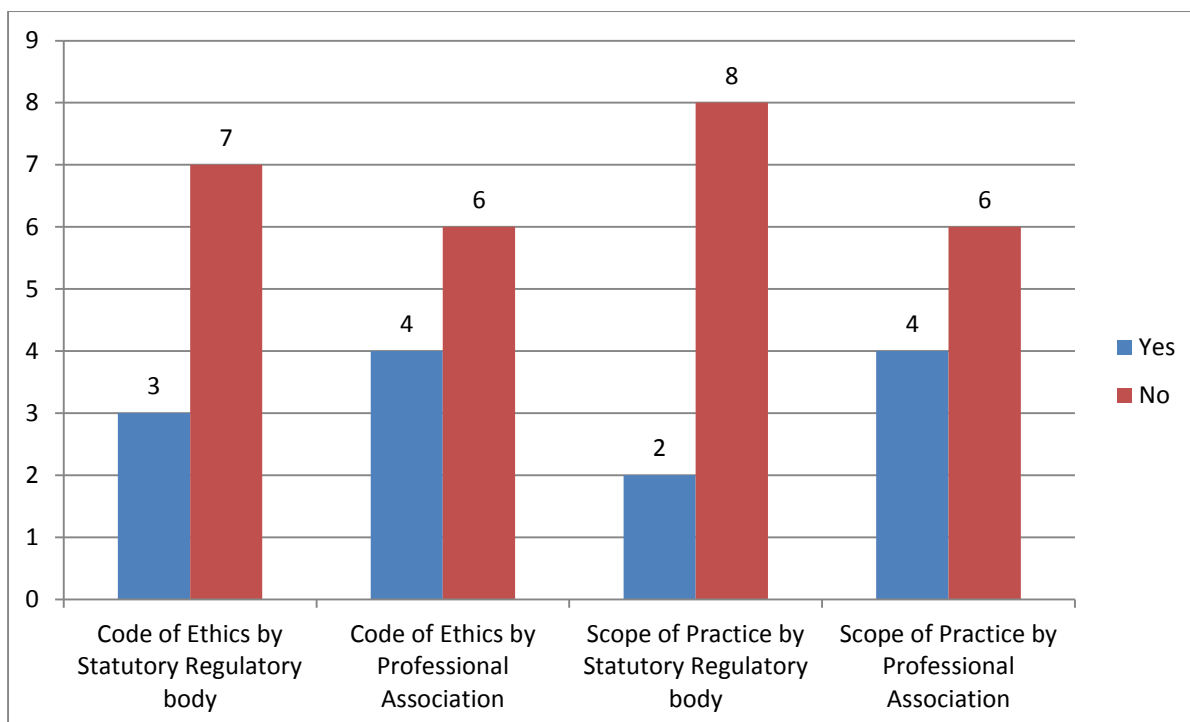
As can be seen from Figure 4.15 there were six jurisdictions (ALB(CAN), CAL(USA), IRE, ONT(CAN), TEX(USA), UK) that had a code of ethics for the animal chiropractic profession, and four jurisdictions (NZ, SA, QLD(AUS), VIC(AUS)) did not have a code

of ethics; and there were four jurisdictions (CAL(USA), IRE, TEX(USA), UK) with a defined scope of practice for animal chiropractic, and six jurisdictions (ALB(CAN), NZ, ONT(CAN), SA, QLD(AUS), VIC(AUS)) that did not have a clearly defined scope of practice.

There were three jurisdictions (ALB(CAN), CAL(USA), ONT(CAN)) that had professional statutory regulatory bodies that had codes of ethics specific to the animal chiropractic profession, and the professional statutory regulatory bodies in seven jurisdictions (IRE, NZ, QLD(AUS), SA, TEX(USA), UK, VIC(AUS)) did not have codes of ethics specific to the animal chiropractic profession. There were two jurisdictions (CAL(USA), TEX(USA)) that had professional statutory regulatory bodies that defined a scope of practice for animal chiropractic, and the professional statutory regulatory bodies in eight jurisdictions (ALB(CAN), IRE, NZ, ONT(CAN), QLD(AUS), SA, UK, VIC(AUS)) did not define a scope of practice for the animal chiropractic profession.

Four jurisdictions (CAL(USA), IRE, UK, TEX(USA)) had a national animal chiropractic professional associations that had codes of ethics and the national animal chiropractic professional association in two jurisdictions (QLD(AUS), VIC(AUS)) did not specify a code of ethics. There were four jurisdictions (CAL(USA), IRE, UK, TEX(USA)) that had a national animal chiropractic professional association that had defined scopes of practice, and two jurisdictions (QLD(AUS), VIC(AUS)) that did not have a national animal chiropractic professional associations that had clearly defined scopes of practice.

Four jurisdictions (ALB(CAN), NZ, ONT(CAN), SA) did not have a national animal chiropractic professional association.



**Figure 4.15: Presence of animal chiropractic codes of ethics and scopes of practice as per statutory regulatory bodies and professional associations**

#### **4.4.2.5.2 Question B5.3 Scope of practice for the animal chiropractic professional according to professional statutory regulatory bodies**

There were only two jurisdictions (CAL (USA, TEX(USA))) with professional statutory regulatory bodies that defined a scope of practice for the animal chiropractic profession. Therefore, the sample size for this question is two (N = 2).

CAL(USA) specified examination of the animal, record keeping, referral to a veterinarian and the development of a treatment plan under the general aspects of its scope of practice, and TEX(USA) had no specifications under the general aspects of its scope of practice.

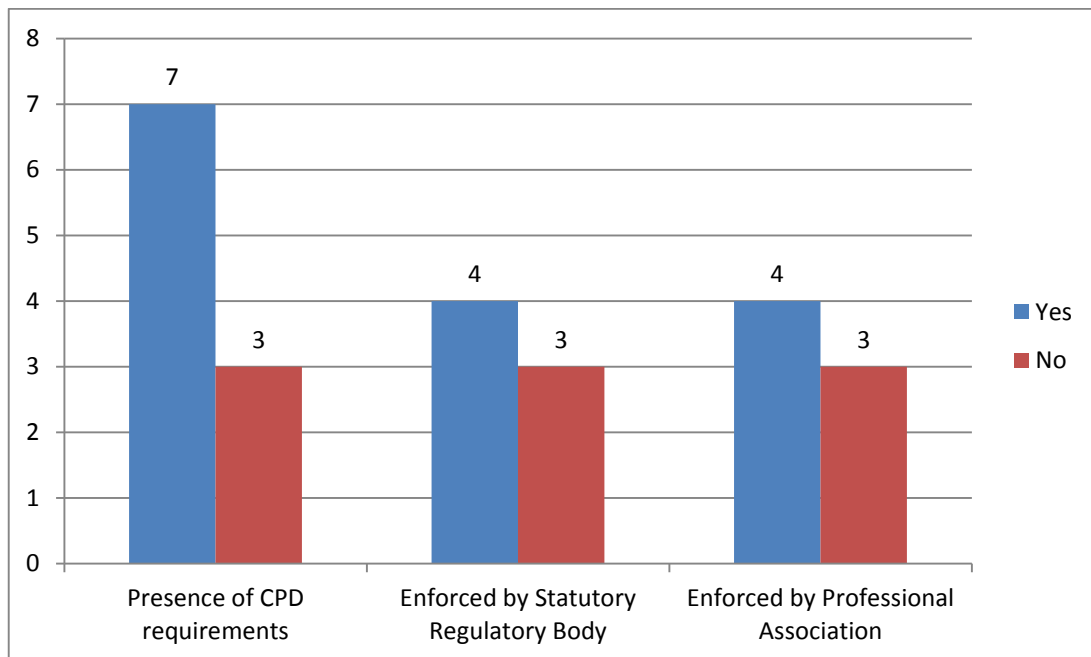
Both jurisdictions specified spinal manipulation, extremity manipulation and manipulation with the use of a mechanical device as treatment modalities that fell within their scopes of practice.

Acute and chronic musculoskeletal conditions, chronic lameness, arthrosis, bone spavin, ligament related conditions, navicular syndrome, spondylosis and tendon related conditions were the conditions that were included in the scope of conditions

that could be treated by animal chiropractors in both jurisdictions. CAL(USA) additionally had fitness maintenance soundness maintenance and sports performance enhancement in its scope of practice.

#### 4.4.2.5.3 Question B5.4 CPD requirements for practitioners of animal chiropractic

Figure 4.16 shows that there were seven jurisdictions (ALB(CAN), CAL(USA), IRE, ONT(CAN), UK, SA, TEX(USA)) that had CPD requirements. Four of these jurisdictions (CAL(USA), IRE, UK, TEX(USA)) had national animal chiropractic professional associations with CPD requirements for continued voluntary membership and in four jurisdictions (ALB(CAN), CAL(USA), ONT(CAN), SA) CPD requirements were enforced by a professional statutory regulatory body.



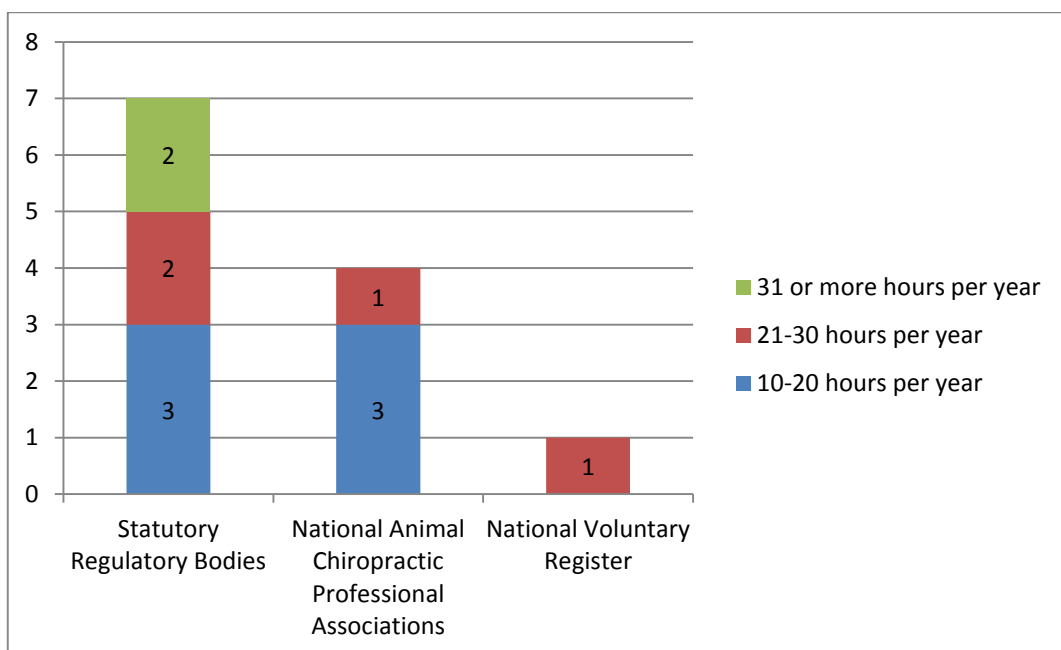
**Figure 4.16: Presence and enforcement of CPD requirements for animal chiropractic**

Three jurisdictions (NZ, QLD(AUS), VIC(AUS)) had no national CPD requirements for practitioners of animal chiropractic. Of these, two jurisdictions (QLD(AUS), VIC(AUS)) had a national animal chiropractic professional association and one jurisdiction (NZ) did not.

The following reports on the open-ended answers of this question regarding consequences if CPD requirements were not met. Failure to uphold CPD requirements

in the case of jurisdictions where the statutory regulatory bodies were responsible for enforcing CPD requirements (ACAC, ABVMA, AHPCSA, BCE, CCO, CVO, VMB) prevented renewal of veterinary or chiropractic registration, whereas, in the case of the jurisdictions where the national animal chiropractic professional associations controlled CPD requirements (AVCA, BVCA, CoAC, MAA, VCAI), it resulted in revocation of voluntary membership or certification, and in the case of the voluntary register (RCC) it resulted in removal of the practitioner’s name from the register.

With reference to Figure 4.17 one can see that three statutory regulatory bodies (ABVMA, AHPCSA, CCO) had CPD requirements of 10-20 hours per year, two (ACAC, BCE) required between 21-30 hours per year, and two (CVO, VMB) required 31 or more hours per year. There were three national animal chiropractic professional associations (AVCA, BVCA, CoAC) with 10-20 hours per year as CPD requirement, and one (MAA) that required 21-30 hours per year. The CPD requirement for the one voluntary register (RCC) was 21-30 hours per year.



**Figure 4.17: CPD requirements for animal chiropractors**

#### 4.4.2.6 B6: Disciplinary consequences

##### 4.4.2.6.1 Question B6.1, B6.2 and B6.3 Disciplinary, complaints and self-reporting structures for the animal chiropractic profession

Figure 4.18 shows that there were seven jurisdictions (ALB(CAN), CAL(USA), IRE, ONT(CAN), SA, TEX(USA), UK) with disciplinary procedures through statutory regulatory bodies or professional associations. The same jurisdictions also had complaints procedures in place for animal owners. In SA disciplinary and complaints procedures existed, but were complicated by the legal dispensation at the time. In the UK disciplinary and complaints procedures were enforced by the professional associations within the jurisdiction. If the practitioner was a chiropractor, GCC Policy regarding the chiropractic treatment of animals stated that misconduct would be referred to the RCVS (General Chiropractic Council, 2003).

Three jurisdictions (NZ, QLD(AUS), VIC(AUS)) did not have disciplinary or complaints procedures. Only one jurisdiction (UK) had self-reporting structures in place for animal chiropractors through an animal chiropractic professional association.

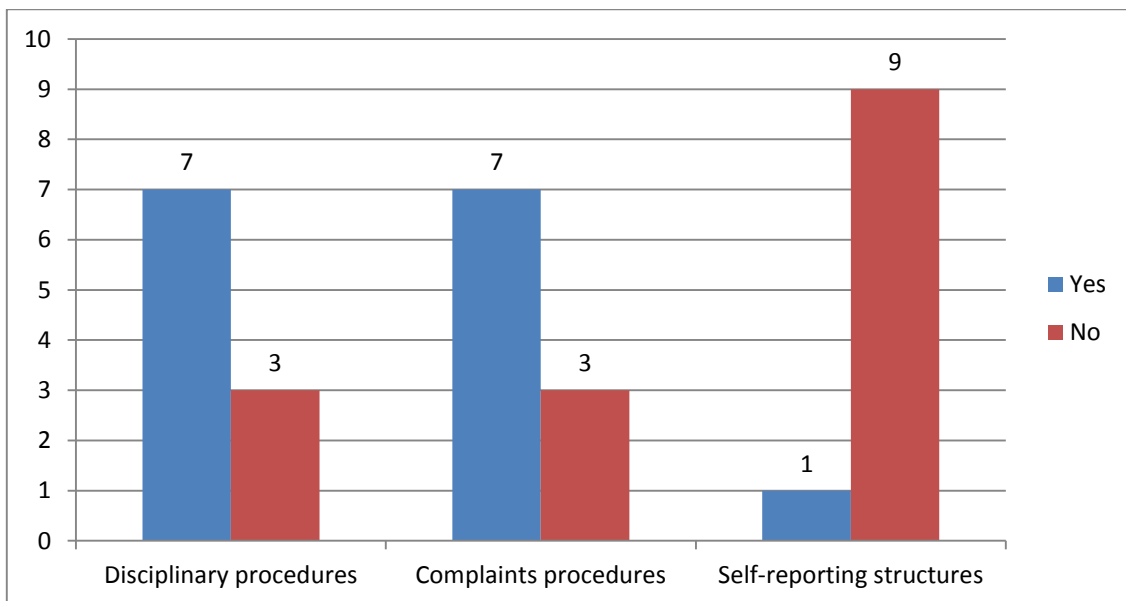


Figure 4.18: Presence of disciplinary structures for animal chiropractic

#### 4.4.2.6.2 Question B6.4 Consequences of being found guilty of misconduct

This question dealt with the consequences of being found guilty of various misconducts (Table 4.9).

**Table 4.9: Consequences of being found guilty of misconduct within the selected jurisdictions**

	<i>Fine</i>	<i>Investigation leading to discipline ranging from reprimand to revocation of license or membership</i>	<i>Imprisonment</i>
<i>Complaints</i>		IRE, SA, UK	
<i>Performing cervical spine manipulation</i>	QLD(AUS), VIC(AUS)		
<i>Unauthorised veterinary practice</i>	SA, TEX(USA), CAL(USA), UK,	QLD(AUS)	SA
<i>Unprofessional conduct</i>	ALB(CAN)	ONT(CAN)	

#### 4.4.3 SECTION C: Animal chiropractic professional associations

##### 4.4.3.1 Questions C1 and C3 National animal chiropractic professional associations and their regulatory role

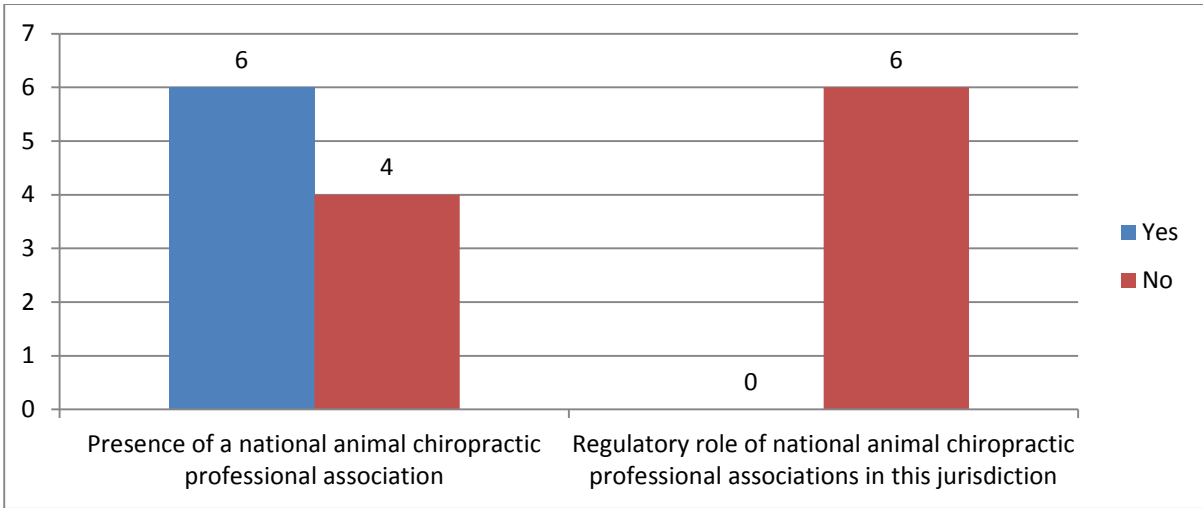
There were six jurisdictions (CAL(USA), IRE, QLD(AUS), TEX(USA), UK, VIC(AUS)) with one or more national animal chiropractic professional association (Figure 4.19).

The following reports on the open-ended answers of this question naming the national animal chiropractic professional associations and their years of establishment.

The national animal chiropractic professional associations included the American Veterinary Chiropractic Association (AVCA) (CAL(USA) and TEX(USA)), Animal Biomechanical Professional Australia (ABPA) (QLD(AUS) and VIC(AUS)), British Veterinary Chiropractic Association (BVCA) (UK), McTimoney Animal Association (MAA) (UK) and Veterinary Chiropractic Association of Ireland (VCAI) (IRE). The AVCA was established in 1989, the ABPA in 2003, the BVCA in 2013, and the MAA in 2004. The establishment year for the VCAI was not available.

None of the national animal chiropractic professional associations fulfilled the regulatory role of a professional statutory regulatory body.



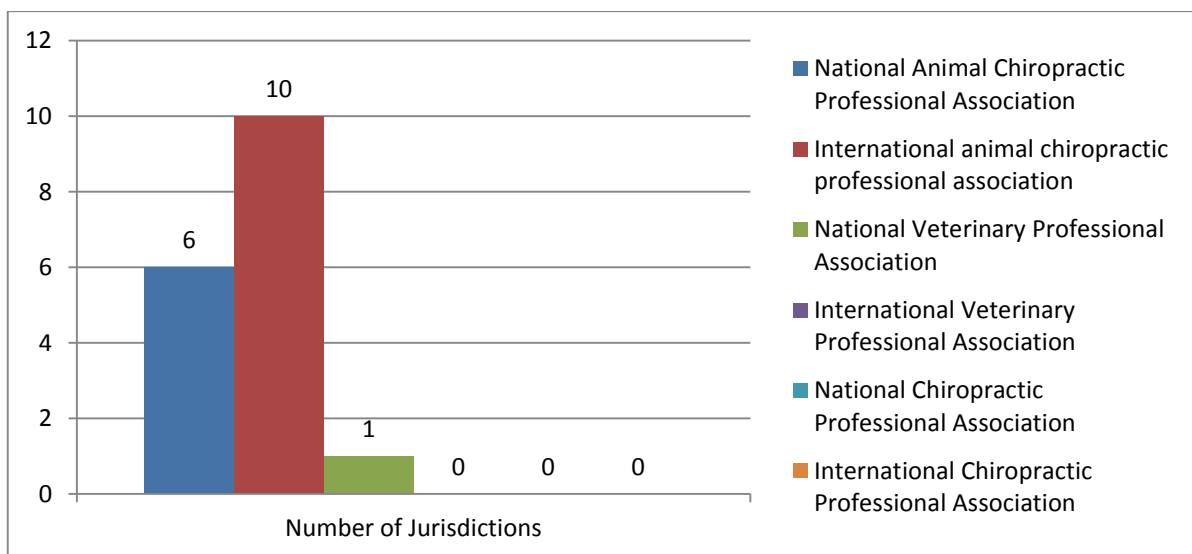


**Figure 4.19: Presence and regulatory role of animal chiropractic associations**

**4.4.3.2 Question C2 Other national and international professional association animal chiropractic fall under**

Animal chiropractic fell under the International Veterinary Chiropractic Association (IVCA) in all jurisdictions (N = 10).

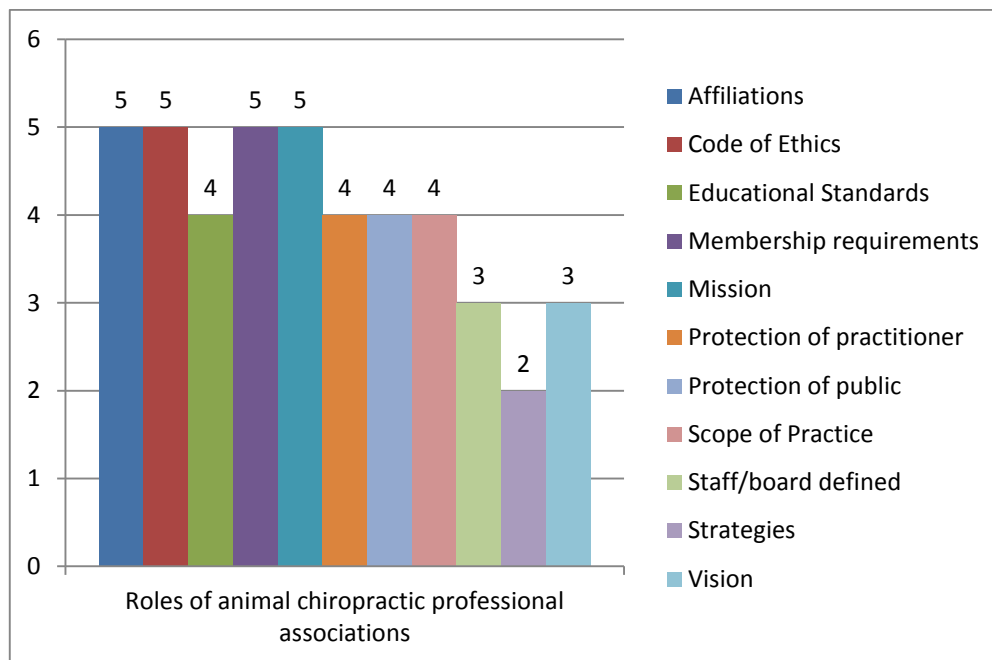
In only one jurisdiction (UK) did animal chiropractic fall under a national veterinary professional association, the British Equine Veterinary Association (BEVA), but did not fall under any international veterinary associations. Animal chiropractic did not fall under any national or international chiropractic professional associations.



**Figure 4.20: Professional associations animal chiropractic falls under**

#### 4.4.3.3 Question C4 Scope of practice for the animal chiropractic profession according to animal chiropractic professional associations

Figure 4.21 shows that there were five (N = 5) national animal chiropractic professional associations spread over six jurisdictions (ABPA (QLD, VIC), AVCA (CAL., TEX), BVCA (UK), MAA (UK), VCAI (IRE)) that had defined parameters for the animal chiropractic profession.



**Figure 4.21: Roles fulfilled by the animal chiropractic professional associations**

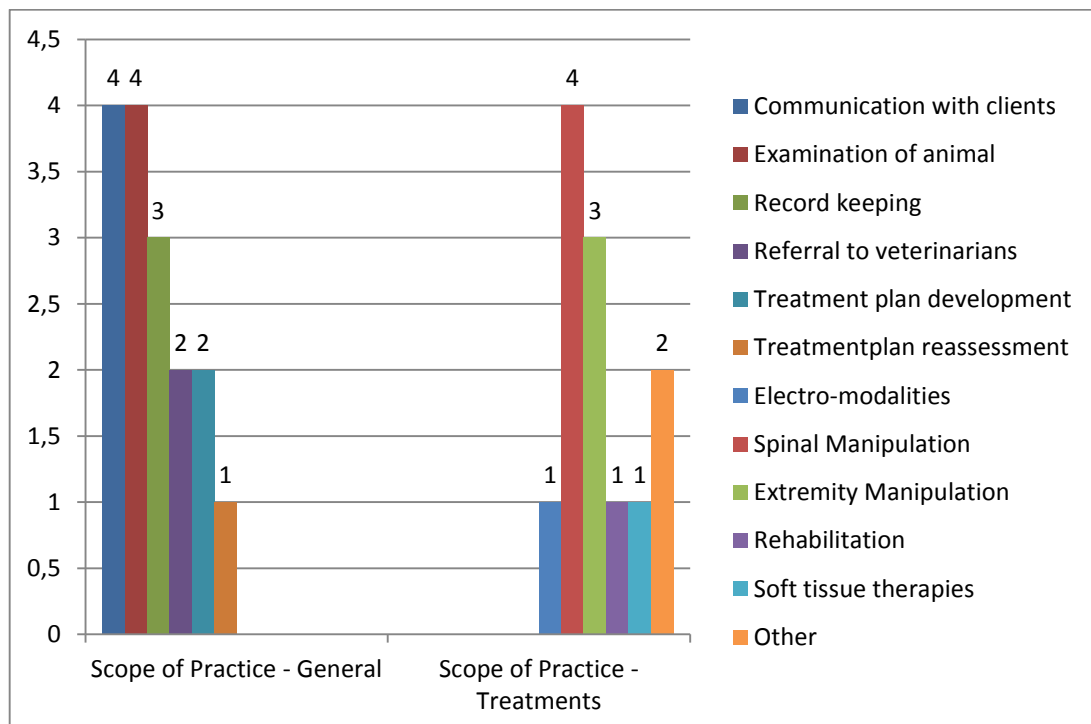
#### - Roles fulfilled by animal chiropractic professional associations

All (N = 5) animal chiropractic professional associations specified their affiliations, codes of ethics, membership requirements and mission on their web pages. There were four professional associations (ABPA, AVCA, BVCA, VCAI) that specified required educational standards and four professional associations (AVCA, BVCA, MAA, VCAI) that specified protection of the practitioner, protection of the public, and a defined scope of practice. Three animal chiropractic professional associations specified their staff or board members (AVCA, BVCA, MAA) and their vision (AVCA, BVCA, VCAI). Two animal chiropractic professional associations (AVCA, BVCA) specified strategies.

- Animal chiropractic scopes of practice (general and treatment) according to animal chiropractic professional associations

As can be seen from Figure 4.22 all (N = 4) animal chiropractic professional associations with a defined scope of practice (AVCA, BVCA, MAA, VCAI) included communication with clients and examination of the animal under their general scope of practice. Three professional associations (BVCA, MAA, VCAI) included record keeping, two (BVCA, MAA) included referral to a veterinarian and development of a treatment plan. One animal chiropractic professional association (BVCA) included reassessment of the treatment plan under its general scope of practice.

Under the scopes of practice regarding treatment modalities, all four animal chiropractic professional associations included spinal manipulation and three (AVCA, MAA, VCAI) included extremity manipulations. One animal chiropractic professional association (MAA) included electro modalities, rehabilitation and soft tissue therapies. There were two professional associations (AVCA, MAA) that specified other treatment modalities within their scopes of practice. Other treatment modalities were manipulation with a mechanical device and cranial manipulation (AVCA), and strapping and exercise planning (MAA).

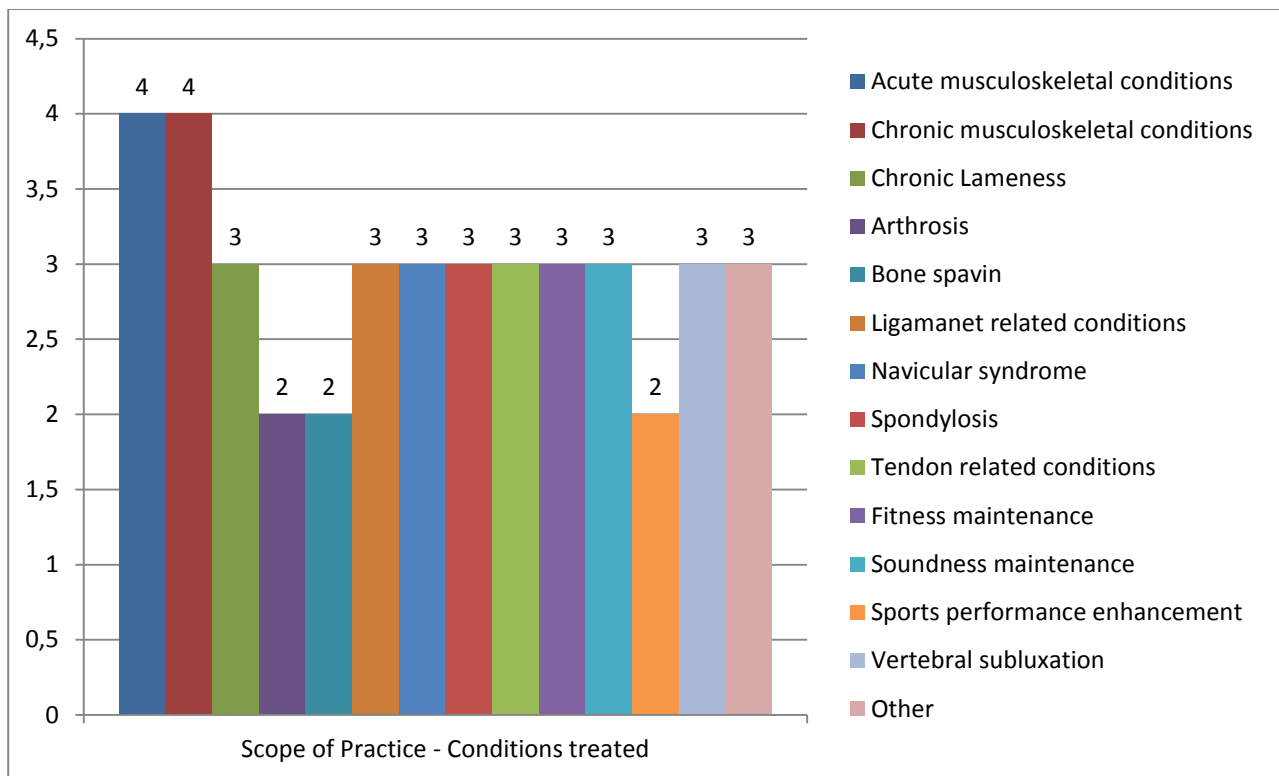


**Figure 4.22: Animal chiropractic scope of practice (general and treatment) according to animal chiropractic professional associations**

- Animal chiropractic scopes of practice (conditions treated) according to animal chiropractic professional associations

As can be seen from Figure 4.23 under the conditions treated by animal chiropractic, all four animal chiropractic professional associations with a defined scope of practice included both acute and chronic musculoskeletal conditions in their scope of practice. Three (AVCA, BVCA, VCAI) animal chiropractic professional associations included ligament and tendon related conditions, navicular syndrome, spondylosis, soundness maintenance and vertebral subluxation and three (BVCA, MAA, VCAI) included chronic lameness and fitness maintenance in their scopes of conditions treated. Two animal chiropractic professional associations (BVCA, VCAI) specified both arthrosis and bone spavin, and two (MAA, VCAI) specified sports performance enhancement as being included in their scope of practice.

Three animal chiropractic professional associations specified other conditions. These included: laminitis and chronic health conditions that don't resolve (AVCA); biomechanical related musculoskeletal conditions (BVCA); and gait abnormalities, pain relief, foot imbalances, issues due to excess weight, conformation problems, post-partum problems, problems due to rider imbalances, and problems due to incorrect saddle fitting (MAA).

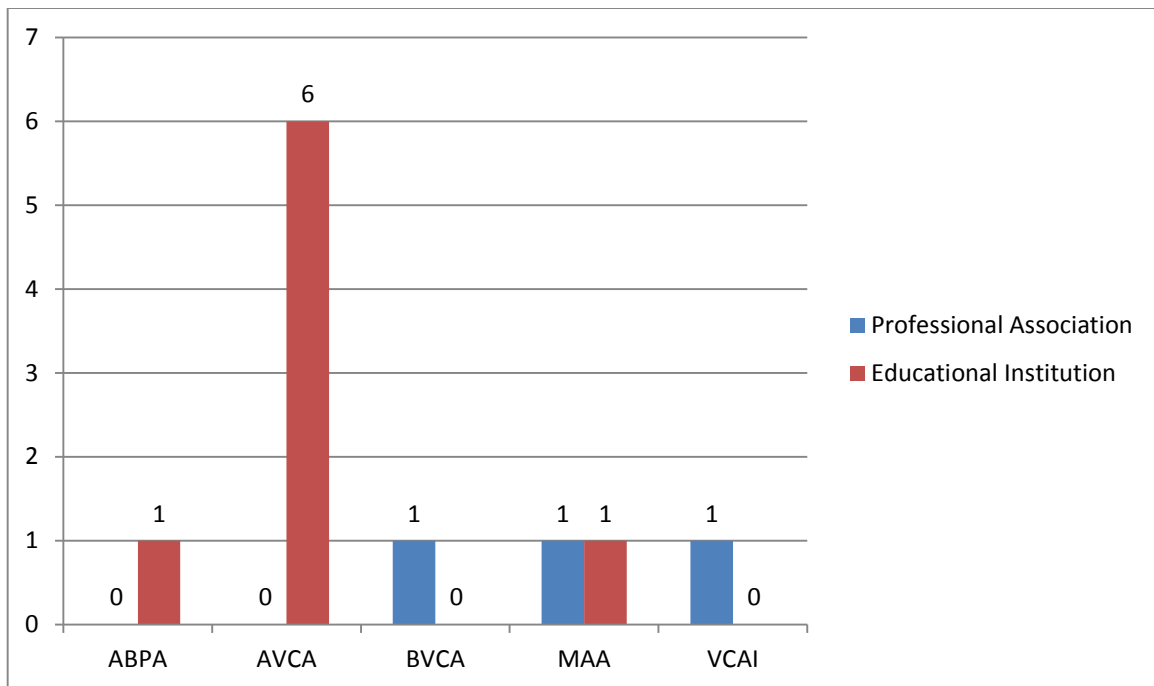


**Figure 4.23: Animal chiropractic scope of practice (conditions treated) according to animal chiropractic professional associations**

#### 4.4.3.4 Question C5 Affiliations of animal chiropractic professional associations

As can be seen from Figure 4.24 all five national animal chiropractic professional associations (ABPA, AVCA, BVCA, MAA, VCAI) had affiliations with other organisations. Three animal chiropractic professional associations (BVCA, MAA, VCAI) had affiliations with other professional associations and three animal chiropractic professional associations (ABPA, AVCA, MAA) had affiliations with animal chiropractic educational institutions.

The following reports on the open-ended answers of this question regarding the affiliations of the above mentioned animal chiropractic professional associations. The ABPA was affiliated to one educational institution (BHI), the AVCA was affiliated to six educational institutions (ACES, BackBone-Academy, The Healing Oasis, Options for Animals, PU, VCLC), the BVCA and VCAI are both affiliated to one professional association (IVCA) and the MAA was affiliated to one educational institution (MCC) and one professional association (MCA).



**Figure 4.24: Affiliations of animal chiropractic professional associations**

#### **4.4.4 Objective Three: Possible current international trends in animal chiropractic regulation from the results**

The chapter so far has used figures and tables to lay out the answers to the data collection sheet related to the statutory regulation of the practice of animal chiropractic in order to compare the selected countries and identify any existing tendencies in statutory regulation of the practice of animal chiropractic. Table 4.11 is a summary of the trends noticed from the above results. Results that did not relate to statutory regulation (thus education and professional association related questions) were not included in the table.

Table 4.10 explains the counting system which was utilised to identify current international trends in the regulation of the animal chiropractic profession.

**Table 4.10: Figure 4.25 Trend counting system**

Trend count	0 or 1	2	3 or 4	5	6 or 7
Trend	Very strong Negative	Strong Negative		Strong Positive	Very strong Positive

**Table 4.11: Comparison of statutory animal chiropractic regulation per country**

<b>Statutory Regulatory variable</b>	<b>AUS</b>	<b>CAN</b>	<b>IRE</b>	<b>NZ</b>	<b>SA</b>	<b>UK</b>	<b>USA</b>	<b>Trend score</b>
<b>General regulation</b>								
Government devolved regulation		x	x	x	x	x	x	6
Animal chiropractic professional associations with government-sanctioned regulatory role								0
Unregulated	x			x				2
Regulation by veterinary statutory regulatory body		x	x		x	x	x	5
Regulation by chiropractic statutory regulatory body				x			x	2
Legal position – Veterinary referral legally required		x			x	x	x	4
Legal position – Legal with veterinary supervision		x					x	2
Legal position – Legal with post-graduate animal chiropractic qualification		x						1
Legal position – Legal only if veterinarian			x					1
Legislative Limitations	x	x	x		x	x	x	6
<b>Registration</b>								
No registration legally required to practice	x			x		x	x	4
Veterinarian registration legally required to practice		x	x		x		x	4
Chiropractor registration legally required to practice		x			x		x	3
Separate registration as animal chiropractor legally required to practice								0
<b>Education</b>								
Registration as animal chiropractic student legally required								0
Professional statutory regulatory body recognition of animal chiropractic educational institutions		x						1
Professional statutory regulatory body requiring accreditation of animal chiropractic education								0
Educational statutory regulatory body regulation of animal chiropractic educational institution	x					x	x	3

Statutory Regulatory variable (Continued)	AUS	CAN	IRE	NZ	SA	UK	USA	Trend
<b>CPD, scope of practice and code of ethics</b>								
Legal CPD requirements		x					x	2
Legal scope of practice							x	1
Legal code of ethics		x					x	2
<b>Discipline</b>								
Legal complaints procedures for animal chiropractic		x	x				x	3
Legal disciplinary procedures for animal chiropractic		x	x				x	3
Legal consequences for misconduct	x	x	x		x	x	x	6
<b>Titles that could legally be used</b>								
Animal chiropractor (if chiropractor, except in IRE where no legal protection of chiropractic title exist)		x	x	x			x	4
Veterinary Chiropractor (if veterinarian)			x					1
Veterinary Spinal Manipulative Practitioner (if veterinarian)		x	x	x	x	x	x	6
Other	x					x		2

Only trends with no, strong or very strong positive or negative current tendencies in the regulation of the practice of animal chiropractic are reported.

#### General regulation

- There is a very strong positive current trend regarding the general regulation of the practice of animal chiropractic being by means of the government devolving authority to a separate statutory regulatory body and legislative limitations regarding the practice of animal chiropractic being put in place.
- A strong positive current trend exists in regard to the regulation of the practice of animal chiropractic being devolved to a veterinary statutory regulatory body.
- A strongly negative current trend exists in regard to the practice of animal chiropractic being unregulated i.e. it is becoming more regulated.
- A strongly negative current trend exists in regard to the regulation of the practice of animal chiropractic not being devolved to the chiropractic statutory regulatory body or requiring the veterinary supervision of non-veterinarian practitioners of animal chiropractic.



- A very strongly negative current trend exists regarding the regulation of the practice of animal chiropractic legally requiring post-graduate animal chiropractic education or the practice of animal chiropractic being limited to veterinarians only.

#### Registration

- No regulation of the practice of animal chiropractic legally required separate registration as an animal chiropractor.

#### Education

- A very strongly negative current trend exists in regard to professional statutory regulatory bodies recognising animal chiropractic educational institutions.
- No regulation of the practice of animal chiropractic legally required accreditation of animal chiropractic education.
- No regulation of the practice of animal chiropractic legally required registration of animal chiropractic students.

#### CPD, scope of practice and code of ethics

- A strong negative current trend of the statutory regulation of the practice of animal chiropractic including CPD requirements and codes of ethics for practitioners of animal chiropractic exists.
- A very strongly negative current trend of the statutory regulation of the practice of animal chiropractic including a scope of practice for the animal chiropractic profession exists.

#### Discipline

- A very strong positive current trend of the regulation related to the practice of animal chiropractic having legal consequences for misconduct exists.

#### Titles

- A very strong positive current trend exists in regard to regulation of the titles a practitioner of animal chiropractic may legally use, including the title 'Veterinary spinal manipulative therapist' provided that the practitioner is a registered veterinarian.
- A strong negative current trend exists in regard to regulation regarding the titles a practitioner of animal chiropractic may legally use, allowing only titles other

that those containing the protected titles “veterinary’ or chiropractic’ to be legally used.

- A very strongly negative current trend exists in regard to regulation regarding the titles a practitioner of animal chiropractic may legally use, allowing the title ‘Veterinary chiropractor’ to be legally used.

#### **4.5 Cross tabulation results**

The following cross tabulations were done in order to address the objectives of the study. Questions that were related to regulatory roles of statutory bodies in terms of animal chiropractic regulation, education, registration, CPD, scope of practice, code of ethics and discipline, and the overall regulatory role of the animal chiropractic professional associations were selected for cross tabulation in order to address Objectives One and Two. Objective Three was further addressed by tabulating the p-values and Eta scores (Appendix F) obtained from the cross tabulations. This table was used to identify possible current international trends in animal chiropractic regulation. Cross tabulation results with significant p-values or Eta scores are presented below. The results that were not significant can be found in Appendix F.

##### **4.5.1 Objective One**

Objective One was to determine the regulatory role of the statutory body on animal chiropractic (education, registration, discipline, code of ethics, scope of practice and continuing professional development) in the selected countries.

In order to address this objective, questions that related to the legal position of the practice of animal chiropractic and questions related to the regulatory roles (education, registration, disciplinary, ethical code, scope of practice and continuing professional development and disciplinary) of the statutory body were identified. These questions were:

- Questions related to the legal position of the practice of animal chiropractic: Questions B1.1, B1.5a-e, B4.2 (Questions as per Appendix D5).
- Questions related to the regulatory roles of the statutory body:
- Questions B2.1, B2.2a, B2.2c, B2.2e, B2.3, B2.4, B2.5, B2.6, B3.2, B3.4, B4.1, B4.4, B5.1, B5.2, B5.4, B6.1, B6.2 (Questions as per Appendix D5).

Cross tabulations of these questions were performed and the results were used to identify any trends in the statutory regulation of the practice of animal chiropractic. Significant and borderline significant statistical cross tabulation results are reported.

**4.5.1.1 Minimum percentage required to pass animal chiropractic courses (B2.6) vs. Supervision by a veterinarian legally required (B1.5b)**

A significant relationship ( $\text{Eta} = 0.471$ ) between veterinarian supervision of a non-veterinarian practitioner of animal chiropractic being legally required and the minimum percentage required to pass an animal chiropractic course was found.

There were only five animal chiropractic educational institutions with the minimum percentages needed in order to pass their courses available and therefore the total in this question was five ( $N = 5$ ) (Table 4.12).

Table 4.12: Veterinarian supervision of non-veterinarian animal chiropractic practitioner vs. % required to pass animal chiropractic courses

		<i>Legal under supervision of veterinarian</i>		Total
		Yes	No	
<i>Minimum pass % for animal chiropractic courses</i>	50.00	0	1	1
	75.00	2	0	2
	76.00	1	0	1
	80.00	0	1	1
Total		3	2	5

The educational institutions for animal chiropractic in jurisdictions wherein the practice of animal chiropractic was legal under supervision of a veterinarian ( $N = 2$ ) required percentages of 75% and 76% in order to pass their courses. In the jurisdiction in which the supervision of a veterinarian was not required in order to practice animal chiropractic, the educational institutions required minimum percentages of 50% and 80% in order to pass its courses.

#### 4.5.1.2 Recognition of animal chiropractic education by professional statutory regulatory body (B3.2) vs. Legal if veterinarian holds post-graduate animal chiropractic qualification (B1.5d)

A p-value of 0.022 showed that there was a significant relationship between jurisdictions where a post-graduate animal chiropractic qualification was a legal requirement for veterinarians who practiced animal chiropractic and jurisdictions with professional statutory regulatory bodies regulating the practice of animal chiropractic recognising animal chiropractic education.

The regulatory bodies of the two jurisdictions where the practice of animal chiropractic was specified legal if the practitioner is a veterinarian with a post graduate animal chiropractic qualification recognised foreign animal chiropractic qualifications. Where veterinarians were not required to do post-graduate animal chiropractic education (N = 8), foreign animal chiropractic qualifications were not recognised by the regulatory bodies (Table 4.13).

**Table 4.13: Legal if veterinarian holds post-graduate animal chiropractic qualification vs. Registration requirements to practice animal chiropractic**

		<i>Recognition by regulatory bodies</i>		Total
		Yes	No	
<i>Legal if practitioner is a veterinarian</i>	Yes	2	0	2
	No	0	8	8
Total		2	8	10

#### 4.5.1.3 Registration requirements to practice animal chiropractic (B3.4) vs. Legal if veterinarian holds post-graduate animal chiropractic qualification (B1.5d)

A p-value of 0.019 showed that there was a strong significant relationship between jurisdictions where post-graduate animal chiropractic education was a legal requirement for veterinarians who practiced animal chiropractic and the minimum registration requirements in order to practice animal chiropractic in that jurisdiction.

Two jurisdictions that required a post-graduate animal chiropractic qualification and registration as veterinarian or chiropractor legally required veterinarians to hold a post-graduate qualification in animal chiropractic to practice animal chiropractic. Jurisdictions that had no registration requirements, required registration as veterinarian or chiropractor or registration as veterinarian only, and did not require veterinarians to have post-graduate animal chiropractic qualifications in order to practice animal chiropractic (Table 4.14).

**Table 4.14: Legal if veterinarian practitioner of animal chiropractic completed post-graduate animal chiropractic education vs. Registration requirements to practice animal chiropractic**

		<i>Minimum registration requirements to practice</i>				Total
		1*	3* or 4*	3* or 4*, and 6*	4*	
<i>Legal requirement of veterinarian practitioner holding a post-graduate animal chiropractic qualification</i>	Yes	0	0	2	0	2
	No	5	2	0	1	8
Total		5	2	2	1	10

\*1 – No registration requirements, 3 – Chiropractic qualification, 4 – Veterinary qualification, 6 – Animal chiropractic qualification.

#### **4.5.1.4 Registration requirements to practice animal chiropractic (B3.4) vs. Legal only if veterinarian (B1.5e)**

A p-value of 0.019 showed that there was a strong significant relationship between jurisdictions where the practice of animal chiropractic was legally only allowed if the practitioner was a veterinarian and the minimum registration requirement as veterinarian in order to practice animal chiropractic in that jurisdiction.

The jurisdiction that required registration as a veterinarian legally allowed the practice of animal chiropractic to be performed by veterinarians only. Jurisdictions that had no registration requirements, requirements of registration as veterinarian or chiropractor or post-graduate animal chiropractic qualification and registration as veterinarian or chiropractor, legally allowed the practice of animal chiropractic to be performed by non-veterinarian practitioners as well (Table 4.15).

**Table 4.15: Legal only if veterinarian vs. Registration requirements to practice animal chiropractic**

		<i>Minimum registration requirements to practice</i>				Total
		1*	3* or 4*	3* or 4*, and 6*	4*	
<i>Legal only if practitioner is a veterinarian</i>	Yes	0	0	0	1	1
	No	5	2	2	0	9
Total		5	2	2	1	10

\*1 – No registration requirements, 3 – Chiropractic qualification, 4 – Veterinary qualification, 6 – Animal chiropractic qualification.

#### **4.5.1.5 Registration as chiropractor to practice animal chiropractic (B3.4) vs. Veterinary referral legally required (B1.5a)**

A significant relationship was found between jurisdictions wherein referral from a veterinarian was required for the practice of animal chiropractic by non-veterinarian practitioners and registration as chiropractor being an accepted requirement in order to practice animal chiropractic in that jurisdiction, with a p-value of 0.048.

The four jurisdictions that indicated that the practice of animal chiropractic was required to be under referral from a veterinarian, had registration as a chiropractor to practice as animal chiropractor as a requirement and one did not. All the jurisdictions (N = 5) that did not require referral from a veterinarian in order to practice animal chiropractic, did not have registration as a chiropractor as one of its requirements (Table 4.16).

**Table 4.16: Veterinary referral legally required vs. Registration as chiropractor to practice animal chiropractic**

		<i>Chiropractic qualification</i>		Total
		Yes	No	
<i>Legal under referral from a veterinarian</i>	Yes	4	1	5
	No	0	5	5
Total		4	6	10

#### 4.5.1.6 Registration as veterinarian required to practice animal chiropractic (B3.4) vs. Veterinary referral legally required (B1.5a)

A significant relationship was found between jurisdictions wherein referral from a veterinarian was required for the practice of animal chiropractic by non-veterinarian practitioners and registration as veterinarian being accepted as requirement to practice animal chiropractic in that jurisdiction, with a p-value of 0.048.

Four jurisdictions that required veterinary referral for the practice of animal chiropractic indicated that registration as veterinarian to practice as animal chiropractor was a requirement and one did not. All the jurisdictions (N = 5) that did not require referral from a veterinarian in order to practice animal chiropractic, did not have registration as veterinarian as one of its requirements (Table 4.17).

**Table 4.17: Veterinary referral legally required vs. Registration as veterinarian required to practice animal chiropractic**

		Veterinary qualification		Total
		Yes	No	
Legal under referral from a veterinarian	Yes	4	1	5
	No	0	5	5
Total		4	6	10

#### 4.5.1.7 Existence of a code of ethics for the animal chiropractic profession (B5.1) vs. Legal paradigm (B1.1)

There was a very strong significant relationship between the legal paradigm under which the practice of animal chiropractic fell and the existence of a code of ethics for the profession with a p-value of 0.007.

The jurisdictions that indicated that the practice of animal chiropractic regulation fell under government devolved authority to a separate regulatory body (N = 6), all had a code of ethics for the profession. In the two jurisdictions that had government devolved authority to a separate regulatory body, but as yet specifically unregulated, and the two jurisdictions in which the animal chiropractic profession was unregulated, did not have a code of ethics for the animal chiropractic profession (Table 4.18).

**Table 4.18: Legal paradigm vs. Code of ethics for the animal chiropractic profession**

		Code of ethics		Total
		Yes	No	
<i>Legal paradigm</i>	Government devolved authority to separate regulatory body	6	0	6
	Government devolved authority to separate regulatory body + as yet specifically unregulated	0	2	2
	Largely unregulated	0	2	2
Total		6	4	10

**4.5.1.8 Existence of a code of ethics for the animal chiropractic profession (B5.1) vs. Unregulated (B1.5c)**

There was a significant relationship, with a p-value of 0.033, between the practice of animal chiropractic being unregulated and the existence of a code of ethics for the profession in a jurisdiction.

Six jurisdictions in which the animal chiropractic profession was regulated had a code of ethics (by the statutory regulatory body or professional association) and one did not. All jurisdictions in which the practice of animal chiropractic was unregulated (N = 3) did not have a code of ethics (Table 4.19).

**Table 4.19: Unregulated vs. Code of ethics for the animal chiropractic profession**

		Code of ethics		Total
		Yes	No	
<i>Unregulated</i>	Yes	0	3	3
	No	6	1	7
Total		6	4	10

**4.5.1.9 Existence of CPD requirements (B5.4) vs. Legal paradigm (B1.1)**

There was a significant relationship between the chiropractic treatment of animals falling under the legal paradigm of government devolved authority to a separate regulatory body and existence of CPD requirements for the animal chiropractic profession, with a p-value of 0.022.

The jurisdictions that indicated that the practice of animal chiropractic regulation fell under government devolved authority to a separate regulatory body (N = 6), all had



CPD requirements for the profession. Of the two jurisdictions that had government devolved authority to a separate regulatory body, but as yet specifically unregulated, one had CPD requirements and one did not. The two jurisdictions, in which the animal chiropractic profession was unregulated, did not have a code of ethics for the animal chiropractic profession (Table 4.15).

**Table 4.20: Legal paradigm vs. CPD requirements for the animal chiropractic profession**

		<i>CPD requirements</i>		Total
		Yes	No	
<i>Legal paradigm</i>	Government devolved authority to separate regulatory body	6	0	6
	Government devolved authority to separate regulatory body + as yet specifically unregulated	1	1	2
	Largely unregulated	0	2	2
Total		7	3	10

#### 4.5.1.10 Existence of CPD requirements (B5.4) vs. Unregulated (B1.5c)

There was a very strong significant relationship between the chiropractic treatment of animals not being unregulated and the existence of CPD requirements for the animal chiropractic profession, with a p-value of 0.008.

All jurisdictions in which the animal chiropractic profession was regulated (N = 7) had CPD requirements and all jurisdictions in which the practice of animal chiropractic was unregulated (N = 3) did not have CPD requirements (Table 4.21).

**Table 4.21: Unregulated vs. CPD requirements for the animal chiropractic profession**

		<i>CPD requirements</i>		Total
		Yes	No	
<i>Unregulated</i>	Yes	0	3	3
	No	7	0	7
Total		7	3	10

**4.5.1.11 Existence of disciplinary procedures for the practice of animal chiropractic (B6.1) vs. Legal paradigm (B1.1)**

There was significance between the chiropractic treatment of animals falling under the legal paradigm of government devolved authority to a separate regulatory body and existence of disciplinary procedures through statutory regulatory bodies or professional associations for the animal chiropractic profession, with a p-value of 0.022.

Six jurisdictions indicated that the practice of animal chiropractic regulation fell under government devolved authority to a separate regulatory body and all of these had disciplinary procedures for the profession. The one jurisdiction that had government devolved authority to a separate regulatory body, but as yet specifically unregulated, had disciplinary procedures and the other did not. Both the jurisdictions, in which the animal chiropractic profession was unregulated, did not have disciplinary procedures for the animal chiropractic profession (Table 4.22).

**Table 4.22: Legal paradigm vs. Disciplinary procedures for the practice of animal chiropractic**

		<i>Disciplinary procedures</i>		Total
		Yes	No	
<i>Legal paradigm</i>	Government devolved authority to separate regulatory body	6	0	6
	Government devolved authority to separate regulatory body + as yet specifically unregulated	1	1	2
	Largely unregulated	0	2	2
Total		7	3	10

**4.5.1.12 Existence of disciplinary procedures for the animal chiropractic profession (B6.1) vs. Unregulated (B1.5c)**

There was a very significant relationship (p-value = 0.008) between jurisdictions in which the practice of animal chiropractic was not unregulated and the existence of disciplinary procedures for the animal chiropractic profession.

Disciplinary procedures existed in all jurisdictions in which the animal chiropractic profession was regulated (N = 7) and all jurisdictions in which the practice of animal chiropractic was unregulated (N = 3) did not have disciplinary procedures (Table 4.23).

**Table 4.23: Unregulated vs. Disciplinary procedures for the practice of animal chiropractic**

		<i>Disciplinary procedures</i>		Total
		Yes	No	
<i>Unregulated</i>	Yes	0	3	3
	No	7	0	7
Total		7	3	10

**4.5.1.13 Existence of complaints procedures for the practice of animal chiropractic (B6.2) vs. Legal paradigm (B1.1)**

There was a significant relationship (p-value = 0.022) between the chiropractic treatment of animals falling under the legal paradigm of government devolved authority to a separate regulatory body and existence of complaints procedures through statutory regulatory bodies or professional associations for the animal chiropractic profession.

The jurisdictions that indicated that the practice of animal chiropractic regulation fell under government devolved authority to a separate regulatory body (N = 6), all had complaints procedures for the profession. Of the two jurisdictions that had government devolved authority to a separate regulatory body, but as yet specifically unregulated, one had complaints procedures and the other did not. The two jurisdictions in which the animal chiropractic profession was unregulated did not have complaints procedures for the animal chiropractic profession (Table 4.24).

**Table 4.24: Legal paradigm vs. Complaints procedures for the practice of animal chiropractic**

		<i>Complaints procedures</i>		Total
		Yes	No	
<i>Legal paradigm</i>	Government devolved authority to separate regulatory body	6	0	6
	Government devolved authority to separate regulatory body + as yet specifically unregulated	1	1	2
	Largely unregulated	0	2	2
Total		7	3	10

#### 4.5.1.14 Existence of complaints procedures for the practice of animal chiropractic (B6.2) vs. Unregulated (B1.5c)

There was a high significant relationship between jurisdictions in which the practice of animal chiropractic was not unregulated and the existence of complaints procedures for the animal chiropractic profession with a p-value of 0.008.

All jurisdictions in which the animal chiropractic profession was regulated (N = 7) had complaints procedures and all jurisdictions in which the practice of animal chiropractic was unregulated (N = 3) did not have complaints procedures (Table 4.25).

**Table 4.25: Unregulated vs. Complaints procedures for the practice of animal chiropractic**

		<i>Complaints procedures</i>		Total
		Yes	No	
<i>Unregulated</i>	Yes	0	3	3
	No	7	0	7
Total		7	3	10

#### 4.5.2 Objective Two

Objective Two was to determine the regulatory role of professional associations on animal chiropractic in the selected countries. In order to address Objective Two, questions relating to the overall regulatory role of animal chiropractic professional associations and questions related to the functions of statutory bodies were identified:

- Questions related to the overall regulatory role of animal chiropractic professional associations:  
Questions B4.3, C1, C3 (Questions as per Appendix D5).
- Questions related to the regulatory roles of the statutory body:  
Questions B2.1, B2.2a, B2.2c, B2.2e, B2.3, B2.4, B2.5, B2.6, B3.2, B3.4, B4.1, B4.4, B5.1, B5.2, B5.4, B6.1, B6.2 (Questions as per Appendix D5).

Cross tabulations were used to compare the above questions and the results were used to identify any current trends in the regulatory role of animal chiropractic professional associations. Significant statistical cross tabulation results are reported.

#### 4.5.2.1 Limitations by professional associations (B4.3) vs. Existence of code of ethics for the animal chiropractic profession (B5.1)

There was a significant relationship between the presence of professional associations that imposed limitations on the animal chiropractic profession in a jurisdiction and the existence of a code of ethics, with a p-value of 0.048.

The five jurisdictions where professional associations imposed limitations on the animal chiropractic practitioners all had a code of ethics for the profession. Of the five jurisdictions wherein there were no limitation imposed by professional associations, four did not have a code of ethics for the animal chiropractic profession and one did.

**Table 4.26: Limitations by professional associations vs. Code of ethics for the animal chiropractic profession**

		<i>Code of ethics</i>		Total
		Yes	No	
<i>Limitations by professional associations</i>	Yes	5	0	5
	No	1	4	5
Total		6	4	10

#### 4.5.3 Objective Three: Possible current international trends in animal chiropractic regulation from the cross tabulation results

From the cross tabulations, three possible trends were identified in the regulation of the practice of animal chiropractic. A possible trend was considered if the cross tabulation of a regulatory variable resulted in three or more significant findings.

##### 4.5.3.1 Current international trends in animal chiropractic regulation

The existence of a code of ethics, CPD requirements, complaints procedures and disciplinary procedures were all significant findings under the legal paradigm that the regulation of the practice of animal chiropractic fell under.

The existence of a code of ethics, CPD requirements, complaints procedures and disciplinary procedures were all significant findings if the practice of animal chiropractic was unregulated.

The existence of a code of ethics was significant under the legal paradigm the regulation of the practice of animal chiropractic fell under, the practice of animal

chiropractic being unregulated and limitations imposed by the professional association.

#### **4.6 Conclusion**

Significant relationships included relationships between the legal paradigm and the existence of a code of ethics (p-value: 0.007), the existence of CPD requirements (p-value: 0.022), the existence of disciplinary procedures (p-value: 0.022), the existence of complaints procedures (p-value 0.022). Similarly, the unregulated legal position had significant relationships with the same variables: the existence of a code of ethics (p-value: 0.033), the existence of CPD requirements (p-value: 0.008), the existence of disciplinary procedures (p-value: 0.008), the existence of complaints procedures (p-value 0.008). Where veterinary referral was legally required, the relationship with chiropractic (p-value: 0.048) and veterinary (p-value: 0.048) qualifications were significant. Requirements of registration in order to practice chiropractic on animals had significant relationships where it was legal for veterinarians to practice animal chiropractic (p-value: 0.019) or where it was legal for veterinarians only to practice animal chiropractic (p-value: 0.019). The relationship between the existence of a code of ethics and the limitations by professional associations was significant (p-value: 0.048).

This concludes this chapter and the presentation of the results of this study. The discussion of the results follows in Chapter Five.

# **CHAPTER 5 : DISCUSSION**

## **5.1 Introduction**

This chapter presents the discussion of the results of the study. The primary data in this chapter were obtained from the results of the data collection sheets as presented in chapter four. This chapter also required the use of secondary information as presented in chapter two, which was obtained from books, government gazettes, internet, journal articles, laws or acts, theses and dissertations and other appropriate sources in order to construct the arguments in the discussion of the results of this study. Where common themes existed, questions were combined to minimise repetition.

## **5.2 Discussion of results**

### **5.2.1 SECTION B: Animal Chiropractic Regulation**

#### **5.2.1.1 Section B1: Background: Regulatory model and legislative instruments of geographically administered areas (jurisdictions)**

##### **5.2.1.1.1 Question B1.1 Legal paradigms of animal chiropractic**

In the regulation of the practice of animal chiropractic, government devolved authority to a separate regulatory body was found in eight out of ten jurisdictions. This was expected since the chiropractic treatment of animals is considered to fall within the scope of veterinary practice (Maurer, 2001), the veterinary profession was regulated in these countries through government devolved authority to separate regulatory bodies (Alberta Veterinary Medical Association, 2016; College of Veterinarians of Ontario, 2016; South African Veterinary Council, 2016) and professional regulation in the present day relies greatly on primary legislation (Professional Standards Authority, 2015). Having two jurisdictions in which animal chiropractic was completely unregulated is of concern since without regulation there is no protection of the public or animal patient against harm if unskilled persons performed the practice (Professionals Standards Authority, 2015; Kmet et al., 2011; Ong, 2010; United

Kingdom, 2007; Randall, 2000) or against poor quality service (Granger and Watkins, 2014).

The presence of statutory regulation in most of the jurisdictions for the practice of animal chiropractic profession is encouraging since it suggests recognition of the animal chiropractic profession by government (Humpris et al., 2011; Rops, 2004). However, regulation of the practice of animal chiropractic through overly strict legislative limitations can lead to limitation of the animal chiropractic profession's scope of practice (Professional Standards Authority, 2015) and negatively impact the availability (United States of America, 2015; Rops, 2004) of the animal chiropractic service.

#### **5.2.1.1.2 Question B1.2 Statutory regulatory bodies regulating the practice of animal chiropractic**

Animal chiropractic fell under the respective veterinary statutory regulatory bodies in seven of the jurisdictions with government devolved authority to a separate regulatory body. This was expected since even though veterinary medicine does not offer the conservative treatment for neuromusculoskeletal conditions that chiropractic does (Haussler, 2000), all treatment of animals has historically been considered to fall within the scope of veterinary practice (Maurer, 2001). Some critics are of the opinion that animal chiropractic is not considered to be evidence-based practice (Ramey and Rollin, 2004) and this political view (Villanueva-Russell, 2011; Fred and Fred, 1997) could have contributed to two jurisdictions having included the chiropractic treatment of animals under the chiropractic statutory regulatory body. Having the treatment of animals fall under human chiropractic statutory regulatory bodies is unexpected, since apart from the treatment of animals being traditionally under veterinary jurisdiction, the early focus of chiropractic to get the profession legalised for humans only (Callender, 2014; Maurer, 2000) excluded the chiropractic treatment of animals.

The two jurisdictions (Queensland and Victoria) in which the practice of animal chiropractic was unregulated were in Australia, and did not fall under either veterinary or chiropractic statutory regulatory bodies. A combination of the validity of chiropractic being questioned in Australia in recent years by the greater medical community (Reggars, 2011) and the close relationship between human and animal chiropractic



regarding their bodies of knowledge (BackBone-Academy, 2014; Willoughby, 2002) could have contributed to the questioning of the validity of and exclusion of animal chiropractic from statutory regulatory bodies in Australia and beyond.

The inclusion of the practice of chiropractic on animals under veterinary statutory regulation in seven out of the ten jurisdictions is encouraging as it might signify the recognition of animal chiropractic by the greater professional community and could therefore have a positive influence on the animal chiropractic defining its identity (Villanueva-Russell, 2011; Keyter, 2010).

#### **5.2.1.1.3 Question B1.3 Current legal instruments regulating the practice of animal chiropractic and Question B3.4 Registration requirements to practice animal chiropractic within the jurisdictions**

Apart from the UK, which had legislation that included the practice of animal chiropractic already in 1962, legislation regarding the practice of animal chiropractic were instated or amended only from 1991 to the present day in the other jurisdictions (N = 7) with regulation regarding the practice of animal chiropractic. Considering that the first professional association for the animal chiropractic profession was only established in 1976 (History of Animal Chiropractic, 2014) and the first official educational course for the chiropractic treatment of animals was only available in the late 1980's (Callender, 2014), the development of legislation regarding the practice of animal chiropractic mainly over the past 25 years, was expected.

Three jurisdictions had no or very limited regulation regarding the practice of animal chiropractic. Chiropractic treatment was not restricted by any professional statutory regulatory body or included in the veterinary scopes of practice (New Zealand, 2015; Veterinary Surgeons Board of Queensland, 1997; Victoria, 1997) in the three jurisdictions in which the practice of animal chiropractic was unregulated or largely unregulated. In Australia the practice of animal chiropractic was not recognised, regulated or restricted by either the chiropractic or the veterinary statutory regulatory bodies. In New Zealand, the NZCB (New Zealand, 2004) extended the chiropractic scope of practice to include animals, yet stated that although it does not restrict the treatment of animals, it does not regulate it. Likewise, the VCNZ (2015, pers.comm. 3 December) stated that it too does not restrict, nor regulate non-veterinarians treating

animals. This leaves the responsibility of regulation of animal chiropractic in New Zealand and Australia irresolute.

Any treatment, including chiropractic treatment, of animals by any non-veterinarian was illegal in Ireland (Ireland, 2012) and this jurisdiction did not have a chiropractic statutory regulatory body, and thus no involvement of the chiropractic profession regarding the regulation of the practice of animal chiropractic. The Texas chiropractic statutory regulatory body was not involved with the legislation that allowed the chiropractic treatment of animals and any non-veterinarian practitioner was allowed to treat animals with chiropractic care in accordance with applicable legislation (Texas, 2014). In the UK, similarly to Texas, chiropractic statutory regulatory body was not involved in the creation of the legal order allowing chiropractic treatment of animals under veterinary referral by non-veterinarians (United Kingdom, 1962), which included not only chiropractors, but osteopaths and physiotherapists as well (Royal College of Veterinary Surgeons, 2015b).

In contrast, the chiropractic statutory regulatory body in South Africa was involved in the creation of the legal dispensation which allowed AHPCSA registered chiropractors to perform chiropractic treatment on animals under veterinary referral (South African Veterinary Council and Allied Health Professions Council of South Africa, 2001), and in Alberta, California and Ontario, as in South Africa, all the chiropractic statutory regulatory bodies were involved with the regulation of the chiropractic treatment of animals and in all three these jurisdictions, a non-veterinarian wanting to provide chiropractic care to animals, had to be a registered chiropractor. This all suggests that the presence and increased involvement of the chiropractic statutory regulatory body working in cooperation with the veterinary statutory regulatory body result in registered chiropractors legally being the only non-veterinarians allowed to perform chiropractic treatment on animals. Cooperation between stakeholders have been highlighted as being important in the regulation of a profession (Professional Standards Authority, 2015; World Health Organization, 2013; United Kingdom, 2007) and the registration requirements obtained by this cooperative work between the veterinary and chiropractic statutory regulatory bodies confirms this.

In the two jurisdictions in the USA, the chiropractic statutory regulatory bodies stated in their legislation that chiropractic is human specific (California, 2015; Texas, 1999),

yet both these statutory regulatory bodies allowed chiropractors to treat animals in accordance with veterinary legal provision (Texas Board of Chiropractic Examiners, 2011; California, 1998). Similarly, in Canada, the chiropractic statutory regulatory bodies of both jurisdictions had regulations in place that recognised the treatment of animals by chiropractors (Alberta College and Association of Chiropractors, 2014; College of Chiropractors of Ontario, 2008). All four of these jurisdictions required supervision of non-veterinarian practitioners of animal chiropractic (Texas, 2014; Alberta Veterinary Medical Association, 2010; College of Veterinarians of Ontario, 2009; California, 1998). Conversely, the GCC (2003) in the UK stated that the Chiropractors Act 1994 was created to cover human patients only and in South Africa the chiropractic statutory regulatory body had a very strict stance that chiropractic is human specific (South Africa, 1982a) and the treatment of animals with chiropractic in both these jurisdictions was under referral and granted through legal dispensation (South African Veterinary Council and Allied Health Professions Council of South Africa, 2001; United Kingdom, 1962).

This all suggests that in jurisdictions where the chiropractic statutory regulatory body stated clearly that its jurisdiction extended only to humans patients, only referral from a veterinarian was legally required for the chiropractic treatment of animals by non-veterinarians, whereas in jurisdictions where chiropractic statutory regulatory bodies did not state clearly that their jurisdiction extended to humans patients only resulted in supervision of non-veterinarian practitioners of animal chiropractic being a legal requirement. Ambiguity has been identified as a general limitation in regulation (Professional Standards Authority, 2015; World Health Professions Conference on Regulation, 2008) and in this case it could have resulted in more severe limitations being placed on the practice of animal chiropractic by the veterinary statutory regulatory bodies. Thus, where a chiropractic statutory regulatory body stated clearly that its jurisdiction extended strictly to human patients, limitations on animal chiropractic were less severe since the veterinary statutory regulatory body had a clearer picture of what it needed to regulate.

Three other factors that could result in supervision being legally required in the four jurisdictions in North America have been identified. The first is the philosophical stance of the chiropractic profession, and thus the animal chiropractic profession. This creates internal division within the profession (Villanueva-Russell, 2011; Rops, 2004) leading

to a weaker perception (Villanueva-Russell, 2011; Keyter, 2010) of the animal chiropractic profession by the veterinary community, which in turn could result in a stricter level of regulation. The second is inclusion or allowance of the treatment of animals by the chiropractic scope of practice resulting in expansion of the patient base of the chiropractic profession, thus initially reducing competition amongst chiropractors. The third is the possibility of financial gain by members of the veterinary industry through legal requirements of supervision of non-veterinarian practitioners of chiropractic.

The two jurisdictions in Canada (Alberta and Ontario) had the most developed regulatory framework for the practice of animal chiropractic and it included post-graduate animal chiropractic education as a legal requirement for veterinarians and chiropractors alike. Since professional higher educational institutions teach a profession's body of knowledge and the practical application thereof (Churchman and Woodhouse, 1998), having a post-graduate animal chiropractic qualification requirement could contribute to more knowledgeable and competent practitioners of animal chiropractic being available. However, room for improvement of the regulation of the animal chiropractic profession in these jurisdictions still exists and development of proper educational standards by the professional statutory regulatory body could result in better quality education and more competent professionals (World Health Organization, 2013). Since regulation in health professions is considered to be a continuation of the standards required in education (United Kingdom, 2007) regulation of animal chiropractic education could render the need for supervision of non-veterinarian practitioners unnecessary.

In California and South Africa no animal chiropractic education was required. Compared to Canada, this is surprising in California since regulation of animal chiropractic, already enacted in 1998, required practitioners to be registered chiropractors or veterinarians as well. The regulation in South Africa is currently under reform, so it is less expected that this jurisdiction would have animal chiropractic education as a legal requirement at this stage. The regulation of the practice of animal chiropractic in California and South Africa is very similar to the regulation in Alberta and Ontario apart from California and South Africa not requiring post-graduate animal chiropractic education in order to practice animal chiropractic and South Africa not requiring veterinary supervision of chiropractors. Since regulated education could

result in better quality education and more competent professionals (World Health Organization, 2013), the regulation of animal chiropractic in California and South Africa could be improved if they were to follow the example of Canada in making post-graduate animal chiropractic education for veterinarians and chiropractors a legal requirement.

Only veterinarians are allowed to provide chiropractic care to animals in Ireland, yet it would be expected that veterinarians wanting to practice chiropractic on animals should hold a post-graduate animal chiropractic qualification considering that chiropractic techniques and principles are not provided for in traditional veterinary education (Hausler, 2000), but this is not the case. In the UK, veterinarians and, if under veterinary referral, chiropractors, osteopaths and physiotherapists are allowed to perform chiropractic treatment on animals, but no post-graduate animal chiropractic education requirements exist. In Texas all non-veterinarian persons may treat an animal with chiropractic care under supervision (Texas, 2014) of a registered veterinarian and thus no educational requirements exist for the practice of animal chiropractic. Having no post-graduate educational requirements for the practicing of animal chiropractic could have negative impacts on the animal chiropractic profession since there are no standards to ensure the public of high quality professionals (Kmet et al., 2011; United Kingdom, 2007).

Three jurisdictions had legislation that could make provision for the practice of animal chiropractic by creating special allowance. Provisions for creation of regulation allowing non-veterinarians to treat animals were found in Ireland (Ireland, 2012) and the UK (United Kingdom, 1962). Through this provision the chiropractic treatment of animals by non-veterinarians under referral was allowed in the UK (United Kingdom, 1962), but in Ireland no legislation has been created under its provision. The provision for creation of regulation made in these countries (United Kingdom, 1962; Ireland, 2012) could suggest that these veterinary statutory regulatory bodies also acknowledge the need for regulation and integration of emerging CAVM professions under and into veterinary medicine, as was stated by the SAVC in a meeting between the AHPCSA and SAVC (2011). In South Africa, although provision for the creation of regulation did not exist, legal dispensation was granted by the SAVC to chiropractors registered with the AHPCSA to treat animals under referral from a veterinarian (South

African Veterinary Council and Allied Health Professions Council of South Africa, 2001), thus creating room for the animal chiropractic profession to exist and develop.

Furthermore, regulation in South Africa by the veterinary statutory regulatory body had a distinct feature. It had comprehensive regulation and guidelines in place for the development of regulation for potential 'para-veterinary professions' (South African Veterinary Council and Allied Health Professions Council of South Africa, 2011). This could be very promising for the future regulation, and therefore integration (Bosman, 2012), of the animal chiropractic profession in South Africa, especially considering that the majority South African veterinarians believed the SAVC should govern animal chiropractic in South Africa (Taverner, 2011). These guidelines for the regulation of new professions under the SAVC could serve as an example to veterinary statutory regulatory bodies in other countries for future regulation of not only animal chiropractic, and not only CAVM, but all other professions emerging in the treatment of animals.

#### **5.2.1.1.4 Question B1.4 History of legal instruments**

In six jurisdictions the current legislation on the practice of animal chiropractic has been amended and three jurisdictions still had the original legal instruments. The reasons for amendments or lack of amendments are still unclear as the implications of amendments or lack thereof were beyond the scope of this study. Further investigation into the legislative history of the practice of animal chiropractic is warranted. Looking into the legal history of animal chiropractic legislation regarding amendments to legislation and formation of new legislation can provide insight into the development of current legislation and create understanding that could promote advancement in legislation (Phillips, 2010).

#### **5.2.1.1.5 Question B1.5 The legal position of animal chiropractic**

Six jurisdictions required referral from and/or supervision by a veterinarian in order for a non-veterinarian to practice animal chiropractic. CAVM is generally considered to fall within the scope of veterinary practice (Texas, 2014; College of Veterinarians of Ontario, 2009; California, 1998; Ireland, 2005; Alberta, 2000; South Africa, 1982b; United Kingdom, 1966). Therefore, it was expected that more of the selected jurisdictions would require the chiropractic treatment of animals by non-veterinarians

to be performed under referral or supervision of a veterinarian, than jurisdictions that would not.

The need for referral and/or supervision of practitioners of animal chiropractic is understandable, although questionable, since the level of regulation should match the risk associated with a practice (Professionals Standards Authority, 2015; Kmet et al., 2011; Alberta Veterinary Medical Association, 2010; Ong, 2010; College of Veterinarians of Ontario, 2009; United Kingdom, 2007; Randall, 2000). No adequate risk evaluation methods for professions have been found (Professional Standards Authority, 2015), and although more animal chiropractic specific research needs to be done (Rome and McKibbin, 2011), it is possible that legal requirements of supervision, and perhaps even referral, may be over-regulation of the practice of chiropractic in animals.

The legal requirement of referral could be detrimental to the availability (United States of America, 2015; Rops, 2004) of the animal chiropractic service. Chiropractic treatment of animals has historically not been part of veterinary medicine (Hausler, 2000) and the animal chiropractic profession's scope of practice has generally been defined to include neuromusculoskeletal conditions in animals (BackBone-Academy, 2014; International Veterinary Chiropractic Association, 2016), but is yet to be specifically defined and backed by research (Hausler, 2000). Therefore, conditions in animals that could be referred for chiropractic treatment may be unclear to veterinarians and animal chiropractic treatment could be underutilised.

A factor that could have influenced referral and/or supervision being a legal requirement, could include the level of competence of the non-veterinarian practitioner regarding the treatment of animals (Alberta Veterinary Medical Association, 2010; College of Veterinarians of Ontario, 2009) being questioned by the veterinary community. This could be because non-veterinarian animal chiropractic practitioners mostly completed human chiropractic education before completing post-graduate animal chiropractic education in order to specialise in the chiropractic treatment of animals and thus these practitioners had diagnostic skills in human chiropractic; and since animal chiropractic education was not regulated by veterinary statutory regulatory bodies (Humphris et al., 2010), these regulatory bodies cannot ensure the public of acceptable standards (Kmet et al., 2011; United Kingdom, 2007) through

education, but does so by imposing limitations through referral of supervision requirements (The Law Dictionary, 2016).

Since the animal chiropractic profession is still young (Bosman, 2012), it was not surprising to find three jurisdictions in which the practice of animal chiropractic was unregulated. These jurisdictions (New Zealand, Queensland (AUS) and Victoria (AUS)) fell under neither the veterinary nor the chiropractic statutory regulatory bodies leaving it vulnerable to misconduct by untrained persons. This problem is further enhanced by the absence or inadequate functioning of a professional association for the animal chiropractic profession. As in the early history of chiropractic and animal chiropractic in the USA (History of Animal Chiropractic, 2014; Callender, 2014; Keating 2004; Ramey and Rollin, 2004), the chiropractic profession in Australia may be turning its focus on the validation of chiropractic for humans in light of the challenges the profession has faced in recent years in Australia (Reggers, 2011; Jamison, 2007) and has thus limited its jurisdiction to include human patients only under its statutory regulatory bodies. It was encouraging that CAVM was acknowledged by the Australian Veterinary Association (2012) through their position statement that recommends examination and preliminary diagnosis of an animal before CAVM treatment is administered. This could create opportunity to cultivate inter professional relationships (Shaw, 2014; Matthews, 2012).

The practice of animal chiropractic in Ireland was illegal if performed by a non-veterinarian. The current legal situation in Ireland placed the animal chiropractic profession in a dire position as it could legally not exist. The status of the regulation in Australia, Ireland and New Zealand serves as an example of a country in need of change. These various legal positions and the varying extent of regulation of animal chiropractic in the six jurisdictions requiring referral., supervision and/or educational requirements suggest that animal chiropractic regulation is in the process of developing.



### **5.2.1.2 Section B1: Conclusion**

The regulation of the practice of animal chiropractic is relatively young and in various stages of development. Most jurisdictions have existing, although not comprehensive, regulation of the practice of animal chiropractic through government devolved authority to the veterinary statutory regulatory bodies which might suggest recognition of the animal chiropractic by government and/or the veterinary community. The animal chiropractic profession is vulnerable to misrepresentation in the absence of regulation. Due to the link between animal chiropractic and chiropractic education, the internal division within the chiropractic profession created by differing philosophical views could contribute to unwillingness by veterinary statutory regulatory bodies to regulate the practice of animal chiropractic, deviations in regulation or overly strict regulation of the animal chiropractic profession. Legal requirement of supervision could limit the availability and scope of practice of the animal chiropractic profession which could result in the underutilisation of animal chiropractic. The possible risk of chiropractic treatment of animals should be taken into consideration when deciding on the appropriate level of regulation.

Jurisdictions with a chiropractic statutory regulatory body that clearly states its jurisdiction extends to human patients only, that is involved with the creation of regulation regarding chiropractic treatment of animals by chiropractors and that works in cooperation with the veterinary statutory regulatory body have been identified as key features of a legal framework for effective, yet least restrictive, regulation of the animal chiropractic profession. The veterinary statutory regulatory body in South Africa had promulgated regulatory guidelines for the development of regulation for new para-veterinary professions which could be valuable for development of appropriate, comprehensive and effective regulation of the animal chiropractic profession if used in cooperation with the various stakeholders in countries where regulation is inadequate or lacking.

The animal chiropractic profession could benefit from post-graduate animal chiropractic education being a legal requirement and educational standards being set for animal chiropractic education since it could produce more competent and knowledgeable practitioners.

### **5.2.1.3 B2: Background: Educational institution and course requirements within the geographical administered areas (jurisdictions)**

#### **5.2.1.3.1 Question B2.1 Animal chiropractic institutions within jurisdictions**

There were a total of six educational institutions that offered post-graduate animal chiropractic courses spread over four countries. Having educational institutions was a positive finding as this is a criterion for the definition of a profession (Matthews, 2012; United Kingdom, 2007; Rops, 2004) and educational institutions provide the animal chiropractic profession with competent, quality professionals and good standards of practice (Morris et al., 2006; Karseth and Nerland, 2007).

#### **5.2.1.3.2 Question B2.2 Regulation and recognition of educational institutions**

Three out of the six educational institutions were regulated by educational statutory regulatory bodies and none was regulated by professional statutory regulatory bodies. It would be expected that the educational institutions would all be regulated through statutory regulatory bodies since the regulation of a profession becomes an extension of the standards created by the educational institutions of the profession (United Kingdom, 2007) and provides a profession with credibility (Granger and Watkins, 2014).

Since the professional statutory regulatory bodies in only two jurisdictions, Alberta (Canada) and Ontario (Canada), specified post-graduate education as requirement in order to practice animal chiropractic, it was not expected that the educational institution in Canada was unregulated by either educational or professional statutory regulatory bodies. Finding regulation of the educational institution in Australia by an educational statutory regulatory body at state and national level was not expected considering that the profession is unregulated in that country. The animal chiropractic profession in Australia having regulation for its course assures the public of set standards and increases the profession's standing (Humphris et al., 2010) and regulation of the profession could be expected to follow the standards created by the educational institution (United Kingdom, 2007).

It was expected to find that all animal chiropractic courses offered within the selected jurisdictions were recognised through certification or approval by the animal

chiropractic professional associations, since it was found that the development and regulation of professional knowledge depended heavily on the professional association (Nerland and Kerseeth, 2015) and the professional association is responsible for promoting the profession (Shaw, 2014).

It was promising to find that half the animal chiropractic educational institutions had obtained statutory regulation to some degree and that all animal chiropractic courses were recognised through certification by professional associations as this assures the public of high quality professionals (Kmet et al., 2011; United Kingdom, 2007) and the students of quality education (Churchman and Woodhouse, 1998).

#### **5.2.1.4 Question B2.3 Entrance requirements of animal chiropractic educational institutions**

It was expected that all educational institutions would accept applicants that held a chiropractic qualification, as animal chiropractic originated with D.D. Palmer who was the founder of the chiropractic profession (History of Animal Chiropractic, 2014). It was also expected that all educational institutions would accept an applicant that held a veterinary qualification, since veterinarians have historically been accepted to study animal chiropractic (Callender, 2014; Ramey and Rollin, 2004) and the chiropractic treatment of animals have been stated to generally fall within the scope of practice of veterinary medicine (American Veterinary Medical Association, 2014; College of Veterinarians of Ontario, 2009; Maurer, 2001). However, the conservative care for neuromusculoskeletal and joint disorders through chiropractic treatment of animals has not traditionally (Hausler, 2000) and still does not (BackBone-Academy, 2004) form part of veterinary education might explain the one animal chiropractic educational institution requiring veterinarians to do a bridging qualification in order to be accepted for the animal chiropractic course.

The results showed that both courses offered at established and regulated institutes of higher education that also offered numerous other courses, would accept osteopaths, physiotherapists or those holding a graduate diploma in animal therapy. Acceptance of the latter two qualifications was expected since chiropractic is not the only profession to provide treatment through manipulation (Royal College of Veterinary Surgeons, 2015b), yet unexpected since only chiropractors and veterinarians have

historically been accepted to further their studies in animal chiropractic (Callender, 2014; Ramey and Rollin, 2004). This change could stem from the animal chiropractic profession's need to integrate (Bosman, 2012), but could also be due to competition from other professional groups (Rops, 2004).

As entrance requirements, Australia additionally included prior practical experience, recognition of prior learning and physical agility. These detailed requirements could be an attempt of the practitioners of animal chiropractic in Australia to highlight to high standards of the education of animal chiropractors in Australia in order to assure the public that high quality professionals are produced (Kmet et al., 2011), especially since the practice of animal chiropractic in Australia is unregulated. However, by setting high educational standards the public can be assured of high quality professionals (Kmet et al., 2011) for the treatment of their animals which would increase the profession's reputation (Humphris et al., 2010) and regulation of the profession could be expected to follow (United Kingdom, 2007).

Limiting the entrance requirement for animal chiropractic courses to veterinarians and chiropractors only could give the animal chiropractic profession a more defined identity following on from its initial unifying idea (Willoughby, 2002), however competition from other professional group could present as a challenge.

#### **5.2.1.4.1 Question B2.4 Number and allocation of educational institutions' course hours**

According to the New Zealand Qualifications Authority (NZQA) qualifications credit system (which was used in this study for ease of comparison), 60 credits are required for a graduate or post graduate certificate qualification (New Zealand Qualifications Authority, 2012) and animal chiropractic courses on the lower spectrum of the required credits (ACES(TEX), IAVC(UK) and PU(TEX)), did not meet these required credits. A possible reason for the IAVC not meeting the required credits could be that it did not specify its home study component, which could influence the result. Likewise, the home study component for the BHI course in Victoria (AUS) was not specified, which resulted in the graduate diploma qualification offered by the BHI not meeting the 120 credits required for a graduate diploma in accordance with the NZQA (2012). The Master's qualification offered by MCC in the UK on the other hand exceeded the 180

credits required for a Master's qualification (New Zealand Qualifications Authority, 2012).

The results show that animal chiropractic education is not standardised. This could be expected considering no encompassing international accrediting body for animal chiropractic education exists. Having questionable quality in its education could make seeking regulation for the animal chiropractic profession difficult (Rops, 2004). Although the results show that the number of hours required for current animal chiropractic courses have increased from the initial 100 hours (Callender, 2014) over the past 27 years, some educational institutions would have to increase the standards further if credit requirements for post graduate qualifications are to be attained. Others, however, are exceeding credit requirements.

#### **5.2.1.4.2 Question B2.5 Structure of animal chiropractic courses**

All educational institutions had a mixed-mode curriculum which included classroom and practical lectures and case-based learning. This approach was expected considering that sources of knowledge other than academic knowledge have been identified to contribute increasingly to a professions body of knowledge (Karseth and Nerland, 2007). Since the practice of animal chiropractic is hands-on, a mixed-mode curriculum is highly suited for animal chiropractic education.

#### **5.2.1.4.3 Question B2.6 Minimum pass requirements**

All but one animal chiropractic course required a minimum of 75% in order to pass examinations. MCC required a minimum of 50%. Attendance percentage required in order to pass animal chiropractic courses were 100%, except for MCC, which required a minimum attendance of 90%. The generally high pass requirements could be ascribed to the animal chiropractic educational institutions wanting to ensure the public of high quality professionals by the high educational standards they set (Kmet et al., 2011) in the absence of standards set by professional statutory bodies (United Kingdom, 2007) or an international accrediting body.

The distinguishing feature of MCC was that its course was a Master's degree and it met the credit requirements for the level of its qualification. It was also affiliated to an established university, BPP University, giving it recognition from the national

educational regulatory body, QAA. This recognition by the educational regulatory body guarantees the public of acceptable standards (United Kingdom, 2007), thus making it unnecessary to do so through high pass requirements, as could be the case with the other animal chiropractic educational institutions.

#### **5.2.1.4.4 Question B2.7 Titles legally allowed to be used by graduates in jurisdiction of origin**

The term 'chiropractor' or any derivative thereof is legally protected in Australia (Queensland, 2014; Victoria, 2009; Canada (Alberta, 2006; Ontario, 1991) New Zealand (New Zealand, 2003), South Africa (South Africa, 1982a), the UK (United Kingdom, 1994) and the USA (Texas, 1999; California, 1922) and may be used only by a registered or licensed chiropractor. Likewise, the term 'veterinarian' is protected by law in Australia (Victoria, 1997; Queensland, 1936), Canada (Alberta, 2000; Ontario, 1990), Ireland (Ireland, 2005), New Zealand (New Zealand, 2005), South Africa (South Africa, 1982b), the UK (United Kingdom, 1966) and the USA (Texas, 1999; California, 1937). The term 'chiropractor' is however not protected by law in Ireland (Chiropractic Association of Ireland, 2015).

The results showed seven different titles that are being used within the seven countries selected for this study. This creates a problem for the animal chiropractic profession since the public is unable to identify professionals and associate the service to the professionals (Rops, 2004). Three titles contained the term 'animal chiropractor' and could be used in six jurisdictions. In five of these this title could only be used by chiropractors treating animals due to the protection of the chiropractic title in these jurisdictions (Alberta, 2006; New Zealand, 2003; Texas, 1999; Ontario, 1991; California, 1922). In Ireland the veterinary title was protected (Ireland, 2005), but the chiropractic title had no legal protection (Chiropractic Association of Ireland, 2015) and the title 'animal chiropractor' could be used by anyone, including veterinarians, practicing chiropractic on animals. Furthermore, the title 'veterinary chiropractor' could also be used by veterinarians in Ireland. This could have a negative impact on both human and animal chiropractic professions since the public cannot be assured that those bearing the title of 'chiropractor' have met certain requirements.

The three titles that contained the term 'manipulative therapist' were used in eight jurisdictions and was the only option in one particular jurisdiction. 'Veterinary spinal manipulative therapist' takes the protection of the chiropractic title into consideration and since only veterinarians are legally allowed to use the prefix 'veterinary' in these jurisdictions (New Zealand, 2005; Ireland, 2005; Alberta, 2000; Texas, 1999; Ontario, 1990; South Africa, 1982b; United Kingdom, 1966; California, 1937), it identified the title holder as a veterinarian performing manipulative therapy on animals and excluded chiropractors or non-veterinarians from using this title. The title 'animal manipulative therapist' would accommodate all practitioners performing manipulative therapy on animals. Likewise, the title 'Animal biomechanical professional', which was the only option in two jurisdictions, would accommodate all practitioners performing manipulative therapy on animals. However, the origin and identity of animal chiropractors would be lost if chiropractic was omitted from the title.

The number of titles used causes concern for the future of the profession since the title is instrumental in defining a profession (Rops, 2004) and recognition of a profession's title is a criterion in defining a profession (Matthews, 2012; United Kingdom, 2007; Rops, 2004).

#### **5.2.1.5 Section B2: Conclusion**

Educational institutions offering post-graduate animal chiropractic education were available in just under half the jurisdictions studied. In these jurisdictions, educational statutory regulation of animal chiropractic education was present at half the educational institutions included, but regulation through veterinary statutory regulatory bodies was very limited. Statutory regulation of animal chiropractic education needs development. In the absence of statutory regulation of animal chiropractic education, animal chiropractic educational institutions attempt to assure the public of high standards through generally high pass requirements.

Animal chiropractic education could benefit from an international accrediting body in order to achieve needed international standardisation of animal chiropractic education. All animal chiropractic courses had theoretical and practical components included in the structure of their curricula which was highly suitable for animal chiropractic education.

Entrance requirements of animal chiropractic educational institutions could have an impact on the identity of the animal chiropractic profession. Limiting entrance requirements to veterinarians and chiropractors only could have a positive effect whereas inclusion of other professionals could challenge the animal chiropractic profession's identity. Finding a suitable title may be the animal chiropractic profession's biggest challenge.

#### **5.2.1.6 B3: Recognition of foreign animal chiropractic qualifications within this geographical administered area (jurisdiction)**

##### **5.2.1.6.1 Question B3.1 Recognition of foreign animal chiropractic qualifications by educational authorities**

Although all qualification authorities would allow animal chiropractic qualifications to be submitted for evaluation to determine if it qualifies as an equivalent to local qualifications, it was not possible for this study to determine which qualifications authority would approve which animal chiropractic qualifications since only qualifications personally obtained can be submitted for evaluation.

##### **5.2.1.6.2 Question B3.2 Recognition of foreign animal chiropractic qualifications by professional statutory regulatory bodies**

The veterinary statutory regulatory bodies of Alberta and Ontario (Canada) were the only professional statutory regulatory bodies that recognised animal chiropractic qualifications from other jurisdictions, however, they were also the only jurisdictions that legally required post-graduate animal chiropractic education for the practice of animal chiropractic and thus this was not unexpected. There were no chiropractic statutory regulatory bodies that recognised animal chiropractic qualifications. This was expected since the practice of animal chiropractic falls under the veterinary statutory regulation in the majority of jurisdictions and chiropractic statutory regulatory bodies mostly regulate chiropractic treatment of humans only.

Although finding recognition of animal chiropractic education by veterinary statutory regulatory bodies is positive for the animal chiropractic profession, recognition alone is not sufficient. Currently the recognition of animal chiropractic education by the veterinary statutory regulatory bodies in the Canadian jurisdictions could merely



suggest quality education, but standards set through statutory regulation would ensure it.

#### **5.2.1.6.3 Question B3.3 Recognition of foreign animal chiropractic qualifications by local veterinary or chiropractic professional associations**

Recognition of foreign animal chiropractic qualifications by veterinary or chiropractic professional associations were found in only two jurisdictions. Both of these professional associations had special circumstances and the value of this recognition is thus questionable. The ABVMA in Alberta (Canada) was not purely a professional association but served the dual purpose of a veterinary statutory regulatory body and a veterinary professional association (Alberta Veterinary Medical Association, 2010) therefore the capacity in which recognition was given was unclear.

In Ireland the CAI stated that it recognised animal chiropractic qualifications, although, the chiropractic profession in Ireland was unregulated (Olsen, Secretary of the Chiropractic Association of Ireland, 2016, pers. comm. 19 January) and furthermore, the practice of animal chiropractic in Ireland is illegal unless performed by a veterinarian (Ireland, 2005).

Recognition by the professional associations of the veterinary and chiropractic professional associations could increase the credibility of the animal chiropractic profession. However, the lack of these inter-organisational relationships could highlight the need for integration with and acceptance by the greater professional community of the animal chiropractic profession.

***(Question B3.4 combined with Question B1.3)***

#### **5.2.1.6.4 Question B3.5 Course accreditation required in order to register to practice animal chiropractic**

No international accreditation of animal chiropractic education was required by statutory regulatory bodies. This was not surprising since very few jurisdictions legally required an animal chiropractic qualification to practice animal chiropractic and thus accreditation was of no concern. Furthermore, no accreditation for animal chiropractic education exists and this can also be a factor.

### **5.2.1.7 Section B3: Conclusion**

Recognition of animal chiropractic qualifications by statutory bodies was limited to two veterinary statutory regulatory bodies. Furthermore, there was very limited and inadequate recognition of animal chiropractic qualifications by veterinary or chiropractic professional associations. This draws attention to the inadequacy of professional integration with and hesitancy in acceptance by the greater professional community of the animal chiropractic profession.

An accrediting body for animal chiropractic education could set good educational standards which could aid in the acceptance, regulation and integration of the animal chiropractic profession.

### **5.2.1.8 B4: Practitioner registration and licensing within geographical administered areas**

#### **5.2.1.8.1 Question B4.1 Separate registration as animal chiropractor required in order to practice animal chiropractic**

Although animal chiropractic education was a legal requirement in two jurisdictions, separate registration as an animal chiropractor did not yet exist in any jurisdiction. Having separate registration could indicate that the profession is more established (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010). However, the animal chiropractic profession is still young (Bosman, 2012) and separate registration would be an unexpected finding. Obtaining regulation that requires separate registration as animal chiropractor under veterinary statutory regulatory bodies would be a revolutionary development for the animal chiropractic profession.

#### **5.2.1.8.2 Question B4.2 Legislative limitations on registration of animal chiropractors**

Regulation may be imposed by limiting the practice of certain acts to specified registered professionals (Humphris et al., 2010; Rops, 2004). The registration of animal chiropractors included the registration requirements discussed in Question B3.4 which legally limited the practice of animal chiropractic to specified registered

persons only, but separate registration as animal chiropractor did not yet exist and was not limited. Half of the veterinary statutory regulatory bodies limited the practice of animal chiropractic to persons registered as veterinarians or chiropractors. This is positive for the animal chiropractic profession as it provides protection to the practice of animal chiropractic and enhances its credibility.

However, the UK additionally included registered physiotherapists and osteopaths to be allowed to perform treatment on animals using manipulative techniques. This could present a challenge to the identity of the animal chiropractic profession, but could also imply acceptance of the practice of animal chiropractic by the greater professional community. Four jurisdictions did not limit the practice of animal chiropractic to specified registered persons. Since any person could perform chiropractic treatment on an animal., the welfare of the animals and the public cannot be protected through assurance of certain standards of practice (Granger and Watkins, 2014) and this could have negative consequences on the reliability and integrity (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010) of the animal chiropractic profession.

#### **5.2.1.8.3 Question B4.3 Limitations by professional associations on registration of animal chiropractors**

Animal chiropractic professional associations did not state any limitations regarding legal registration requirements of animal chiropractors, but the majority of animal chiropractic professional associations limited membership to registered veterinarians or chiropractors holding approved post-graduate animal chiropractic education and the required certification where applicable. The MAA allowed membership to all graduates of the MCC MSc Animal Manipulation degree. Thus membership additionally potentially included, but was not limited to, osteopaths and physiotherapists, which might challenge the animal chiropractic professions identity globally.

Two chiropractic professional organisations recognised qualified chiropractors holding post-graduate animal chiropractic qualifications, which could be positive as it implies recognition of animal chiropractic as a profession by these organisations. This is noteworthy especially since the organisations were located in Ireland, where the treatment of animals was illegal unless performed by a registered veterinarian, and in

the UK, where chiropractors were one of a few professionals that could perform manipulative therapy on animals.

The animal chiropractic professional associations were generally in agreement concerning their requirements regarding the general education of their members. This was a positive finding for the animal chiropractic profession as it supports the sought-after unity a profession requires (Matthews, 2012; United Kingdom, 2007; Rops, 2004).

#### **5.2.1.8.4 Question B4.4: Registration as animal chiropractic student and board exam requirements by professional statutory regulatory body**

Animal chiropractic education was a legal requirement in two jurisdictions, yet registration with statutory regulatory bodies as a student or the completion of board exams was not required in any jurisdiction. These requirements would be expected in the regulation of more established professions (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010) and was thus not expected for the animal chiropractic profession, especially in light of no regulation of animal chiropractic education by professional statutory regulatory bodies existing.

Absence of registration requirements for animal chiropractic students highlights the need for integration of animal chiropractic with the greater professional community especially since registration as veterinary and chiropractic students are generally required, but could also be due to regulation of animal chiropractic still being young.

#### **5.2.1.9 Section B4: Conclusion**

No legal requirements of separate registration as animal chiropractor, registration as animal chiropractic student or writing of board exams were found in the regulation of the practice of animal chiropractic. Separate registration as animal chiropractor was not found in any jurisdiction, but pursuing and achieving this would be ground breaking for the animal chiropractic profession; and regulation of animal chiropractic education and thus legal requirement of student registration would be expected to follow.

Legally, half the jurisdictions required practitioners of animal chiropractic to be registered veterinarians or chiropractors and animal chiropractic professional associations generally accepted only veterinarians or chiropractors with post-graduate

animal chiropractic qualifications as members. Deviation from these requirements by a small minority existed and the inclusion of professionals from other general education backgrounds should be carefully reconsidered in order to evaluate the possible effect of this on the credibility, identity and unity of the animal chiropractic profession. In order to foster and preserve the identity, unity and credibility of the profession, jurisdictions with no current registration requirements should require registration as veterinarian or chiropractor in order to practice animal chiropractic.

#### **5.2.1.10 B5: Other roles of regulatory bodies: Code of ethics, scope of practice and CPD requirements**

##### **5.2.1.10.1 Question B5.1 and B5.2 Regulation regarding codes of ethics and scopes of practice for the animal chiropractic profession**

Since the animal chiropractic profession is young, it was expected that specific codes of ethics and/or scopes of practice would not be found in all jurisdictions. It was thus positive to find codes of ethics defined specifically for the practitioners of animal chiropractic by professional statutory regulatory bodies in three jurisdictions (ALB(CAN), CAL(USA), ONT(CAN)) and scopes of practice defined specifically for the practitioners of animal chiropractic by professional statutory regulatory bodies in two jurisdictions (CAL(USA), TEX(USA)). The existence of codes of ethics and scopes of practice are two of the criteria of a profession (Matthews, 2012; United Kingdom, 2007; Rops, 2004), and having these defined at statutory level in some jurisdictions suggests that the animal chiropractic profession could be starting to fulfil these criteria. The jurisdictions, in which codes of ethics and/or scopes or practice did not exist, should endeavour to obtain these to strengthen animal chiropractic as a profession.

It was expected that all jurisdictions that had a national animal chiropractic professional association would have defined codes of ethics and scopes of practice since the main purpose of a professional association is to promote and protect (Shaw, 2014; Matthews, 2012; Kmet et al., 2011) the profession. However, this was not the case in the two jurisdictions in Australia that fell under the ABPA which did not have defined codes of ethics or scopes of practice available at the time. The animal chiropractic professional association in Australia was in the process of development at the time of data collection (Haines, ABPA, 2016, pers.comm. 21 January).

#### **5.2.1.11 Question B5.3 Scope of practice for the animal chiropractic professional according to professional statutory regulatory bodies**

Finding two jurisdictions that defined a scope of practice for the animal chiropractic profession was unexpected considering the general inadequacy of the regulation of the practice of animal chiropractic and could signify recognition of the profession (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010) by the veterinary community in those jurisdictions, even though the acts permissible within the scope of practice in the treatment with animal chiropractic were limited.

Since research supporting the use of chiropractic treatment of animals was not yet able to define the body of knowledge (Rome and McKibbin, 2011), and thus the scope of practice (Karseth and Nerland, 2007; Morris et al., 2006) of the animal chiropractic profession satisfactorily, although the availability of research is increasing, it was expected that professional statutory regulatory bodies regulating the practice of animal chiropractic would not have clearly defined scopes of practice.

#### **5.2.1.11.1 Question B5.4 CPD requirements for the animal chiropractic profession**

CPD requirements of practitioners of animal chiropractic at statutory level were those CPD requirements stipulated by the statutory regulatory body that the professional was registered under. The animal chiropractic practitioners would need CPD requirements that are specific to the scope of the animal chiropractic profession in order to fulfil the function of CPD requirements to ensure the quality of professionals available to the public remains high (Kmet et al., 2011; United Kingdom, 2007). At professional association level CPD requirements were enforced in order for members to maintain their membership.

#### **5.2.1.12 Section B5: Conclusion**

Codes of ethics and scopes of practice were present in some jurisdictions, but should be developed in all to aid animal chiropractic in establishing itself as an internationally recognised profession. Scopes of practices for the animal chiropractic profession according to statutory regulatory bodies are limited and determination of the body of

knowledge and/or scope of practice of the animal chiropractic profession through research could result in the acceptable definition of a scope of practice. Statutory CPD requirements specific to the animal chiropractic are lacking. These should be developed to ensure the professionalism of animal chiropractic practitioners.

### **5.2.1.13 B6: Disciplinary consequences**

#### **5.2.1.13.1 Question B6.1, B6.2 and B6.3 Disciplinary, complaints and self-reporting procedures for the animal chiropractic profession**

Most jurisdictions had disciplinary and complaints procedures in place. This is a positive finding since these are some of the criteria of a profession (Matthews, 2012; United Kingdom, 2007; Rops, 2004) which the animal chiropractic profession meet.

In cases where practitioners of animal chiropractors were required to be registered as professionals, for example veterinarian or chiropractic, the practitioners were legally bound to uphold the code of ethics of that profession. This is potentially problematic in the case of jurisdictions where animal chiropractic specific codes of ethics did not exist. Two examples of this were found in the UK and SA. In SA, in the case of the animal chiropractic practitioner being a chiropractor, the treatment of animals did not fall within chiropractic scope of practice under the chiropractic statutory regulatory body but was provided for through legal dispensation by the veterinary statutory regulatory body, yet the veterinary statutory regulatory body did not have jurisdiction over chiropractors. This creates a situation where discipline of chiropractic practitioners of animal chiropractic becomes problematic as neither statutory regulatory body included disciplinary procedures regarding the chiropractic treatment of animals within their jurisdiction. The scenario in the UK was similar, but conversely, the veterinary statutory regulatory body stated that the chiropractic statutory regulatory body should refer complaints regarding chiropractors treating animals outside the provisions of the law to them.

By allowing chiropractors to treat animals by legal dispensation, the questions of whether the veterinary statutory regulatory body extends its jurisdiction to include these chiropractors arises, and by accepting legal dispensation granted by the veterinary statutory regulatory body, the question of whether chiropractors submit to

the jurisdiction of the veterinary statutory regulatory body is asked. This remains an open question in law.

This lack of effective regulation (Ong, 2010, Schultze, 2007) needs attention as it leaves the public and the animal patient unprotected and could also pose as a threat to the reliability of the animal chiropractic profession since the absence of a body to enforce discipline could result in the practice of animal chiropractic being uncontrolled and performed by any person.

#### **5.2.1.13.2 Question B6.4 Consequences of being found guilty of misconduct**

Consequences for misconduct applicable to practitioners of animal chiropractic for general complaints or acts prohibited under veterinary or chiropractic regulation were present in most jurisdictions and resulted in an investigation of the misconduct which could result in various sanctions for the misconduct.

Where statutory regulation of a profession or practice exists, having consequences for misconduct in place would serve to limit the acts or practices of that profession to be practiced only by persons determined by the profession's statutory regulatory body and thus protect the public by preventing unskilled persons from performing those acts or practices. However, chiropractic treatment of animals is often included in veterinary scopes of practice and unless legal provision has been made for the practicing of chiropractic treatment on animals by non-veterinarians, it would constitute misconduct. Having the practice or acts of animal chiropractic by non-veterinarians classified as misconduct by the veterinary statutory regulatory bodies could have a limiting effect on the practice of animal chiropractic and the development of animal chiropractic as a profession.

#### **5.2.1.14 Section B6: Conclusion**

Practitioners of animal chiropractic had disciplinary and complaints procedures in place in most jurisdictions and mostly meet these criteria of a profession. In a few countries the jurisdiction of discipline of practitioners of animal chiropractic was unclear and needs attention. This could be solved by clarifying who is responsible for enforcement of discipline of practitioners of animal chiropractic or creating a category



of registration for appropriately trained chiropractors under the veterinary statutory regulatory body.

Limitations of acts performed by non-veterinarian practitioners of animal chiropractic by professional statutory regulatory bodies resulting in these acts being considered misconduct might have a limiting effect on the growth of the animal chiropractic profession.

## **5.2.2 SECTION C: Animal chiropractic professional association**

### **5.2.2.1 Questions C1 and C3 Existence and roles of animal chiropractic professional associations**

Four of the seven countries included in this study had animal chiropractic professional associations. Since the main function of a professional association is to promote and represent the profession (Matthews, 2012; Umapathy and Ritzhaupt, 2011; Dickson and Arcodia, 2010), and also to lobby for appropriate legislation (Nerland and Karseth, 2015; Australia, 2009; Rops, 2004), one would expect to have found animal chiropractic professional associations in all jurisdictions. However, countries that do not have their own professional association for practitioners of animal chiropractic are provided for by international professional associations like the International Veterinary Chiropractic Association.

The practice of animal chiropractic was as yet specifically unregulated in South Africa and regulation was in the process of reform, yet there is no animal chiropractic professional association and thus no representation of the profession (Matthews, 2012; Umapathy and Ritzhaupt, 2011; Dickson and Arcodia, 2010) in lobbying for appropriate legislation (Nerland and Karseth, 2015; Australia, 2009; Rops, 2004). The need for a professional association for animal chiropractic in South Africa is evident by the drawn-out reform of regulation regarding animal chiropractic (Havinga, South African Veterinary Council Registrar, 2015, pers. comm. 18 December). Likewise, the need for a functioning animal chiropractic specific professional association in Australia and New Zealand, where the practice of animal chiropractic is unregulated or largely unregulated, is accentuated in order to promote and protect the identity and integrity of the profession in the absence of any legal guidelines.

In Canada there was no professional association for the animal chiropractic professionals that could protect the interest of the profession (Shaw, 2014; Matthews, 2012; Kmet et al., 2011) or through which they could collectively address legislative matters (Lukes and Moore, 2010). Since the current regulation in the two jurisdictions in Canada requiring supervision developed without the cooperation (Professional Standards Authority, 2015; World Health Organization, 2013; United Kingdom, 2007) that should exist between the professional association and the statutory regulatory body, it begs the question of whether this level of regulation is most suitable and practical for the animal chiropractic profession. The establishment of a professional association for the animal chiropractic profession in Canada is suggested to achieve balanced regulation (Kmet, L. et al., 2011; Randall, 2000) and avoid over regulation (Professional Standards Authority, 2015).

The current regulation in Ireland has made cooperative work with the professional association problematic (Professional Standards Authority, 2015) since it does not provide for non-veterinarian professionals to practice and thus, even with the existence of a professional association (Veterinarian Chiropractic Association of Ireland, 2016), the profession is hindered in its development. None of the animal chiropractic professional associations within the jurisdictions studied had government-sanctioned authority to regulate the animal chiropractic profession. This was not surprising considering that countries that regulated the practice of animal chiropractic did so through government devolved authority to a statutory regulatory body and shows that self-regulation of the animal chiropractic profession seems unlikely.

#### **5.2.2.2 Question C2 Professional associations' animal chiropractic fall under**

Animal chiropractic fell under a professional association, other than an animal chiropractic professional association, in only one jurisdiction. It was included under a national veterinary professional association in the UK. This could indicate the start of needed integration between the animal chiropractic profession and the veterinary community.

### **5.2.2.3 Question C4 Scope of practice for the animal chiropractic professional according to animal chiropractic professional associations**

Since the professional association is prominent in advancing a profession (Matthews, 2012; Umapathy and Ritzhaupt, 2011; Dickson and Arcodia, 2010), it was not surprising to find more parameters defined or fulfilled by the animal chiropractic professional associations than by the statutory regulatory bodies within the six jurisdictions that had a professional association for practitioners of animal chiropractic, especially since the professional statutory regulatory bodies were yet to promulgate comprehensive regulation in the jurisdictions where the practice of animal chiropractic was permissible. The animal chiropractic professional associations might proclaim to provide the services typically provided by statutory regulation in an attempt to instill credibility for the profession.

Finding the scopes of practice defined by the animal chiropractic professional associations to be more detailed and comprehensive than those defined by the professional statutory regulatory bodies was expected since the professional association is responsible for the management of the profession's body of knowledge and the scope of practice is linked to the body of knowledge of a profession (Karseth and Nerland, 2007; Morris et al., 2006). Furthermore, professional associations are influential in establishing the regulated scope of practice of a profession (Umapathy and Ritzhaupt, 2011). However, the animal chiropractic body of knowledge still needs support through research of the use of chiropractic treatment of animals (Rome and McKibbin, 2011).

### **5.2.2.4 Question C5 Affiliations of animal chiropractic professional associations**

Affiliations with other organisations, including other animal chiropractic professional associations and animal chiropractic educational institutions, were present in all national animal chiropractic professional associations. This is a positive finding for the animal chiropractic profession since this suggests unity within the profession. Unity within the profession will make regulation (Villanueva-Russell, 2011; Rops, 2004) and recognition (Jamison, 2007) of the animal chiropractic profession more obtainable.

### **5.2.2.5 Section C: Conclusion**

Just over half the jurisdictions had a national professional association for the animal chiropractic profession, but all jurisdictions could be served through the IVCA. However, properly functioning national professional associations for the animal chiropractic profession are needed in jurisdictions without a national animal chiropractic professional association and/or those jurisdictions where the practice of animal chiropractic was unregulated or largely unregulated to ensure appropriate legislation is developed for the profession and to protect the identity and integrity of the animal chiropractic profession.

Animal chiropractic professional associations should be instrumental in contributing to establishing regulated scopes of practice. All animal chiropractic professional associations defined scopes of practices for the animal chiropractic profession and these scopes of practice were more detailed and comprehensive than those found by veterinary statutory regulatory bodies, but the scopes of practice as presented by the professional associations may need research to substantiate it.

All animal chiropractic professional associations had affiliations with other animal chiropractic professional associations and/or animal chiropractic educational institutions. These should be sought as it could result in increased unity, acknowledgement and regulation for the profession.

### **5.2.3 Objective Three: Discussion of current international trends in the regulation of animal chiropractic from the results**

Two very strong current international trends in animal chiropractic regulation were identified that could be positive findings for the animal chiropractic profession.

- The regulation of the practice of animal chiropractic fell under government devolved authority to a separate statutory regulatory body in most jurisdictions. This is a positive finding for the animal chiropractic profession since it affords recognition of the animal chiropractic profession by government (Humpris et al., 2011; Rops, 2004).

- Very few jurisdictions limited the practice of animal chiropractic to only registered veterinarians. This is a positive finding for the animal chiropractic profession since the practice of animal chiropractic being limited to veterinarians would be limiting for the animal chiropractic profession and development of the profession will be challenging.

Two very strong current international trends in animal chiropractic regulation were identified that could be negative or positive findings for the animal chiropractic profession.

- Most jurisdictions imposed legislative limitations on the practice of animal chiropractic. This can be a positive or negative finding. The practice of animal chiropractic being limited to registered veterinarians or chiropractors by half of the veterinary statutory regulatory bodies is a positive finding since it preserves the original unifying purpose of the animal chiropractic profession (Willoughby, 2002), providing it with credibility, and could preserve the profession's identity (Churchman and Woodhouse, 1998). Additionally, including registered physiotherapists and osteopaths could imply acceptance of the practice of manipulative therapy by the greater professional community and could present a challenge to the identity of the animal chiropractic profession. The practice of animal chiropractic being limited to veterinarians or chiropractors with post-graduate animal chiropractic education is also a positive finding since the profession's body of knowledge and the practical application thereof (Churchman and Woodhouse, 1998) is taught to animal chiropractic practitioners. The limitation of supervision is a negative finding since it could place restriction on the activities or scope of practice (Texas, 2014; American Veterinary Medical Association, 2014; College of Veterinarians of Ontario, 2009) of the animal chiropractic profession, which could result in animal chiropractic treatment being underutilised.
- International accreditation of animal chiropractic education by a professional accrediting body was not a legal requirement. This is not necessarily a negative finding since accreditation is one of many registration requirements a statutory regulatory body could impose (World Health Organization, 2013; Humphris et al., 2010; Schultze, 2007), although if accreditation is present as a registration

requirement, it would serve to protect the public (United Kingdom, 2007) by providing a predetermined standard of animal chiropractic education.

- Most jurisdictions had consequences for misconduct applicable to practitioners of animal chiropractic from veterinary or chiropractic statutory regulatory bodies. Unless legal provision has been made for non-veterinarians performing the acts and practices of animal chiropractic, this would be a negative finding for the animal chiropractic profession since the defined misconduct could be limitations that control activities or the extent of an activity that the practitioner is legally allowed to do (The Law Dictionary, 2016). However, if the animal chiropractic profession had acts or practices that were protected and legally and specifically ascribed to be performed by the practitioners of animal chiropractic, consequences for misconduct would have been a positive finding for the animal chiropractic profession since practitioners would be held accountable for unprofessional conduct.

The majority of the identified current international trends were negative findings in regulation for the animal chiropractic profession. A few very strong current trends regarding the regulation of animal chiropractic education were found.

- Very few veterinary statutory regulatory bodies legally required post-graduate animal chiropractic education and this is a negative finding for the animal chiropractic profession since education of the profession's body of knowledge and the practical application thereof (Churchman and Woodhouse, 1998) is not required and thus knowledgeable and competent practitioners of animal chiropractic cannot be guaranteed.
- Very few professional statutory regulatory bodies recognised animal chiropractic educational institutions and this is a negative finding for the animal chiropractic profession since the quality of its education could be questioned (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010).
- Separate registration of practitioners of animal chiropractic was not required and this is a negative finding for the animal chiropractic profession since having separate registration could indicate that the profession is more established (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010).

- Registration of animal chiropractic students was not legally required and this is a negative finding since the statutory regulatory body is responsible for setting educational standards (United Kingdom, 2007) and this confirms the lack of regulation of animal chiropractic education.

Two very strong current trends existed regarding the titles practitioners of animal chiropractic were legally allowed to use.

- The title 'Veterinary spinal manipulative therapist' could legally be used in most jurisdictions, provided that the practitioner was a registered veterinarian. This is negative for the animal chiropractic profession since it excludes practitioners of animal chiropractic from a chiropractic, or any other, background to use this title due to the protection of the term 'veterinary' or derivatives thereof in all jurisdictions (New Zealand, 2005; Ireland, 2005; Alberta, 2000; Texas, 1999; Victoria, 1997; Ontario, 1990; South Africa, 1982b; United Kingdom, 1966; California, 1937; Queensland, 1936). Since the history of the practice of animal chiropractic included both chiropractors and veterinarians (History of Animal Chiropractic, 2014; Callender, 2014; Keating, 2004), the title of the profession should legally include practitioners of animal chiropractic from a chiropractic background to ensure continuance of cooperation between veterinarians and chiropractors within the animal chiropractic profession.
- Very few jurisdictions allowed the title 'Veterinary chiropractor' to be legally used since both the veterinary (New Zealand, 2005; Ireland, 2005; Alberta, 2000; Texas, 1999; Victoria, 1997; Ontario, 1990; South Africa, 1982b; United Kingdom, 1966; California, 1937; Queensland, 1936) and chiropractic (Queensland, 2014; Victoria, 2009; Alberta, 2006; New Zealand, 2003; Texas, 1999; United Kingdom, 1994; Ontario, 1991; South Africa, 1982a; California, 1922) titles are legally protected in all jurisdictions, apart from Ireland where only the chiropractic title was not protected. Failure to obtain legal recognition for this title challenges the fundamental existence of animal chiropractic as a profession since this is the title that the profession initially used (History of Animal Chiropractic, 2014; Callender, 2014; Keating, 2004; Willoughby, 2002) and recognition of its title is one on the criteria to be met by professions.

Other very strong negative current trends regarding the regulation of animal chiropractic could have negative implications for the animal chiropractic field.

- Very few statutory regulatory bodies included a scope of practice for the practice of animal chiropractic. This was a negative finding for the animal chiropractic profession since the statutory regulatory body must define the activities ascribed specifically to a particular profession (Humphris et al., 2010).

### **5.3 Discussion of cross tabulation results**

#### **5.3.1 Objective One: Cross tabulation discussion**

##### **5.3.1.1 Minimum percentage required to pass the course (B2.6) vs. Legal under supervision of veterinarian (B1.5b)**

The minimum percentages required to pass animal chiropractic courses were higher in jurisdictions that legally required veterinary supervision of non-veterinarian practitioners of animal chiropractic ( $\eta^2=0.471$ ). Two jurisdictions fell in the category of requiring veterinary supervision and having educational institutions within them. There were three educational institutions in these two jurisdictions and the minimum pass percentages for the courses that they offered were all high with an average of 75.3%. The educational institutions that were located in a jurisdiction that did not require veterinary supervision of non-veterinarian practitioners of animal chiropractic required minimum pass rates of 50% and 80% respectively in order to pass their courses, resulting in a lower combined average of 65%.

Educational institutions having higher minimum pass requirements in jurisdictions with the legal requirement of supervision could be because regulation in these jurisdictions is stricter so the animal chiropractic educational institutions set high minimum pass percentages in an attempt to assure the regulators that they produce high quality and competent graduates (Churchman and Woodhouse, 1998) for the animal chiropractic profession. All three of these courses were offered by animal chiropractic specific or chiropractic educational institutions, which could be a further motivation for high minimum pass percentages. However, all of three these educational institutions requiring high pass percentages and where supervision is a legal requirement are in North America. The subject of animal chiropractic is subject to ongoing dispute in this



region (Whitcomb, 2011; Fiala, 2007; Pascoe, 2006; Davis, 2002; Imrie, 2001; Ramey et al., 2000; Maurer, 2000) raising the question of whether the requirement of supervision could be politically driven.

The jurisdiction that did not require veterinary supervision of non-veterinarian practitioners of animal chiropractic had one higher and one lower minimum pass requirement. The educational institution that required a lower percentage, MCC, was part of a fully accredited established university and its animal chiropractic course was at a Master's degree level and the need for expressing the quality of its graduates through high minimum percentages to pass their course was not needed. The higher percentage of the course within this same jurisdiction could be that it was not affiliated to any accredited educational institution and thus needed to compensate by requiring very high minimum percentages in order to pass its course.

The need to prove its education credibility in strictly regulated jurisdictions, inter-professional political disputes concerning the practice of animal chiropractic and the lack of affiliation of animal chiropractic educational institutions to established and accredited universities offering courses in multiple fields could result in animal chiropractic educational institutions requiring high minimum percentages to pass their courses in jurisdictions that legally required veterinary supervision. Having high minimum percentages to pass animal chiropractic courses are positive for the animal chiropractic profession as it produces competent practitioners for the animal chiropractic profession.

#### **5.3.1.2 Recognition of animal chiropractic education by professional statutory regulatory body (B3.2) and Registration requirements to practice animal chiropractic (B3.4) vs. Legal if veterinarian holds post-graduate animal chiropractic qualification (B1.5d)**

Jurisdictions that legally required post-graduate animal chiropractic qualifications had recognition of animal chiropractic education by veterinary statutory regulatory bodies ( $p = 0.022$ ) and specified a post-graduate animal chiropractic qualification with a veterinary or chiropractic qualification as minimum registration requirement to practice animal chiropractic ( $p = 0.019$ ). The education of a profession needs to be recognised by the professional statutory body if education is a legal requirement since the

education of a profession ultimately influences the regulation of the profession (United Kingdom, 2007) and standards set in education influence the competence of practitioners (World Health Organization, 2013). Regulation of education by the veterinary statutory regulatory body, in cooperation with other stakeholders such as animal chiropractic professional associations and educational statutory regulatory bodies (United Kingdom, 2007; Karseth and Nerland, 2007; Churchman and Woodhouse, 1998) should be sought. Finding two jurisdictions that required and recognised post-graduate animal chiropractic education was encouraging as it serves as a good example of the direction animal chiropractic regulation should take with regards to education.

#### **5.3.1.3 Registration requirements to practice animal chiropractic (B3.4) vs. Legal only if veterinarian (B1.5e)**

As can be expected, the jurisdiction that allowed the practice of animal chiropractic only if the practitioner was a veterinarian required registration as veterinarian in order to practice animal chiropractic ( $p = 0.019$ ). This is however limiting for the animal chiropractic profession in this jurisdiction and development of the profession will be challenging.

#### **5.3.1.4 Registration as chiropractor (B3.4) and veterinarian (B3.4) required in order to practice animal chiropractic vs. Veterinary referral legally required (B1.5a)**

Finding registration as chiropractor ( $p = 0.048$ ) and registration as veterinarian ( $p = 0.048$ ) significant in jurisdictions where veterinary referral is required for non-veterinarians practicing animal chiropractic is encouraging for the animal chiropractic profession. Veterinary referral was a requirement in five out of the seven jurisdictions in which the practice of animal chiropractic was regulated and thus strengthens the significance. The cooperation between veterinarians and chiropractors has been paramount since the formal establishment of the animal chiropractic profession (Willoughby, 2002) and finding significance in registration requirements as veterinarian or chiropractor suggests that the initial idea of cooperation between the two professions has been conserved to an extent. Since an agreed upon identity is a

criterion for a profession, this is an important finding for the animal chiropractic profession.

#### **5.3.1.5 Legal paradigm (B1.1) vs. Existence of a code of ethics (B5.1), CPD requirements (B5.4), disciplinary (B6.1) and complaints procedures (B6.2) for the animal chiropractic profession**

All jurisdictions with government devolved authority to a separate statutory regulatory body had a code of ethics ( $p = 0.007$ ), CPD requirements ( $p = 0.022$ ) and disciplinary ( $p = 0.022$ ) and complaints ( $p = 0.022$ ) procedures. This suggests that this legal paradigm results in the most effective regulation for establishing animal chiropractic as a profession since codes of ethics, educational requirements and disciplinary and complaints procedures are all criteria which define a profession (Matthews, 2012; United Kingdom, 2007; Rops, 2004). These criteria have a close relationship and work together to provide effective regulation that will protect the clients and animal patients of the animal chiropractic profession. The existence of codes of ethics for the practitioners of animal chiropractic protects the welfare of the animal and the public through predetermined practice standards that require the animal chiropractic practitioner to provide competent and ethical service (Professional Standards Authority, 2015; Volden and Wiseman, 2012; Schultze, 2007) which is enforced through complaints and disciplinary procedures (Ong, 2010; Schultze, 2007; Rops, 2004). The practice standards of the animal chiropractic profession are upheld through CDP requirements which ensure the public of high quality practitioners (Kmet et al., 2011; United Kingdom, 2007).

Apart from providing protection for the animal patient and the public, and credibility for the animal chiropractic profession, these criteria also create unity within the profession.

#### **5.3.1.6 Unregulated (B1.5c) vs. Existence of a code of ethics (B5.1), CPD requirements (B5.4), disciplinary (B6.1) and complaints procedures (B6.2) for the animal chiropractic profession**

All jurisdictions in which the practice of animal chiropractic was unregulated did not have codes of ethics ( $p = 0.033$ ), CPD requirements ( $p = 0.008$ ) and disciplinary ( $p = 0.008$ ) and complaints ( $p = 0.008$ ) procedures. What is evident from these results is

that the absence of statutory regulation results in the absence of criteria relating to regulation necessary to define a profession. Without a code of ethics there are no set standards and no responsibility outlined for practitioners of animal chiropractic. Without CPD requirements no measures that can assure maintenance of standards are in place and without complaints and disciplinary procedures there is no accountability and no protection of the public against unethical or unprofessional conduct.

The practitioners of animal chiropractic in unregulated jurisdictions can offer the public no assurance of protection, credibility, standardised and quality service or quality practitioners since any person from any background could perform the acts or practice that the practitioners of animal chiropractic claim to perform. This is detrimental to the image of the profession in that jurisdiction amongst the public and the greater professional community and the unifying purpose and identity of the profession which would further thwart regulation of the profession in that jurisdiction. Since the professional associations, in cooperation with the statutory regulatory bodies, are involved with the establishment and/or implementation of codes of ethics (Umapathy and Ritzhaupt, 2011), CPD requirements (Nerland and Karseth, 2015; Matthews, 2012) and complaints and disciplinary procedures (British Veterinary Chiropractic Association, 2016; International Veterinary Chiropractic Association, 2016), these jurisdictions must establish properly functioning professional associations to provide the profession a fighting chance to assert itself.

### **5.3.2 Objective One: Conclusion**

High pass percentages assure regulators that high quality and competent practitioners for the animal chiropractic profession are produced, provided that the standards of the education are properly regulated. Affiliation of animal chiropractic educational institutions with established and regulated universities offering qualifications in multiple fields would achieve this aim and could therefore be beneficial if sought by animal chiropractic educational institutions.

The jurisdictions that served as the best examples of regulation for the animal chiropractic profession were those that included post-graduate animal chiropractic education as a requirement in order to practice animal chiropractic. Conversely, finding

a jurisdiction that only allowed the practice of animal chiropractic by registered veterinarians presents a challenge to the animal chiropractic profession. Since the competence of professionals are influenced by their education, veterinary statutory regulatory bodies regulating the practice of animal chiropractic should develop regulations for the education of practitioners of animal chiropractic in conjunction with the relevant stakeholders such as animal chiropractic professional associations and educational statutory regulatory bodies.

Limiting the practice of animal chiropractic to veterinarians and chiropractors would continue to strengthen the identity of the animal chiropractic profession which would be beneficial for the profession.

### **5.3.3 Objective Two: Cross tabulation discussion**

#### **5.3.3.1 Limitations by national professional associations (B4.3) vs. Existence of code of ethics for the animal chiropractic profession (B5.1)**

Jurisdictions in which the national animal chiropractic professional association imposed limitations on membership requirements also had codes of ethics for the animal chiropractic profession ( $p = 0.048$ ). The majority of animal chiropractic professional associations limited membership to practitioners with a post-graduate animal chiropractic qualification who were registered chiropractors or veterinarians. By accepting a practitioner as a member of the professional association, the practitioner becomes a representative of the professional association and of the profession and since the professional association is primarily concerned with advocacy of the profession (Matthews, 2012; Umaphy and Ritzhaupt, 2011; Dickson and Arcodia, 2010), limitations on membership would serve to protect the profession by forming a base for creating standards that the public can expect to enjoy when using the services of a member of the association.

### **5.3.4 Objective Two: Conclusion**

The limitation that mostly only registered chiropractors or veterinarians with post-graduate animal chiropractic qualifications are accepted for membership produces a certain standard that the public can expect.

### **5.3.5 Objective Three: Discussion of current international trends in the regulation of animal chiropractic from the cross tabulation results**

Several regulatory features, including codes of ethics, CPD requirements, complaints procedures and disciplinary procedures, were all significant findings in the model of government devolved authority to a separate statutory body and the same regulatory features were significant in jurisdictions where the practice of animal chiropractic was unregulated, but in the opposite direction i.e. they were significant for the lack of regulatory features. Furthermore, the existence of a code of ethics was also significant where the professional association had limitations on membership requirements.

These regulatory features work closely together to ensure the welfare of animals and the rights of the public are protected by providing effective regulation. Codes of ethics protect the animal patient and the public by providing standards that practitioners of animal chiropractic must adhere to (Professional Standards Authority, 2015; Volden and Wiseman, 2012; Schultze, 2007), CPD requirements maintain high practice standards (Kmet et al., 2011; United Kingdom, 2007) and complaints and disciplinary procedures are used to enforce the code of ethics (Ong, 2010; Schultze, 2007; Rops, 2004). Absence of these regulatory features in the jurisdictions where the practice of animal chiropractic was unregulated could result in poor quality service and lack of protection of the animal patient and the public (Granger and Watkins, 2014) and questioning of the credibility of the animal chiropractic profession (Professional Standards Authority, 2015; Granger and Watkins, 2014; Humphris et al., 2010).

### **5.4 Additional comments on animal chiropractic as profession**

When considering regulation of a profession, the extent to which the practice of animal chiropractic meets the criteria for claiming status as a profession should also be taken into account according to the literature reviewed in Chapter Two. This study researched the features of a profession relating to regulation and found that animal chiropractic seems to fulfil or partially fulfil eight of the thirteen criteria needed to proclaim a profession as such. The twelve criteria are: Existence of a code of ethics; complaints and disciplinary procedures; a clearly defined scope of practice; specified educational requirements through certification and/or other entry requirements; a distinct body of knowledge; published research and evidence-based practice;

availability of education; the presence of specialities being formed within the profession; a uniting purpose and agreed upon identity; recognition of its title; acknowledgment and approval of its authority by the public and the greater professional community; and, advocacy of the above through a functioning professional association (Matthews, 2012; United Kingdom, 2007; Rops, 2004).

Some criteria were not within the scope of this study and warrant further research. These include the status of clinical research in the field, the body of knowledge and the scope of practice of the animal chiropractic profession. The following criteria for a profession were present, unknown or lacking in animal chiropractic:

- Codes of ethics were present in all animal chiropractic professional associations and present in three veterinary statutory regulatory bodies.
- Complaints and disciplinary procedures were present in all animal chiropractic professional associations and most veterinary and/or chiropractic statutory regulatory bodies.
- The scope of practice for animal chiropractic was present and defined by all animal chiropractic professional associations and by two veterinary statutory regulatory bodies.
- Educational requirements to enter the profession animal chiropractic were present. Six of the seven jurisdictions that had regulation for the practice of animal chiropractic had educational and registration requirements in order to practice animal chiropractic, professional associations had certification requirements and both statutory regulatory bodies and animal chiropractic professional associations had CPD requirements for practitioners of animal chiropractic. No accrediting body existed.
- The status of the body of knowledge of the animal chiropractic profession was not determined by this study and is thus unknown.
- The status of research in the animal chiropractic field was not covered by this study and is thus unknown.
- Education for animal chiropractic was present. Half of the educational institutions were regulated by educational statutory regulatory bodies and the education was available mostly to veterinarians and chiropractors, however, standardisation in the education of practitioners of animal chiropractic was needed.

- The status of specialities within animal chiropractic was not determined by this study and is thus unknown.
- A unifying purpose and identity was suggested by professional associations mostly accepting chiropractor or veterinarian members holding a post-graduate animal chiropractic qualification and the presence of intra-professional affiliations.
- An agreed upon title was not found, although 'animal chiropractor' was legally the most allowed title. Finding an acceptable title may be one of the profession's biggest challenges.
- Acknowledgement by the veterinary community was suggested by the inclusion of the practice of animal chiropractic under veterinary statutory regulation in seven jurisdictions, the legal requirement of post-graduate animal chiropractic education by two veterinary statutory regulatory bodies and the recognition of animal chiropractic by one veterinary professional association.
- Animal chiropractic professional associations were present in six of the ten jurisdictions and an international professional association was present to serve those jurisdictions without a professional association. The need for national animal chiropractic professional associations was evident in jurisdictions in which the practice of animal chiropractic was unregulated or in which the regulation of animal chiropractic was under reform.

## **5.5 Conclusion**

This concludes the discussion of the results. Several observations that should be considered when developing regulation for the animal chiropractic profession were discussed in this chapter. This chapter has also given the extent to which animal chiropractic meet the criteria for a profession in terms of regulation. The conclusions, limitations and recommendations are presented in Chapter Six.



## CHAPTER 6 : CONCLUSION

### 6.1 Introduction

This chapter concludes the study and draws conclusions from Chapter Five. Limitations of the study and future recommendations are also presented. The objectives of this dissertation were to determine the regulatory role of statutory bodies and professional associations in the animal chiropractic profession and to identify international trends in animal chiropractic regulation.

### 6.2 Conclusions

#### **6.2.1 Objective One: To determine the regulatory role of the statutory regulatory body on animal chiropractic (education, registration, discipline, code of ethics, scope of practice and continuing professional development) in the selected countries**

Statutory regulation proved to have a significant role in the regulation of the practice of animal chiropractic in terms of education, registration, discipline, code of ethics and continuing professional development.

The two legal paradigms of government devolved authority to a veterinary statutory regulatory body and the practice of animal chiropractic being unregulated had a significant role in the regulation of the practice of animal chiropractic in terms of the existence of codes of ethics, complaints and disciplinary procedures and CPD requirements. All were present in government devolved authority to a separate statutory body and all were absent in jurisdictions where the practice of animal chiropractic was unregulated. Seeking statutory regulation for the practice of animal chiropractic is recommended.

Requirements of registration as veterinarians or chiropractors to practice animal chiropractic and veterinary referral within the government devolved legal paradigm were significant findings and could suggest continuation of cooperation between chiropractors and veterinarians that has been sought since the inception of the animal

chiropractic profession. Regulation of animal chiropractic as a separate profession requiring registration of practitioners of animal chiropractic would be ground breaking.

Only in the jurisdictions in which post-graduate animal chiropractic qualifications were a legal requirement did the veterinary statutory regulatory body recognise animal chiropractic education, but no professional statutory regulatory body regulated or required regulation by educational statutory regulatory bodies or accreditation of animal chiropractic education. Regulation and standardisation of animal chiropractic education is recommended.

### **6.2.2 Objective Two: To determine the regulatory role of professional associations on animal chiropractic in the selected countries**

The results of this study suggest that the professional association does not play as big a role in regulation of the animal chiropractic profession as the literature suggests it should play in the regulation of a profession. However, this study did not research the role the professional associations had in the development of the existing statutory regulation of the practice of animal chiropractic.

From the results of this study the regulatory role of the animal chiropractic professional associations appeared to be limited and only showed significance with regards to the codes of ethics by the professional associations for the animal chiropractic profession which was greatly influenced by their membership requirements. Membership was mostly limited to registered veterinary and chiropractic practitioners holding a post-graduate animal chiropractic qualification.

### **6.2.3 Objective Three: To compare the selected countries to identify international trends in animal chiropractic regulation**

Current international trends in animal chiropractic regulation that were positive for the animal chiropractic profession included:

- The regulation of the practice of animal chiropractic by means of the government devolving authority to a separate statutory regulatory body in most jurisdictions.
- The practice of animal chiropractic was limited to registered veterinarians in very few countries.

Current international trends in animal chiropractic regulation that could be positive or negative for the animal chiropractic profession included:

- Legislative limitations pertaining to the practice of animal chiropractic were imposed in most jurisdictions.
- International accreditation of animal chiropractic education by a professional body was not a legal requirement.
- Consequences for misconduct from veterinary or chiropractic statutory regulatory bodies, applicable to practitioners of animal chiropractic were present in most jurisdictions.

Current international trends in animal chiropractic regulation that were negative for the animal chiropractic profession included:

- Post-graduate animal chiropractic education was legally required by very few veterinary statutory regulatory bodies.
- Animal chiropractic educational institutions were recognised by very few professional statutory regulatory bodies.
- Separate registration of practitioners of animal chiropractic was not required.
- Registration of animal chiropractic students was not legally required.
- Provided that the practitioner was a registered veterinarian, the title 'Veterinary spinal manipulative therapist' could legally be used in most jurisdictions.
- The title 'Veterinary chiropractor' was legally allowed to be used in very few jurisdictions.
- A scope of practice for the practice of animal chiropractic existed in very few professional statutory regulatory bodies.

### **6.3 Research question**

**What is the status quo of the regulation of the practice of animal chiropractic internationally and the regulatory roles of the relevant statutory regulatory bodies and professional associations?**

In conclusion the regulation of the practice of animal chiropractic was found to be in various stages of development and since the animal chiropractic profession is still young it was not surprising to find some jurisdictions in which the practice of animal chiropractic was still unregulated. The regulation of animal chiropractic in the majority

of jurisdictions fell under the government devolved authority of a veterinary statutory regulatory body although regulation was not very extensive in most of these jurisdictions. Statutory regulation played a much more significant role in the regulation of the practice of animal chiropractic than regulation by the professional association did.

From the comparison of the current animal chiropractic regulation it seems that veterinary statutory regulatory bodies should have authority over the regulation of the practice of animal chiropractic but the involvement of chiropractic statutory regulatory bodies is important for the development of effective and suitable regulation for the animal chiropractic profession. Where cooperation between the veterinary and chiropractic statutory regulatory bodies existed in the regulation of the practice of animal chiropractic, requirements of registration as veterinarian or chiropractor were found. Furthermore, if the chiropractic statutory regulatory body was clear about its stance of extending its jurisdiction to humans only, the veterinary statutory regulatory body had clear authority over practitioners of animal chiropractic and regulation of the practice of animal chiropractic did not require veterinary supervision of non-veterinarian practitioners of animal chiropractic.

Animal chiropractic professional associations played a small but significant role in the regulation of the practice of animal chiropractic through their codes of ethics and limitations through membership requirements. Codes of ethics as defined by professional associations without government sanction does not hold statutory authority, yet the significance found in these codes of ethics could suggest its importance as perceived by the animal chiropractic profession. From the discussion it is recommended that national animal chiropractic professional associations should be involved especially in the development of appropriate regulation, defining of the scope of practice and promoting the unity, integrity and identity of the animal chiropractic profession.

No significance was found in the scope of practice of the animal chiropractic profession in terms of regulation of the practice of animal chiropractic by either statutory regulatory bodies or professional associations which could stress the importance of the need to define it.

#### **6.4 Limitations of the study**

Due to a combination of the researcher's limitation to the English language and limited funding which did not allow for the use of translators, this study was limited to English speaking countries. Therefore, some European countries, countries in the East and South American countries could not be included.

The collected data was obtained by utilising public domain documents and information or through communication with the various organisations, and was based on laws, rules and regulations. The data collected thus excluded perceptions which could have added depth to the study.

The study was designed to reflect trends through a descriptive analysis of the selected animal chiropractic regulatory systems and not the historical origins, comparison of law or the creation of a legal framework for animal chiropractic.

The number of countries selected for analysis of their regulatory systems limited the depth to which the researcher could analyse any one country. Thus any differences within a country would not necessarily be revealed by this study.

The study was designed to collect quantitative data. A qualitative design would have provided added depth to the study.

#### **6.5 Recommendations for future research**

It is recommended that similar separate studies be conducted on countries with multiple jurisdictions and the non-English speaking countries in order to obtain a more accurate representation of the regulatory status of animal chiropractic within these countries. Collectively, these studies could be used in the creation of a legal framework for the regulation of the practice of animal chiropractic.

The focus of this study was not on animal chiropractic education, but rather the regulation of education and thus did not include all animal chiropractic educational institutions and could not give a true representation of available animal chiropractic education. It is recommended that research be conducted that includes all educational institutions that offer animal chiropractic courses.

Further study into the body of knowledge of the animal chiropractic profession is needed to determine what knowledge needs to be drawn from the veterinary and chiropractic professions in order to define the body of knowledge of the animal chiropractic profession and what unique knowledge exist within its current body of knowledge.

A study to determine which conditions are treated by legally practicing animal chiropractors in order to get a better understanding of the current scope of practice of animal chiropractic in practice is recommended.

Further study regarding the legal history of the regulations of the practice of animal chiropractic is recommended.

## REFERENCES

Adams, J. 2014. A comparative analysis of six international chiropractic regulatory systems. MA, Durban University of Technology.

Alberta. 2000. *Veterinary Professions Act Chapter V-2 of 2000*. Edmonton: Alberta Queen's Printer.

Alberta. 2006. *Chiropractors Profession Regulation No 277 of 2006*. Edmonton: Alberta Queen's Printer.

Alberta Veterinary Medical Association (ABVMA). 2010. Council guidelines for the practice of complementary and alternative veterinary medicine (online). Available: <http://cms.abvma.ca/uploads/3THERESPONSIBLEUSEOFCOMPLEMENTARYANDALTVETERINARYMODALITIESFINAL.PDF> (Accessed 6 March 2016).

Alberta Veterinary Medical Association (ABVMA). 2016. Available: [www.abvma.ca](http://www.abvma.ca) (Accessed 6 March 2016).

Alberta College and Association of Chiropractors (ACAC). 2014. Standards of Practice (online). Available: [http://www.albertachiro.com/ieadmin/files/ACAC\\_Standards\\_of\\_Practice.pdf](http://www.albertachiro.com/ieadmin/files/ACAC_Standards_of_Practice.pdf) (Accessed 17 November 2015).

American Veterinary Chiropractic Association (AVCA). 2016. Available at <http://www.animalchiropractic.org/> (Accessed 6 March 2016).

American Veterinary Medical Association (AVMA). 2014. AVMA Guidelines for Complementary and Alternative Veterinary Medicine. Available at: [https://www.avma.org/About/Governance/Documents/2014W\\_2013W\\_Resolution3\\_Attch2.pdf](https://www.avma.org/About/Governance/Documents/2014W_2013W_Resolution3_Attch2.pdf) (Accessed, 12 July 2016).

Association of Chiropractic Colleges. 2016. Bylaws. Available: [http://www.chirocolleges.org/paradigm\\_scope\\_practice.html](http://www.chirocolleges.org/paradigm_scope_practice.html) (Accessed 4 July 2016).

Australia, South Australia. Attorney-General's Department. 2009. *Understanding legislation*. Adelaide: Government of South Australia.

Australia, Western Australia. Department of the Attorney General. 2011. *How to read legislation: a beginner's guide*. Perth: Government of Western Australia.

Australian Veterinary Association (AVA). 2012. *Complementary and alternative veterinary medicine* (online). Available: <http://www.ava.com.au/policy/23-complementary-and-alternative-veterinary-medicine> (Accessed 17 November 2015).

Australian Qualifications Framework Council (AQF). 2013. *AQF glossary of terminology* (online). Available: [www.aqf.edu.au](http://www.aqf.edu.au) (Accessed 16 November 2015).

BackBone-Academy for Veterinary Chiropractic and Healing Arts. 2004. *Veterinary-chiropractic education*. Kalbe: BackBone-Academy.

Bellamy, C. 2012. *Principals of methodology research design in social science*. London: SAGE.

Bosman, P.J. 2012. An exploration of the current status quo of animal chiropractic in South Africa. MA, Durban University of Technology.

British Veterinary Chiropractic Association (BVCA). 2016. Code of practice and standard of proficiency (online). Available: <http://bvca-uk.org/index.php/code-of-practice> (Accessed 16 March 2016).

California. 1922. *The Chiropractic Initiative Act of California* (online). Available: [http://www.chiro.ca.gov/laws\\_regs/initiative\\_act.pdf](http://www.chiro.ca.gov/laws_regs/initiative_act.pdf) (Accessed 16 November 2015).

California. 1937. *Business and Professions Code*, Division 2, Chapter 11, Article 2 (online). Available: [http://leginfo.legislature.ca.gov/faces/codes\\_displayText.xhtml?lawCode=BPC&division=2.&title=&part=&chapter=11.&article=2](http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=BPC&division=2.&title=&part=&chapter=11.&article=2). (Accessed 16 November 2015).

California. 1998. *California Code of Regulations*, Section 2038. *Muscular manipulation* (online). Available: [https://govt.westlaw.com/calregs/Document/I95EB2100D48F11DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/I95EB2100D48F11DEBC02831C6D6C108E?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)) (Accessed 16 November 2015).

California. *Board of Chiropractic Examiners (BCE)*. 2015. Rules and Regulations, Section 301(a)(1). Sacramento: Board of Chiropractic Examiners.



Callender, A. 2014. The wedding of chiropractic and veterinary practices. *Chiropractic History*, 34(2):25-37.

CAMDOC Alliance. 2010. The regulatory status of complementary and alternative medicine for medical doctors in Europe. Available: [http://www.camdoc.eu/Pdf/CAMDOCRegulatoryStatus8\\_10.pdf](http://www.camdoc.eu/Pdf/CAMDOCRegulatoryStatus8_10.pdf) (Accessed 25 March 2015).

Central Intelligence Agency (CIA). 2016. *The world factbook* (online). Available: <https://www.cia.gov/library/publications/resources/the-world-factbook/> (Accessed 8 March 2016).

Chiropractic Association of Ireland (CAI). 2015. *CAI information*. Available: <http://www.chiropractic.ie/about-cai/info/cai-information> (Accessed 16 November 2015).

Churchman, R. and Woodhouse, D. 1998. *Professional, regulatory & statutory bodies and higher educational institutions*. Wellington: New Zealand Universities Academic Audit Unit.

College of Animal Chiropractors (CoAC). 2016. Available: <http://www.collegeofanimalchiropractors.org/en/> (Accessed 9 March 2016).

College of Chiropractors of Ontario (CCO). 2008. *Standards of Practice S-009* (online). Available: [http://www.cco.on.ca/site\\_documents/S-009.pdf](http://www.cco.on.ca/site_documents/S-009.pdf) (Accessed 16 November 2015).

College of Registered Nurses of British Columbia (CRNBC). 2012. *Underlying Philosophies and Trends Affecting Professional Regulation*. Vancouver.

College of Veterinarians of Ontario (CVO). 2009. *Position statement: the practice of complementary and alternative veterinary medicine* (online). Available: <https://cvo.org/CVO/media/College-of-Veterinarians-of-Ontario/Resources%20and%20Publications/Position%20Statements%20and%20Guidelines/CompAltVetMed2015.pdf>. (Accessed 11 December 2015).

Canadian Federation of Chiropractic Regulatory and Educational Accrediting Boards. 2011. Policies for Chiropractic Specialty Colleges. Available:

[http://www.chirofed.ca/english/statements/Chiropractic\\_Specialty\\_Colleges\\_Policy.pdf](http://www.chirofed.ca/english/statements/Chiropractic_Specialty_Colleges_Policy.pdf) (Accessed 11 December 2015).

Dabbs, V. and Lauretti, W.J. 1995. A risk assessment of cervical manipulation vs. NSAIDs for the treatment of neck pain. *Journal of Manipulative Physiological Therapy*, 18(8):530-536.

Davis, S. 2002. Chiropractors wage delicate battle. *DVM Newsmagazine*, 33(12):1, 27.

De Vos, A.S., Strydom, H., Fouche, C.B. and Delport, C.S.L. 2011. *Research at grassroots for the social sciences and human services professions*. Pretoria: Van Schaik.

Dickson, C. and Arcodia, C. 2010. Promoting sustainable event practice: the role of professional associations. *International Journal of Hospitality Management*, 29(2):236-244.

Ernst, E. 2008. Chiropractic: a critical evaluation. *Journal of Pain and Symptom Management*, 35(5):544

Fiala, J. 2000. Alternative therapy: cauldron of debate. *DVM Newsmagazine*. 31(12):1, 21.

Fiala, J. 2007. Lay practice debate erupts in Fla., Colo. *DVM Newsmagazine*, 38(1):53.

Fred, J.H. and Fred, B. 1997. The quest for identity in the counseling profession. *Counselor Education and Supervision*. 36(3):194-206.

Garner, M.J., Birmingham, M., Aker, P., Moher, D., Balon, J., Keenan, D. and, Manga, P. 2008. Developing integrative primary healthcare delivery: adding a chiropractor to the team. *Explore (NY)*, 4(1):18-24.

General Chiropractic Council (GCC). 2003. Policy in respect of the misuse of the title 'chiropractor' and the treatment of animals by chiropractors (online). Available: <http://www.gcc-uk.org/publications/policies/> (Accessed 15 December 2015).

Gomez Alvarez, C.B., L'ami, J.J., Moffat, D, Back, W, and van Weeren, P.R. 2008. Effect of chiropractic manipulations on the kinematics of back and limbs in horses with clinically diagnosed back problems. *Equine Veterinary Journal*, 40(2):153-159.

Grabouwski, H.G., Vernon, J. M. and Thomas, L.G. 1978. Estimating the effects of regulation on innovation: an international comparative analysis of the pharmaceutical industry. *Journal of Law and Economics*, 21(1):133-163.

Granger, C. and Watkins, K. 2014. Protecting patients through professional regulation: audit of registration of nutritional therapy practitioners via a grandparenting process. *European Journal of Integrative Medicine*, 6:220-225.

Haldeman, S., Carey, P., Townsend, M. and Papadopoulos, C. 2001. Arterial dissections following cervical manipulation: the chiropractic experience. *Canadian Medical Association Journal*, 165(7):905-906.

Hausler, K.K. 2000. Equine chiropractic: general principles and clinical applications. *AAEP Proceedings*, 46:84-93.

Hausler, K.K. 2009. Review of manual therapy techniques in equine practice. *Journal of Equine Veterinary Science*, 29(12):849-869.

Higher Education Quality Committee. 2004. Criteria for programme accreditation. Pretoria: Council on Higher Education.

*History of Animal Chiropractic* (online). 2014. Available: [http://library.palmer.edu/print\\_content.php?pid=541679&sid=4455900](http://library.palmer.edu/print_content.php?pid=541679&sid=4455900) (Accessed 10 February 2016).

Humphris, A., Kleiner, M.M. and Koumenta, M. 2010. *How does government regulate occupation in the UK and US?: Issues and policy implications*. Oxford: Oxford University Press.

Imrie, R. 2001. Confronting veterinary medical nonsense. *The Skeptical Inquirer*, 25(4):24-29.

International Chiropractors Association. 2016. Facts about chiropractic (online). Available: <http://www.chiropractic.org/faq-chiro> (Accessed 13 June 2016).

International Veterinary Chiropractic Association (IVCA). 2013. Available:<http://ivca.de/> (Accessed 6 March 2016).

Ireland. 2005. *Veterinary Practice Act No 22 of 2005*(online). Available: <http://www.irishstatutebook.ie/eli/2005/act/22/enacted/en/pdf> (Accessed 16 November 2015)

Ireland. 2012. *Veterinary Practice (Amendment) Act No 25 of 2012*(online). Available: <http://www.vci.ie/Documents/VPA%20Amendment%20Act%2018%20July%202012.pdf> (Accessed 16 November 2015)

Jamison, J.R. 2007. Wellness: defining the way ahead for chiropractic in Australia? *Chiropractic Journal of Australia*, 37(1):2-6.

*Jurisdiction* (online). 2016. <https://www.law.cornell.edu/wex/jurisdiction> (Accessed 8 March 2016).

Karseth, B. and Nerland, M. 2007. Building professionalism in a knowledge society: examining discourses of knowledge in four professional associations. *Journal of Education and Work*, 20(4):335-355.

Keating, J.C. 2004. Chronology of veterinary chiropractic. *National Institute of Chiropractic Research*. Available: [http://www.chiro.org/Plus/History/Persons/Veterinary/veterinary\\_chiro.pdf](http://www.chiro.org/Plus/History/Persons/Veterinary/veterinary_chiro.pdf) (Accessed 9 February 2016).

Keller, T.S., Colloca, C.J., Moore, R.J., Gunzburg, R., Harrison, D.E. and, Harrison, D.D. 2006. Three-dimensional vertebral motion produced by mechanical force spinal manipulation. *Journal of Manipulative and Physiotherapy*, 29(6):425-436.

Keyter, K. 2010. The perceptions of South African chiropractors, regarding their professional identity. MA. Durban University of Technology.

Kjellin, R.E and Kjellin, O. 2012. An appraisal of courses in veterinary chiropractic. Science-Based Medicine (online). Available: [www.sciencebasedmedicine.org](http://www.sciencebasedmedicine.org) (Accessed 24 November 2015).

Kmet, L., Windrum, D., Chrobak, A., Wilkie, K., Collette, A., Bourgeois, J. and Dale, C. 2011. A regulator's perspective: the role of regulatory colleges and professional associations. *Canadian Journal of Medical Laboratory Science*, Spring:11.

Langstone, J., Ellis, J. and Cunliffe C. 2015. A preliminary study of the effect of chiropractic treatment on the splenius muscle in horses when measured by surface electromyography. *Advances in Animal Bioscience*, 6(2).

Langworthy, J.M. and Smink, R.D. 2000. Chiropractic through the eyes of physiotherapists, manual therapists, and osteopaths in The Netherlands. *Journal of Alternative and Complementary Medicine*, 6(5):437-443.

*Legal Information Institute* (online). 2016. Available: <https://www.law.cornell.edu/wex/jurisdiction> (Accessed 12 July, 2016).

Lesimple, C., Fureix, C., De Margerie, E., Seneque, E., Manguy, H. and Hausberger, M. 2012. Towards a postural indicator of back pain in horses (*Equus caballus*). *PLOS ONE*, 7(9):1-14.

Levy, B. and Spiller, P.T. 1994. The institutional foundations of regulatory commitment: a comparative analysis of telecommunications regulation. *Journal of Law, Economics & Organization*, 10(2):201-240.

Library of Congress. 2015. Secondary legal resources (online). Available: <https://www.loc.gov/law/help/secondary-rsrcs.php> (Accessed 12 July 2016).

Lor, P. J. 2012. *International and comparative librarianship: a thematic approach*. Munich: De Gruyter SAUR.

Lukes, E. and Moore, P.V. 2010. The professional association and practice excellence. *AAOHN Journal*, 58(2):47-49.

Macdonald, K.M. 2013. *Sociology of the professions*. London: SAGE Publications.

Matthews, J. 2012. Role of professional organizations in advocating for the nursing profession. *The Online Journal of Issues in Nursing*, 17(1):3. Available: [nursingworld.org/MainMenuCategories/.../Professional-Organizations-and-Advocating.html](http://nursingworld.org/MainMenuCategories/.../Professional-Organizations-and-Advocating.html) (Accessed 16 November 2015).

Maurer, E.L. 2000. The animal chiropractic issue. *Journal of the American Chiropractic Association*, 37(6):44-49.

Maurer, E.L. 2001. Veterinary chiropractic survey. *Journal of the American Chiropractic Association*, 38(4):38-45.

McCarthy, L. 2008. How chiropractic is helping animal athletes. *Canadian Chiropractor*. June. Available at <http://www.canadianchiropractor.ca/content/view/1100/136/> (Accessed 17 June 2013).

McTimoney Animal Association (MAA). 2016. Code of ethics (online). Available: <http://mctimoneyanimal.co.uk/Resourses/MAAcodeofethics.pdf> (Accessed 15 March 2016).

Meredith, K., Bolwell, C.F., Rogers, C.W. and Gee, E.K. 2011. The use of allied health therapies on competition horses in the North Island of New Zealand. *New Zealand Veterinary Journal*, 59(3): 123-127.

Miller, L.M. and Brewer, J.D. 2003. *The A-Z of social research: comparative analysis*. London: SAGE.

Mills, S.Y. 2001. Regulation in complementary and alternative medicine. *British Medical Journal*, 322:158-160.

Mills, M., Van de Bunt, G. G. and De Bruijn, J. 2006. Comparative research persisting problems and promising solutions. *International Sociology*, 21(5):619-631.

Morris, P.W.G., Crawford, L., Hodgson, D., Shepherd, M.M. and Thomas, J. 2006. Exploring the role of formal bodies of knowledge in defining a profession: the case of project management. *International journal of Project Management*, 24(2006):710-721.

National Board of Chiropractic Examiners (NBCE). 2015. About Chiropractic (online). Available: [http://www.nbce.org/about/about\\_chiropractic/](http://www.nbce.org/about/about_chiropractic/) (Accessed 13 June 2016).

Nerland, M. and Karseth, B. 2015. The knowledge work of professional associations: approaches to standardization and forms of legitimization. *Journal of Education and Work*, 28(1):1-23.

New Zealand. 2003. *Health Practitioners Competence Assurance Act No 48 of 2003*. Wellington: New Zealand Government.

New Zealand. 2004. *New Zealand Chiropractic Board Scope of Practice* (online). Available:

<http://www.chiropracticboard.org.nz/Portals/12/Scope%20of%20Practice%20-%202010.pdf> (Accessed 16 November 2015).

New Zealand. 2005. *Veterinarian Act No 126 of 2005*. Wellington: New Zealand Government.

New Zealand. 2015. *Veterinary Council of New Zealand Code of Professional Conduct* (online). Available: <http://www.vetcouncil.org.nz/CPC/VetServices.print.php> (Accessed 3 December 2015).

New Zealand Qualifications Authority (NZQA). 2012. *The New Zealand Qualifications Framework*. Available: <http://www.nzqa.govt.nz/assets/Studying-in-NZ/New-Zealand-Qualification-Framework/requirements-nzqf.pdf> (Accessed 28/5/2016).

Ong, R.Y.C. 2010. *Mobile communication and the protection of the children*. PhD. Leiden University.

Ontario. 1990. *Veterinarians Act Chapter V.3 of 1990* (online). Available: <https://www.ontario.ca/laws/statute/90v03> (Accessed 16 November 2015).

Ontario. 1991. *Chiropractic Act Chapter 21 of 1991* (online). Available: <https://www.ontario.ca/laws/statute/91c21> (Accessed 16 November 2015).

*Oxford Dictionaries* (online). 2016. Available: <http://www.oxforddictionaries.com> (Accessed 8 March 2016).

Painter, F.M. 2003. *Chiropractic techniques*. the chiropractic research organisation (online). Available: [http://www.chiro.org/LINKS/ABSTRACTS/Chiropractic\\_Techniques.shtml](http://www.chiro.org/LINKS/ABSTRACTS/Chiropractic_Techniques.shtml) (Accessed 13 June 2016)

Pascoe, E.2006.Alternative therapies: what's legal?*Practical Horseman*,34(7):86.

Phillips, J. 2010. Why legal history matters. *Victoria University of Wellington Law Review* (Online),41(3):18. Available: <http://www.nzlii.org/nz/journals/VUWLawRw/2010/18.html> (Accessed 4 March 2016).

*Professional Standards Authority*. 2015. Rethinking regulation. London: Professional Standards Authority.

Queensland. 1936. *Veterinary Surgeons Act of 1936* (online). Available: <https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/V/VetSurgA36.pdf> (Accessed 16 November 2015).

Queensland. 2014. *Health Practitioner Regulation National Law Act 2009* (online). Available: <https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/H/HealthPracRNatLaw.pdf> (Accessed 16 November 2015).

Ramey, D., Keating, J.C. Jr., Imrie, R. and Bowles, D. 2000. Claims for veterinary chiropractic unjustified. *Canadian Veterinary Journal*, 2000/03:169.

Ramey, D.W. and Rollin, B.E. 2004. *Complementary and alternative veterinary medicine considered*. Ames: Iowa State Press.

Randall, G.E. 2000. *Understanding professional self-regulation*. College of Repertory Therapists of Ontario (online). Available: <http://www.collegeofparamedics.sk.ca/docs/about-us/understanding-prof-self-regulation.pdf> (Accessed 13 November 2015).

Redwood, D. 2010. Chiropractic research and practice: state of the art. The Chiropractic Research Organization (online). Available: [http://www.chiro.org/research/ABSTRACTS/State\\_of\\_the\\_Art.shtml](http://www.chiro.org/research/ABSTRACTS/State_of_the_Art.shtml) (Accessed 13 June 2016).

Reggars, J.W. 2011. Chiropractic at the crossroads or are we just going around in circles? *Chiropractic & Manual Therapies*, 19:11.

Rome, P. L. and McKibbin, M. 2011. A review of chiropractic veterinary science: an emerging profession with somatic and somatovisceral anecdotal histories. *Chiropractic Journal of Australia*, 41(4):127-139.



Rops, M.S. 2004. *White paper on occupational regulation*. American Society of Electroneurodiagnostic Technologists, Inc. (ASET).

Rouge, B. 2012. Louisiana board mandates direct supervision for laypersons performing alternative therapies. *DVM Newsmagazine*, 43(5):25.

Royal College of Chiropractors (RCC). 2016. The Royal College of Chiropractors' Animal Faculty (online). Available: <http://rcc-uk.org/animal-faculty/> (Accessed 1 February 2016).

Royal College of Veterinary Surgeons (RCVS). 2015a. *Code of Conduct*, Section 19 (online) Available: <https://www.rcvs.org.uk/advice-and-guidance/code-of-professional-conduct-for-veterinary-surgeons/supporting-guidance/treatment-of-animals-by-unqualified-persons/> (Accessed 1 December 2015).

Royal College of Veterinary Surgeons (RCVS). 2015b. *Treatment of animal by unqualified persons* (online). Available: <https://www.rcvs.org.uk/advice-and-guidance/code-of-professional-conduct-for-veterinary-surgeons/supporting-guidance/treatment-of-animals-by-unqualified-persons/> (Accessed 1 December 2015).

Schoen, A.M. and Wynn, S.G. 1998. *Complementary and alternative veterinary medicine: principles and practice*. St Louis, MO: Mosby, Inc.

Schultz, K. 2008. MVMA tries to work out kinks in chiropractic legislation. *DVM Newsmagazine*, 39(5):9.

Schultze, R. 2007. What does it mean to be a self-governing regulated profession? *Journal of Property Tax Assessment & Administration*, 4(3):41-53.

Shaw, D. 2014. Advocacy: The role of health professional associations. *International Journal of Gynecology and Obstetrics*, 127(2014):S43-S48.

Snow, K.M. 2013. The knowledge, perception and utilization of equine chiropractic by horse riders in KwaZulu-Natal. MA, Durban University of Technology.

South Africa. 1982a. *Allied Health Professions Act No 63 of 1982* (online). Available: [http://ahpcsa.co.za/wp-content/uploads/2015/10/The-Allied-Health-Professions-Act-63-of-1982-\\_as-amended.pdf](http://ahpcsa.co.za/wp-content/uploads/2015/10/The-Allied-Health-Professions-Act-63-of-1982-_as-amended.pdf) (Accessed 16 November 2015).

South Africa. 1982b. *Veterinary and Para-Veterinary Professions Act No. 19 of 1982*(online). Available: [http://www.savc.org.za/pdf\\_docs/act\\_19\\_of\\_1982.pdf](http://www.savc.org.za/pdf_docs/act_19_of_1982.pdf) (Accessed 16 November 2015).

South African Veterinary Council (SAVC) and Allied Health Professions Council of South Africa (AHPCSA). 2001. Minutes of the meeting held on 4<sup>th</sup> of December 2001. South African Pharmacy Council Boardroom, Arcadia, South Africa.

South African Veterinary Council (SAVC) and Allied Health Professions Council of South Africa (AHPCSA). 2011. Minutes of the meeting held on 20<sup>th</sup> of July 2011. Arcadia, South Africa.

Stephens, T. 2014. Needles treatment of pets. *Australian Science*, 35(6):44.

Taverner, C.B.2011.The perceptions of veterinarians towards chiropractic treatment of animals in South Africa. MA, Durban University of Technology.

Texas. 1999. *Occupations Code*, Title 3, Subtitle C, Chapter 201, Subchapter A (online). Available: <http://www.statutes.legis.state.tx.us/Docs/OC/htm/OC.201.htm> (Accessed 16 November 2015).

Texas. 2013. *Veterinary License Act*, Chapter 801.151(c)(2) (online). Available: <http://www.statutes.legis.state.tx.us/Docs/OC/pdf/OC.801.pdf> (Accessed 16 November 2015).

Texas. 2014. *Texas Administrative Code*, title 22, Part 24, Chapter 573. *Rules Pertaining to the practice of veterinary medicine* (online). Available: [https://www.veterinary.texas.gov/documents/rules/CHAPTER\\_573\\_RULES\\_OF\\_PROFESSIONAL\\_CONDUCT\\_as\\_of\\_06-14-2016.pdf](https://www.veterinary.texas.gov/documents/rules/CHAPTER_573_RULES_OF_PROFESSIONAL_CONDUCT_as_of_06-14-2016.pdf) (Accessed 16 November 2015).

Texas Board of Chiropractic Examiners (TBCE). 2011. Can a Texas DC perform chiropractic on animals? Texas Chiropractic Board Report, August (2011)13.

Thacher, D. 2013. The professional association's role. *Cities*, 32(2013)169-170.

*The Law Dictionary* (online). 2016. Available: <http://thelawdictionary.org/search/> (Accessed 4 March 2016).

Tuck, R. 2007. *An introductory guide to national qualifications frameworks: conceptual and practical issues for policy makers*. Geneva: ILO Publications.

Umapathy, K. and Ritzhaupt, A. D. 2011. Role of professional associations in preparing, recruiting, and retaining computing professionals. *Proceedings of the 49th SIGMIS annual conference on computer personnel research*, San Antonio, Texas, 49 – 57. Available:<http://www.aritzhaupt.com/eprofessional/papers/2011/UmapathyRitzhaupt.pdf> (Accessed 18 November 2015).

United Kingdom. 1962. *Statutory Instruments 1962 No. 2557: The Veterinary Surgery (Exemptions) Order 1962* (Made 21<sup>st</sup> November 1962). The Edinburgh Gazette number 18093:7 December.

United Kingdom. 1966. *Veterinary Surgeons Act Chapter 36 of 1966*. London: HMSO.

United Kingdom. 1994. *Chiropractors Act Chapter 17 of 1994*. London: HMSO.

United Kingdom. Department of Health. 2007. *Trust, assurance and safety – the regulation of health professionals in the 21<sup>st</sup> century*. London: The Stationary Office.

United States of America. Department of Labour. 2015. Department of the Treasury Office of Economic Policy, Council of Economic Advisors. *Occupational licensing: a framework for policymakers*. Washington: The White House.

Veterinary Surgeons Board of Queensland (VSBQ). 1997. General policy. Available: <http://www.vsb.qld.gov.au/policygeneral.html#acts> (Accessed 1 February 2016).

Victoria. 1997. *Veterinary Practice Act No 58 of 1997* (online). Available: [http://www.legislation.vic.gov.au/domino/web\\_notes/LDMS/LTObject\\_Store/LTObjSt5.nsf/d1a8d8a9bed958efca25761600042ef5/a912e9d7434c557fca257801001045a8/\\$FILE/97-58a024.pdf](http://www.legislation.vic.gov.au/domino/web_notes/LDMS/LTObject_Store/LTObjSt5.nsf/d1a8d8a9bed958efca25761600042ef5/a912e9d7434c557fca257801001045a8/$FILE/97-58a024.pdf) (Accessed 16 November 2015).

Victoria. 2009. *Health Practitioner Regulation National Law (Victoria) Act No 79 of 2009* (online). Available: [http://www.legislation.vic.gov.au/Domino/Web\\_Notes/LDMS/PubStatbook.nsf/51dea49770555ea6ca256da4001b90cd/02566FDB9453A0CECA25768600149A94/\\$FILE/09-079a.pdf](http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/PubStatbook.nsf/51dea49770555ea6ca256da4001b90cd/02566FDB9453A0CECA25768600149A94/$FILE/09-079a.pdf) (Accessed 16 November 2015).

Villanueva-Russell, Y. 2011. Caught in the crosshairs: identity and cultural authority within chiropractic. *Social Science & Medicine*, 72: 1826-1837.

Volden, C. and Wiseman, A.E. 2012. *Governmental regulation and self-regulation*. Charlottesville, VA: University of Virginia.

Wardwell, W.I. 1992. *Chiropractic: history and evolution of a new profession*. St. Louis, MO: Mosby Year Book.

Whitcomb, R. 2011. Identifying scope of illegal practice. *DVM Newsmagazine*, 42(9):62-63.

Willoughby, S.L. 2002. Animal chiropractic history(online). Available: [http://www.animalchiropractic.org/animal\\_chiropractic\\_history.htm](http://www.animalchiropractic.org/animal_chiropractic_history.htm) (Accessed 13 June 2016).

World Federation of Chiropractic (WFC). 2001. *Definitions of Chiropractic* (online). Available: [https://www.wfc.org/website/index.php?option=com\\_content&view=article&id=90&Itemid=110](https://www.wfc.org/website/index.php?option=com_content&view=article&id=90&Itemid=110) (accessed 13 June 2016).

World Health Organization (WHO). 2005. *WHO guidelines on basic training and safety in chiropractic*. Geneva: WHO Press.

World Health Organization (WHO). 2013. *Transforming and scaling up health professional education and training: Policy brief on regulation of health professions education*. Geneva: WHO Press.

World Health Professions Conference on Regulation (WHPCR). 2008. The Role and future of Health Professions Regulation (online). Available: [http://www.wma.net/en/20activities/40healthsystems/20scopeofpractice/010402\\_WHPCR\\_report\\_A4\\_single\\_page\\_final.pdf](http://www.wma.net/en/20activities/40healthsystems/20scopeofpractice/010402_WHPCR_report_A4_single_page_final.pdf) (Accessed 16 November 2015).

Yeomans, S.G. 2013. *Chiropractic adjustment. Spine-health* (online). Available: <http://www.spine-health.com/treatment/chiropractic/spinal-manipulation-high-velocity-low-amplitude-hvla> (Accessed 13 June 2016).

# APPENDICES

## APPENDIX A



7 August, 2015

Student No: 21011543

Ms C Du Plessis  
3 Maristine  
75 Oakleigh Drive  
Musgrave  
Durban  
4001

Dear Ms Du Plessis

### **MASTER'S DEGREE IN TECHNOLOGY: CHIROPRACTIC**

I am pleased to advise that:

1. The Research and Higher Degrees Committee approved the following:

(i) Your research proposal and dissertation title, being:

***A comparative analysis of animal chiropractic regulation within seven countries.***

**Please note: ANY PROPOSED CHANGES in the DISSERTATION TITLE require the approval of your supervisor and the Faculty Research Committee.**

(ii) Supervisor – **Dr G Matkovich**  
(iii) Co-Supervisor – **Dr L Mullinder**

2. Your request for funding totalling **R 6992.60** subject to any literature referred to in Section A of the PG 4a form being accessioned by this University, and any equipment purchased shall become the property of the department.

**NOTE: - This funding is not paid directly to you but is controlled by the Faculty. Any proposed changes to this funding allocation needs the approval of your supervisor, and Faculty Research Committee**

The University Research Committee has stipulated that:

- (a) Ownership of any patent registered in respect of the results of your Master's Degree in Technology studies is retained by you as the initiator of the project;
- (b) Should you make any Drift from the results of your Master's Degree in Technology

studies, you will be required to repay pro rata, the **R 6992.60** investment which the University Research Committee has made in approving your request for funding;

(c) If the Durban University of Technology provided the equipment/materials for the creation of artefacts, this cost would be refunded to the University if such artefacts were sold and

(d) Durban University of Technology is given first refusal in respect of any possible future sale by you of any patent that may be registered in respect of your said project.

(e) All journal articles, referenced in your dissertation, are to accompany your ring-bound copies when submitting for examination purposes.

May I remind you that notwithstanding Rule LX.CM2, if a student fails to obtain the Masters Degree within two years of first registering for the fifth year, re-registration may be denied. The Academic Board may refuse to renew such registration or may impose any conditions it deems fit.

Should you experience any problems relating to your research studies, your supervisor must be informed as soon as possible. If the difficulty persists, you must then approach your Head of Department and thereafter the Dean of the Faculty.

Yours sincerely



**Mr S Reddy**  
FACULTY RESEARCH OFFICER

\_\_\_\_\_  
**Student's signature in acceptance  
of the conditions contained herein.**

\_\_\_\_\_  
**Date:**

## APPENDIX B



### LETTER OF INFORMATION AND CONSENT EXPERT GROUP

#### LETTER OF INFORMATION

**Title of the Research Study:** A comparative analysis of seven countries animal chiropractic regulation

**Principal Investigator/s/researcher:** Ms. Christine du Plessis (M.Tech:Chiro Student)

**Co-Investigator/s/supervisor/s:** Dr. G. Matkovich, M.Tech Chiropractic (supervisor)  
Dr. L. Mullinder, M.Tech Homoeopathy, BProc (co-supervisor)

**Brief Introduction and Purpose of the Study:** Animal/veterinary chiropractic is the treatment of animals by qualified veterinarians or human chiropractors who have successfully completed a recognized post graduate course in the chiropractic treatment of animals. This research aims to establish the current status of the regulation of animal chiropractic in seven different countries in order to better understand a global trend in animal chiropractic regulation. The purpose is to establish the regulatory role of the statutory body of animal chiropractic in terms of education, registration, discipline, code of ethics, scope of practice and continuing professional development, and the regulatory role of professional associations on animal chiropractic regulation.

**Outline of the Procedures:** You are required to sign the Letter of Information and Consent (Appendix A) prior to the meeting. The meeting is held at the Durban University of Technology on the 20<sup>th</sup> of August, 2015, at 16:00. Please be aware that for transcription and data analysis purposes, the meeting has to be voice/video-recorded. The purpose of the meeting is to analyse and refine the proposed initial data collection tool (Appendix C).

**Risks or Discomforts to the Participant:** There are no expected risks or discomforts to the expert group members.

**Benefits:** The study will determine the current status of animal chiropractic regulation and determine whether a global trend exists. If a trend exists among countries with effective regulatory systems, this trend could be applied in countries with no or new regulation on animal chiropractic.

**Reason/s why the Participant May Be Withdrawn from the Meeting:** Participation in the expert group meeting is purely voluntary. You may stop participating in the expert group meeting at any time, for any reason you may decide on. Your decision to stop participating, or to refuse to answer particular questions, will not affect your relationship with the researcher, Durban University of Technology, or any other affiliations associated with this project.

**Remuneration:** No financial compensation will be awarded to any participant involved in the expert group meeting.

**Costs of the Meeting:** No financial compensation will be required from any participant involved in the expert group meeting. Travel costs to and from the meeting will be for the expert group meeting member's own account.

**Confidentiality:** All information supplied by you throughout the research will be regarded as confidential and your name will not appear in any report or publication of the research. The data will be safely stored in a locked facility for a period of 5 years, after which it will be destroyed by authorised personnel.

**Research-related Injury:** There is no risk of research-related injury or adverse reaction.

**Persons to Contact in the Event of Any Problems or Queries:**

Please contact the researcher, Ms. Christine du Plessis (076 510 0408), my supervisor, Dr. Grant Matkovich (031 201 8204) or the Institutional Research Ethics administrator on 031 373 2900. Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or [dvctip@dut.ac.za](mailto:dvctip@dut.ac.za).

**CONSENT**

**Statement of Agreement to Participate in the Research Study:**

I hereby confirm that I have been informed by the researcher, ..... (name of researcher), about the nature, conduct, benefits and risks of this meeting - Research Ethics Clearance Number: .....(Please note this is a category 1 study and as such is exempt from ethical clearance)

I have also received, read and understood the above written information (Participant Letter of Information) regarding the meeting.

All information included in the research documents and the expert group meeting discussion will be kept private and confidential.

No information included in the research documents and the expert group meeting discussion will be discussed with any other person or organisation outside the study's expert group.

I am aware that the results of the meeting, including personal details regarding my sex, age, date of birth, initials and views will be anonymously processed into a pre-pilot data collection sheet.

In view of the requirements of research, I agree that the data collected during this meeting can be processed in a computerised system by the researcher. The information resulting from this expert group meeting may be made public in the form of a journal publication, but will in no way identify any of the participants of this expert group.

I may, at any stage, without prejudice, withdraw my consent and participation in the meeting.

I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the meeting.

I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

.....  
Full Name of Participant    Date    Time    Signature

I, ..... (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

.....  
Full Name of Researcher (print)    Date    Researcher's signature

.....  
Full Name of Witness (print)    Date    Witness signature

Thank you for your participation.

Ms. Christine du Plessis  
(Researcher)



## APPENDIX C



### REQUEST OF INFORMATION TO WHOM IT MAY CONCERN

Dear Sir/Madam,

I am a chiropractic student at the Durban University of Technology (Durban, South Africa) currently conducting my Masters Research study. In order for me to complete my research, I will please need the following information / documentation concerning animal chiropractic regulation:

1. (list information/documentation here)

Could you kindly assist in this matter and send the requested information or documents to the following email address [christinedpm@gmail.com](mailto:christinedpm@gmail.com) . If you are unable to assist, could you please direct me on where to find the required information?

Following is information regarding my research study for your perusal:

**Title of the Research Study:** A comparative analysis of seven countries animal chiropractic regulation

**Principal Investigator/s/researcher:** Ms. Christine du Plessis, M.Tech:Chiropractic Student

**Co-Investigator/s/supervisor/s:** Dr. G. Matkovich, M.Tech Chiropractic (supervisor)  
Dr. L Mullinder, M.Tech Homoeopathy, BProc (co-supervisor)

**Brief introduction and purpose of this study:** Animal chiropractic, which is also known as veterinary chiropractic, is the treatment of animals by qualified veterinarians or human chiropractors who have successfully completed a recognized post graduate course in the chiropractic treatment of animals. Animal chiropractic focuses on the neuromusculoskeletal wellbeing of animals.

This research aims to establish the current status of the regulation of the animal chiropractic profession in seven different countries in order to better understand and identify a global trend in animal chiropractic regulation. The purpose is to establish the regulatory role of the statutory body of animal chiropractic in terms of education, registration, discipline, code of ethics, scope of practice and continuing professional development, and the regulatory role of professional associations on animal chiropractic regulation.

**Outline of the procedures:** The study will be a quantitative comparative analysis. The validated (through an expert group meeting and pilot study) measurement tool will be used to extract quantitative data from the various governmental., educational or professional organisations' web pages and/or communication with the organisations.

Data analysis will be done by using IBM SPSS version 22, in order to descriptively analyse (e.g. Tables, graphs, pie charts) the various animal chiropractic regulatory models. The statistical results will be evaluated and used to base the conclusions on.

**Benefits of the research:** The study will determine the current status of animal chiropractic regulation and determine whether a global trend exists. If a trend exist among countries with effective regulatory systems, this trend could be applied in countries with no or new regulation on animal chiropractic.

**Persons to Contact in the Event of Any Problems or Queries:**

Please contact the researcher, Ms. Christine du Plessis (+27 (0)76 510 0408), my supervisor, Dr. Grant Matkovich (+27 (0)31 201 8204), my co-supervisor Dr. Louis Mullinder(+27 (0) 12 349 2331) or the Institutional Research Ethics administrator on +27 (0)31 373 2900. Complaints can be reported to the DVC: TIP, Prof F. Otieno on +27 (0)31 373 2382 or [dvctip@dut.ac.za](mailto:dvctip@dut.ac.za).

Your assistance will be much appreciated.  
Thank you kindly in advance.

Ms. Christine du Plessis (Principal researcher)

## APPENDIX D1

### PRE-EXPERT GROUP DATA COLLECTION TOOL

<b>A</b>		<b>BACKGROUND INFORMATION OF JURISDICTION</b>			
A1	Country name				
A2	State/province/region (if applicable)				
A3	Type of government	Democracy	Republic	Monarchy	
		Constitutional	Parliamentary	Presidential	
		Federal	Commonwealth	Confederation	
<b>B</b>					
		<b>ANIMAL CHIROPRACTIC REGULATION</b>			
<b>B1</b>		<b>Background: Regulatory model and legislative acts</b>			
B1.1	Under which paradigm does animal chiropractic regulation fall?	Direct government administered legislation			
		Government-sanctioned self-regulation			
		Independent self-regulation			
B1.2	What is the legal position of the chiropractic treatment of animals?	Legal., without referral or supervision from a veterinarian	Legal., under referral from a veterinarian		
		Legal., under direct supervision of a veterinarian	Unregulated		
B1.3.	Is there a regulatory body regulating animal chiropractic?	Yes		No	
	If yes, provide name of relevant body:				
B1.4	If no separate regulatory body exist, under which regulatory body/ies does animal chiropractic fall?	Veterinary		Chiropractic	
		Veterinary and Chiropractic		Other (specify):	
B1.5	State date and title of enactment of the first act/law/regulation pertaining to the chiropractic treatment of animals	Date:			
		Title:			
<b>B2</b>					
		<b>Background: Educational institutional regulation and course requirements</b>			
B2.1	Is there an educational institution for animal chiropractic in this country/jurisdiction?	Yes		No	
		If yes, specify and continue with this section (B2):			
B2.2	Is the institution regulated?	Yes		No	
	If yes – on what level and provide name of regulating body	Institutional			
		Regional (state)			
		National			
		International			
B2.3	Do the educational authorities recognize the course?	Yes		No	
B2.4		Regulatory body		Professional association	

	Does any other body have any control over the course?	Other governmental department(specify):				
		Other (specify):				
B2.5	Does the course have any affiliations to other courses?	Yes			No	
		If yes, specify:				
B2.6	Educational requirements for registration for the course	School		University credits		
		Chiropractic qualification		Veterinary qualification		
		Osteopathic qualification		Other (specify):		
B2.7	Other requirements for registration for the course:	Registered to practice relevant profession in country of origin			Practical experience in relevant profession	
		Language proficiency		Other (specify):		
B2.8	Average amount of contact hours required for completion of qualification:	Less than 100	100-150	150-200	200-250	More than 250
B2.9	Structure of course:	Traditional curriculum (didactic)		Classroom lectures	Practical lectures	
				Group discussions	Demonstrations	
				Other (specify):		
		Non-traditional curriculum (Online, case-based etc)		Online	Case-based	
				Reading (Articles / Books)		Other (specify):
		Mixed mode curriculum				
B2.10	Which title is the professional allowed to use upon completion of registration?	Veterinary Chiropractor			Veterinary Spinal Manipulative Therapists	
		Animal Chiropractor			"certified in animal chiropractic by the ACCC of the AVCA"	
		Other (specify):				
B2.11	How is the qualification funded?	State		Private	Alumni	
	What is the percentage of above?	%		%	%	
<b>B3</b>	<b>Educational requirements for registration of professional (local) (if qualification is to be obtained from outside this jurisdiction)</b>					
B3.1	Do the educational authorities of this jurisdiction recognize animal chiropractic education?	Yes			No	
B3.2		Regulatory body			Professional association	

	Does any other body in this jurisdiction recognize animal chiropractic education?	Other (specify):		
B3.3	Educational requirements for registration to practice as animal chiropractor in this jurisdiction prior to graduating	School	University credits	
		Chiropractic qualification	Veterinary qualification	
		Osteopathic qualification	Other (specify):	
B3.4	Are any course accreditations required in order for the graduate to register to practice in this jurisdiction?	IVCA (International Veterinary Chiropractic Association)	AVCA (American Veterinary Chiropractic Association)	
		ACCC (American Chiropractic Certification Commission)	Other (specify):	
B3.5.1	Is certification required in order for the graduate to register to practice in this jurisdiction?	Yes		No
	If yes – with whom?			
B3.6	Qualifications from which educational institutions are accepted in this jurisdiction?	Parker University (TX, USA)		
		International Academy of Veterinary Chiropractic– (Ger)		
		Anglo European college of Chiropractic (UK)		
		Options for Animals (KS, USA)		
		Veterinary Chiropractic Learning Centre (Can)		
		The Healing Oasis (WI, USA)		
		Backbone Academy (Ger)		
		Box Hill Institute (Aus)		
		McTimoney College of Chiropractic (UK)		
		Animal Chiropractic Education Source (TX, USA)		
Other (specify):				
B3.7.1	If studying abroad, does the professional need to register in this jurisdiction?	Yes		No
B3.7.2	If yes, which registrations are required?	Student	Intern	Temporary student
		Temporary Intern	Travel	Exchange student
<b>B4</b>	<b>Practitioner registration and Licensing Process (Local)</b>			
B4.1	Is registration required in order to practice animal chiropractic after qualification?	Yes		No
	If yes, how many registered animal chiropractors are there?			
B4.2	Types/classes of registration (specializations)	Animal chiropractor		
		Small animal chiropractor		
		Large animal chiropractor		
		Equine chiropractor		
Other (specify):				
B4.3	Is there automatic registration during/after education?	Yes		No

	If yes, Is this applicable to any of the following categories?	Educational only	Student	Animal Chiropractor	
			Intern		
	Other (Specify):				
	If no, are board exams required to be written in order to register as animal chiropractor?	Yes		No	
B4.4	Are there any restrictions imposed by legislation?	Yes		No	
	If yes, by whom? (Specify):				
	If yes, to what extent? (Specify):				
B4.5	Are there restrictions by international bodies?	Yes		No	
	If yes, by whom? (Specify)				
	If yes, to what extent? (Specify)				
B4.6	Process of registration (flow chart or algorithm)				
B4.7	Is it possible to appeal against rejection of registration?	Yes		No	
	If yes, how? (Specify)				
<b>B5</b>	<b>Other roles of the council/board: Code of Ethics/Scope of Practice and Continuing education requirements</b>				
B5.1	Does a code of ethics exist for the profession?	Yes		No	
	If yes - by whom?	Regulator		Professional association	
B5.2	Is the scope of practice clearly defined by the council/board?	Yes		No	
B5.3	What does the scope of practice include according to the council/board? Mark with a tick (✓)	Examination			
		Record keeping			
		Diagnosis			
		Developing a treatment plan			
		Applying of the following treatments:			
		Manipulation		Spinal	
				Extremity	
		Dry needling			
		Rehabilitation			
		Soft tissue therapies			
		Electro modalities			
		Other treatment modalities (specify):			
Reassessment of treatment plan					

		Communication and education of clients	
		Medication advice	
		Nutritional advice	
		Referral to veterinarians	
		Referral for imaging studies	
		Performing of imaging studies	
		Referral for other tests (e.g. blood tests) (specify):	
		Conditions within scope of practice treated include:	
		Chronic musculoskeletal conditions	
		Acute musculoskeletal conditions (traumatic and insidious)	
		To increase or enhance sports performance	
		To Maintain soundness in older animals	
		Prophylactic treatment to maintain fitness	
		Vertebral subluxation	
		Chronic lameness, as complementary treatment for the following conditions:	
		Bone spavin	
		Tendon related conditions	
		Ligament related conditions	
		Arthrosis	
		Spondylosis	
		Navicular syndrome	
		Other (specify):	
B5.4	Are there CPD requirements in place?	Yes	No
	If yes – are they legally enforced?	Formal	Informal
	If yes – by whom?	Regulator	Professional Association
	If yes – how many are required per year?	Less than 10	10-20
		21-30	31 or more
<b>B6</b>			
<b>Disciplinary Procedures and Characteristics of Staff</b>			
B6.1	Are there disciplinary procedures in place?	Yes	No
		If yes – please supply algorithm /flow of procedures	
B6.2	Is there a complaints procedure for patients?	Yes	No
B6.3	Are there structures for self-reporting (e.g. adverse reactions)	Yes	No
		If yes – what format (specify):	
B6.4	Constitution of panel. Mark with tick (✓).	Chairperson	
		Note taker	
		Members of the profession	
		Expert witnesses	
		The defendant	

		The accused		
		The accused's council		
		Other (state)		
		Other (state)		
B6.5	Are lay members present?	Yes	No	
	Are they required to have an affiliation to the case?	Yes	No	
		If yes – with what or who?		
B6.6	Is there involvement of lawyers?	Yes		No
	If yes – to what extent?	Legal counsel	Yes	No
		Defense attorneys	Yes	No
<b>C</b>	<b>ANIMAL CHIROPRACTIC PROFESSIONAL ASSOCIATION</b>			
C1	Does this jurisdiction have a professional association for animal chiropractic?	Yes		No
		If yes, specify:		
		If yes – year established:		
C2	Does animal chiropractic fall under any of the following professional associations?	Animal Chiropractic professional association		
		Local		
		Specify:		
		Supranational		
		Specify:		
		Veterinary professional association		
		Local		
		Specify:		
		Supranational		
		Specify:		
		Chiropractic Professional association		
		Local		
Specify:				
Supranational				
Specify:				
C3	Is membership compulsory/voluntary?	Compulsory		Voluntary
C4	Does the professional association have any regulatory powers?	Yes		No
		If yes, specify (tick (√) appropriate role/s):		
		Full regulatory responsibility		
		Educational standards		
		Educational institutions		
		Continuing Professional Development		
		Registration		
		Licensing		
		Code of Ethics		
		Scope of Practice		
C5	Does the professional association have defined parameters for the following? Tick (√) relevant.	Vision		
		Mission		
		Strategies		
		Code of Ethics (professional conduct)		
		Protection of practitioner		
		Protection of the public		
		Membership requirements		
		Educational standards		
		Affiliations		
		Staff/board		



		Scope of practice		
		Examination		
		Record keeping		
		Diagnosis		
		Developing a treatment plan		
		Applying of the following treatments:		
		Manipulation	Spinal	
			Extremity	
		Dry needling		
		Rehabilitation		
		Soft tissue therapies		
		Electro modalities		
		Other treatment modalities (specify):		
		Reassessment of treatment plan		
		Communication and education of clients		
		Medication advice		
		Nutritional advice		
		Referral to veterinarians		
		Referral for imaging studies		
		Performing of imaging studies		
		Referral for other tests (e.g. blood tests) (specify):		
		Conditions within scope of practice treated include:		
		Chronic musculoskeletal conditions		
		Acute musculoskeletal conditions (traumatic and insidious)		
		To increase or enhance sports performance		
		To maintain soundness in older animals		
		Prophylactic treatment to maintain fitness		
		Vertebral subluxation		
Chronic lameness, as complementary treatment for the following conditions:				
Bone spavin				
Tendon related conditions				
Ligament related conditions				
Arthrosis				
Spondylosis				
Navicular syndrome				
Other (specify):				
C6	Does the professional association have any affiliations?	Yes	No	
	If yes, specify (tick applicable option)	Other professional association/s		

		Specify:	
		Educational institution/s	
		Specify:	
		Other	
		Specify:	

## APPENDIX D2

### ALTERATIONS TO PRE-EXPERT GROUP DATA COLLECTION TOOL

#### Section A: “BACKGROUND INFORMATION OF JURISDICTION”

Question A2: “State/province/region” changed to “Geographical administered area” as it was considered correct terminology by the expert group members.

Question A3: “government” was changed to “law system” as the type of government was not considered relevant by the expert group members. Answer options changed to exclude “Democracy”, “Republic”, “Monarchy”, “Constitutional”, “Parliamentary”, “Presidential”, and “Confederation” as expert group members considered these not relevant to the study. “State Law” was included and “Commonwealth” was changed to “Common Law”.

#### Section B: “ANIMAL CHIROPRACTIC REGULATION”

##### Subsection B1: “Background: Regulatory model and legislative instruments”

“Acts” in the heading was substituted with “instruments”, as this was considered correct terminology by the expert group members.

Question B1.1: “legal” was added before “paradigm” to enhance clarity. Answer options were changed to include “Government devolved authority to a separate/independent regulatory body” and “Unregulated” to include all possible options, and “Direct government administered legislation” was changed to “Direct government administration and regulation” as this was considered more correct legal terminology. The question “Name of relevant body, either government institution, authority with government devolved regulation, body operating under government sanctioned self-

regulation or self-regulating body.” was added to incorporate previous question B1.3 into question B1.1 as the expert group members considered these two questions to be closely related.

Question B1.2: Previous question B1.4, moved to question B1.2 as the expert group members considered this order more logical. The word “Separate” was replaced with “animal chiropractic” to enhance clarity.

Question B1.3 Previous question B1.5, moved to question B1.3. “First act/law/regulation pertaining to” was replaced with “legislative instrument regulating” as this was considered to be more correct legal terminology, and “if any, or the legislative instrument which regulates any treatment of animals generally.” was added to the question to include all possible legislative instruments.

Question B1.4 Added to establish the existence of amendments to or repealing of animal chiropractic regulation.

Question B1.5 Previous question B1.2, moved to question B1.5 as the expert group members considered this order more logical.

**Subsection B2: “Background: Educational institutional regulation and course requirements within this country/state”**

Question B2.1 “Country/jurisdiction” was changed to “country/state as this was considered more correct terminology by the expert group members.

Question B2.2 Previous question B2.2 and previous question B2.4 was combined for ease of answering and to include all educational institutional regulation options. “Is the institution regulated” was changed to “Is the educational institution:” to enhance clarity. The question was changed to incorporate the following: “Regulated by an educational regulatory body?”, “Regulated by a professional regulatory body?”, and “Accredited by an international body?” each with previous answer options of previous question B2.2.

Previous Question B2.3 was removed as it was considered unnecessary in light of the development of question B2.2.

Previous question B2.4 was merged with question B2.2.

Previous question B2.5 was removed as the expert group members did not consider the question relevant to the study.

Question B2.3 Previous question B2.6 and B2.7 was merged to form question B2.3 to read “Requirements for registration for the course:” instead of separate questions “Educational requirements for registration for the course” and “Other requirements for registration for the course:”, as expert group members considered the questions to be closely related. In the answer options “School” was changed to “Secondary school”, “University credits” was changed to “Credit transfer” to enhance clarity, and “Recognition of Prior Learning” was added as an option to include all registration requirement possibilities.

Question B2.4 Previous question B2.8. “Contact” was replaced with “course” as expert group members felt that contact hours could be misunderstood as practical hours only. The questions “How are these hours allocated?” with answer options “Number of Lecture hours” and “Number of Practical hours”, and “Is there a self-study / home component? If, so, elaborate (number of hours/case studies/projects):” were added to gain more in depth knowledge of animal chiropractic course structures.

Question B2.5 Previous question B2.9.

Question B2.6 Previous question B2.10. “Within this country/state” was added to the end of the question to enhance clarity. “Certified IVCA animal

chiropractor” was added as an answer option to include all possibilities of professional titles for animal chiropractors.

Previous question B2.11.1 was removed as the expert group members did not consider this information relevant to the study.

**Subsection B3: “Recognition of foreign animal chiropractic qualifications within this country/state”**

The heading was reworded from “Educational requirements for registration of professional (local) (if qualification is to be obtained from outside this jurisdiction)” to state the heading more concise and to enhance clarity.

Question B3.1 “Jurisdiction” was changed to “country/state” to keep this change uniform throughout the data collection sheet. “From another country/state” was added to the end of the question to enhance clarity. “If yes, name educational authority:” was added to this question to provide more depth to information obtained.

Question B3.2 and question B3.3 were developed by elaborating on previous question B3.2 in order to increase depth of information obtained by these questions.

Question B3.2 “Does any other body in this jurisdiction recognize animal chiropractic education?” was changed to “Do any regulatory body/ies of this country/state recognize animal chiropractic qualifications from another country/state?”, answer options “Yes” or “No” and “Veterinary”, “Chiropractic” (with “If yes, name regulatory body:” to these two answer options) and/or “Both” were added.

Question B3.3 The question “Does any professional association/s of this country/state recognize animal chiropractic qualifications from another country/state?” answer options “Yes” or “No” and

“Veterinary”, “Chiropractic” (with “If yes, name regulatory body:” to these two answer options) and/or “Both” and were added.

Question B3.4 was formed by merging previous questions B3.3, B3.5 and B3.6.

Question B3.4 “Educational requirements for registration to practice as animal chiropractor in this jurisdiction prior to graduating” was changed to “Minimum registration requirements to practice animal chiropractic within this country/state.” to enhance clarity and to encompass all registration requirements. “School” and “University credits” were omitted as these were considered unnecessary, and “none”, “Certification”, and “Animal chiropractic qualification” added as answer options, respectively, as a result of the merging of the question and to include all possible registration requirement options. Under the animal chiropractic qualification option “If animal chiropractic qualification is applicable, please select educational institutions that are accepted within this county/state:” was inserted, and the educational institutions were changed to list alphabetically for ease of reference.

Question B3.5 Previous question B3.4.

Previous questions B3.7.1 and B3.7.2 were removed as it was not considered relevant to this study.

**Subsection B4: “Practitioner registration and Licensing within this country/state”**

The word “Process” was omitted from the heading as the expert group members did not consider the process to be relevant to this study. “(local)” was changed to “within this country/state” to enhance clarity.

Question B4.1 “If yes, with whom:” was added to the question in order to obtain more in depth information regarding animal chiropractic registration.

Previous question B4.2 was removed as the expert group members felt this question was irrelevant to the study.

Question B4.2 Previous question B4.3. “Is there automatic registration during/after education?” was changed to “Is registration with the regulatory body during/after education required within this country/state?” to enhance clarity.

Question B4.3 Previous question B4.4. “Restrictions” was replaced with “limitations on registration” in order to enhance clarity. “If yes, by whom? (Specify):” and “If yes, to what extent? (Specify):” were replaced with “Limitations imposed by legislation:” as it was agreed that this would effectively obtain the required information.

Question B4.4 Previous question B4.5. “Restrictions” was replaced with “limitations on registration” in order to enhance clarity. “If yes, by whom? (Specify):” and “If yes, to what extent? (Specify):” were replaced with “Limitations imposed by international body/ies:” as it was agreed that this would effectively obtain the required information.

Previous questions B4.6 and B4.7 were removed as the expert group members considered this information (B4.6) to be covered by previous questions and B4.7 to be irrelevant to this study.

**Subsection B5: “Other roles of the regulatory body: Code of Ethics/Scope of Practice and Continuing education requirements”**

Question B5.1 “animal chiropractic” was added before “profession” to enhance clarity.

Question B5.2 “council/board” was removed and ‘If yes - by whom?’ with answer options “Regulatory body” or “Professional association” added in order to extract more information.

Question B5.3 “council/board” was replaced by “regulatory body” in keeping with terminology used throughout the document. Subcategories “General:”, “Treatment (application of):”, “Conditions within scope



of practice treated include:” for the answer options were created and options listed alphabetically within these to make the document more user friendly. “Tack fitting” was added to include all possible options for scope of practice.

Question B5.4 Answering options for the question “If yes – are they legally enforced?” was changed from “Formal”, “Informal” or “Formal and Informal” to “Yes” or “No” as expert group members considered these responses to be more appropriate. “What are the consequences of not meeting the CPD requirements?” was added to this question as expert group members considered this relevant information to the study.

**Subsection B6: “Disciplinary consequences”**

“Consequences” replaced “Procedures and Characteristics of Staff” in the heading as this heading was considered more appropriate after the section’s questions were changed.

Question B6.1 “If yes – please supply algorithm / flow of procedures” was removed as the expert group members felt that the disciplinary procedures were not relevant to this study.

Question B6.2 “Patients” was replaced with “animal owners as this was considered more correct terminology.

Question B6.3 “If yes – what format (specify):” was removed as the expert group members felt that the format was not relevant to this study.

Question B6.4 “What are the consequences of being found guilty of misconduct?” was added as a new question as the expert group members considered this noteworthy information for this study.

Previous questions B6.4, B6.5 and B6.6 were removed as the expert group members considered these questions regarding the composition of a disciplinary panel irrelevant to this study.

**Section C: “ANIMAL CHIROPRACTIC PROFESSIONAL ASSOCIATION”**

Question C1 “Within this country/state” was added to the end of the question in order to enhance clarity.

Question C2 “Local” was substituted with “Internal” and “Supranational” with “External” as expert group members considered these terms more understandable within the context of the question. “All” was added to “specify:” under the answer options in order to indicate that all relevant professional associations should be included.

Previous question C3 was removed as the expert group members felt this question was covered within previous question C4 and is a repetition of previously asked questions.

Question C3 Previous question C4. “Have any regulatory powers” was changed to “fulfil the role of a regulatory body” as the expert group members considered this better wording for this question. The answer options were changed to be only “Yes” or “No” as this was considered sufficient information as the roles of the regulatory body is covered in a previous question.

Question C4 Previous question C5. “Animal chiropractic” was added before “Professional association” in order to enhance clarity and specificity of the question. Answer options order were changed to list alphabetically to improve user friendliness.

## APPENDIX D3

### PRE-PILOT STUDY DATA COLLECTION TOOL

<b>A</b>				<b>BACKGROUND INFORMATION OF JURISDICTION</b>			
A1	Country name						
A2	Geographical administered area (if applicable)						
A3	Type of law system	Common Law	Federal Law	State Law			
<b>B</b>				<b>ANIMAL CHIROPRACTIC REGULATION</b>			
<b>B1</b>				<b>Background: Regulatory model and legislative instruments</b>			
B1.1	Under which legal paradigm does animal chiropractic regulation fall?	Direct government administration and regulation					
		Government devolved authority to a separate/independent regulatory body					
		Government-sanctioned self-regulation					
		Independent self-regulation					
		Unregulated					
Name of relevant body, either government institution, authority with government devolved regulation, body operating under government sanctioned self-regulation or self-regulating body.							
B1.2	If no animal chiropractic regulatory body exists, under which regulatory body/ies does animal chiropractic fall?	Veterinary			Chiropractic		
		Veterinary and Chiropractic			Other (specify):		
B1.3	State date and title of enactment of the legislative instrument regulating the chiropractic treatment of animals, if any, or the legislative instrument which regulates any treatment of animals generally.	Date:					
		Legislative instrument					
B1.4	Was this the original legal instrument?	Yes			No		
B1.5	What is the legal position of the chiropractic treatment of animals?	Legal., without referral or supervision from a veterinarian			Legal., under referral from a veterinarian		
		Legal., under direct supervision of a veterinarian			Unregulated		
<b>B2</b>				<b>Background: Educational institutional regulation and course requirements</b>			
B2.1	Is there an educational institution for animal chiropractic in this country/state?	Yes			No		
		If yes, specify and continue with this section (B2):					
B2.2	Is the educational institution:						
	Regulated by an educational regulatory body?	Yes			No		
		Institutional			National		

	If yes – on what level and provide name of regulating body	Regional (state)			International	
	Regulated by a professional regulatory body?	Yes			No	
	If yes – on what level and provide name of regulating body	Institutional			National	
		Regional (state)			International	
	Accredited by an international body?	Yes			No	
	If yes – on what level and provide name of regulating body	Institutional			National	
		Regional (state)			International	
B2.3	Requirements for registration for the course:	Secondary school			Credit transfer	
		Chiropractic qualification			Veterinary qualification	
		Osteopathic qualification			Recognition of Prior Learning	
		Registered to practice relevant profession in country of origin			Practical experience in relevant profession	
		Language proficiency			Other (specify):	
B2.4	Average amount of course hours required for completion of qualification:	Less than 100	100-150	150-200	200-250	More than 250
	How are these hours allocated?	Number of Lecture hours			Number of Practical hours	
	Is there a self-study / home component? If, so, elaborate (number of hours/case studies/projects):					
B2.5	Structure of course:	Traditional curriculum (didactic)	Classroom lectures		Practical lectures	
			Group discussions		Demonstrations	
			Other (specify):			
		Non-traditional curriculum (Online, case-based etc)	Online		Case-based	
			Reading (Articles / Books)		Other (specify):	
Mixed mode curriculum						
B2.6	Which title is the professional allowed to use upon completion of registration within this country/state?	Veterinary Chiropractor			Veterinary Spinal Manipulative Therapists	
		Animal Chiropractor			"certified in animal chiropractic by the ACCC of the AVCA"	
		Certified IVCA animal chiropractor			Other (specify):	

<b>B3</b>		<b>Recognition of foreign animal chiropractic qualifications within this country/state</b>			
B3.1	Do the educational authorities of this country/state recognize animal chiropractic qualifications from another country/state?	Yes		No	
		If yes, name educational authority:			
B3.2	Do any regulatory body/ies of this country/state recognize animal chiropractic qualifications from another country/state?	Yes		No	
		Veterinary	Chiropractic	Both	
		If yes, name regulatory body:	If yes, name regulatory body:		
B3.3	Does any professional association/s of this country/state recognize animal chiropractic qualifications from another country/state?	Yes		No	
		Veterinary	Chiropractic	Both	
		If yes, name professional association:	If yes, name professional association:		
B3.4	Minimum registration requirements to practice animal chiropractic within this country/state:	None			
		Certification			
		Chiropractic qualification			
		Veterinary qualification			
		Osteopathic qualification			
		Animal chiropractic qualification			
		B3.4.1	If animal chiropractic qualification is applicable, please select educational institutions that are accepted within this county/state:		
			Anglo European college of Chiropractic (UK)		
			Animal Chiropractic Education Source (TX, USA)		
			Backbone Academy (Ger)		
			Box Hill Institute (Aus)		
			International Academy of Veterinary Chiropractic– (Ger)		
			McTimoney College of Chiropractic (UK)		
	Options for Animals (KS, USA)				
	Parker University (TX, USA)				
	The Healing Oasis (WI, USA)				
	Veterinary Chiropractic Learning Centre (Can)				
	Other (specify):				
B3.5	Are any course accreditations required in order for the graduate to register to practice in this country/state?	IVCA (International Veterinary Chiropractic Association)		ACCC (American Chiropractic Certification Commission)	
		AVCA (American Veterinary Chiropractic Association)	Other (specify):		

<b>B4</b>	<b>Practitioner registration and Licensing within this country/state</b>			
B4.1	Is registration required in order to practice animal chiropractic after qualification?	Yes	No	
	If yes, with whom:			
	If yes, how many registered animal chiropractors are there?			
B4.2	Is registration with the regulatory body during/after education required within this country/state?	Yes	No	
	If yes, which categories apply?	Educational only	Student Intern	
		Animal Chiropractor		
		Other (Specify):		
	If no, are board exams required to be written in order to register as animal chiropractor?	Yes	No	
B4.3	Are there any limitations on registration imposed by legislation?	Yes	No	
	Limitations imposed by legislation:			
B4.4	Are there any limitations on registration imposed by international bodies?	Yes	No	
	Limitations imposed by international body/ies:			
<b>B5</b>	<b>Other roles of the regulatory body: Code of Ethics/Scope of Practice and Continuing education requirements</b>			
B5.1	Does a code of ethics exist for the animal chiropractic profession?	Yes	No	
	If yes - by whom?	Regulatory body	Professional association	
B5.2	Is the scope of practice clearly defined?	Yes	No	
	If yes - by whom?	Regulatory body	Professional association	
B5.3	What does the scope of practice include according to the regulatory body? Tick (√) relevant.	General:		
		Communication and education of clients		
		Diagnosis		
		Examination		
		Imaging studies (Performing)		
		Imaging studies (Referral for)		
		Medication advice		
		Nutritional advice		
		Record keeping		
		Referral to veterinarians		
		Referral for other tests (e.g. blood tests) (specify):		
		Tack fitting		
		Treatment plan (development)		
Treatment plan (reassessment)				
Treatment (application of):				
Dry needling				
Electro modalities				

		Manipulation	Spinal			
			Extremity			
		Rehabilitation				
		Soft tissue therapies				
		Other treatment modalities (specify):				
		<b>Conditions within scope of practice treated include:</b>				
		Acute musculoskeletal conditions (traumatic and insidious)				
		Chronic musculoskeletal conditions				
		Chronic lameness, as complementary treatment for the following conditions:				
		Arthrosis				
		Bone spavin				
		Ligament related conditions				
		Navicular syndrome				
		Spondylosis				
		Tendon related conditions				
		Fitness maintenance (Prophylactic treatment)				
		Soundness maintenance in older animals				
Sports performance enhancement						
Vertebral subluxation						
Other (specify):						
B5.4	Are there CPD requirements in place?	Yes	No			
	If yes – are they legally enforced?	Yes	No			
	If yes – by whom?	Regulatory body	Professional Association			
	What are the consequences of not meeting the CPD requirements?					
	If yes – how many continuing professional development units are required per year?	Less than 10	10-20	21-30	31 or more	
<b>B6</b>						
<b>Disciplinary consequences</b>						
B6.1	Are there disciplinary procedures in place?	Yes	No			
B6.2	Is there a complaints procedure for animal owners?	Yes	No			
B6.3	Are there structures for self-reporting (e.g. adverse reactions)	Yes	No			
B6.4	What are the consequences of being found guilty of misconduct?					
<b>C</b>						
<b>ANIMAL CHIROPRACTIC PROFESSIONAL ASSOCIATION</b>						
C1	Does this country/state have a professional association for animal chiropractic within this country/state?	Yes	No			
	If yes, specify:					
	If yes – year established:					
C2	Does animal chiropractic fall under any of the following professional associations?	Animal Chiropractic professional association				
	Internal					
	Specify all:					
	External					

		Specify all:	
		Veterinary professional association	
		Internal	
		Specify all:	
		External	
		Specify all:	
		Chiropractic Professional association	
		Internal	
		Specify all:	
		External	
		Specify all:	
C3	Does the professional association fulfil the role of a regulatory body?	Yes	No
C4	Does the animal chiropractic professional association have defined parameters for the following? Tick (✓) relevant.	Affiliations	
		Code of Ethics (professional conduct)	
		Educational standards	
		Membership requirements	
		Mission	
		Protection of the practitioner	
		Protection of the public	
		Scope of practice	
		General:	
		Communication and education of clients	
		Diagnosis	
		Examination	
		Imaging studies (Performing)	
		Imaging studies (Referral for)	
		Medication advice	
		Nutritional advice	
		Record keeping	
		Referral to veterinarians	
		Referral for other tests (e.g. blood tests) (specify):	
		Tack fitting	
		Treatment plan (development)	
		Treatment plan (reassessment)	
		Treatment application of:	
		Dry needling	
		Electro modalities	
		Manipulation	Spinal
			Extremity
		Rehabilitation	
		Soft tissue therapies	
		Other treatment modalities (specify):	
		Conditions within scope of practice treated include:	
		Acute musculoskeletal conditions (traumatic and insidious)	
		Chronic musculoskeletal conditions	





## APPENDIX D4

### ALTERATIONS TO PRE-PILOT STUDY DATA COLLECTION TOOL

#### **Section A: “BACKGROUND INFORMATION OF JURISDICTION”**

Question A3: Removed as information is irrelevant to the study.

#### **Section B: “ANIMAL CHIROPRACTIC REGULATION”**

##### **Subsection B1: “Background: Regulatory model and legislative instruments of this geographical administered area”**

“of this geographical administered area” was added to the subsection title to improve clarity.

Question B1.1: The word “relevant” was changed to “separate, animal chiropractic specific” to improve clarity and specificity.

Question B1.2: “animal chiropractic” was changed to “separate, animal chiropractic specific”, and “regulatory body/ies” changed to “other regulatory body/ies” to enhance clarity and specificity.

Question B1.5 Answer options “Legal., if practitioner is a licensed veterinarian” and “Illegal”, were added to include all possible answer options.

##### **Subsection B2: “Background: Educational institutional regulation and course requirements within this geographical administered area”**

“Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B2.1 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B2.2 “Accredited” was changed to “accredited/certified/approved” to include all possible options, and “International body” was changed to “any professional association” as this is the correct wording of the question.

Question B2.3 Answer option “Additional requirements” was added to include all answer options.

Question B2.4 “Number of hours” was changed to “total number of hours” to improve specificity.

Question B2.6 The question “What are the minimum requirements to be met in order to pass this course?”, with answer options “Pass rate required”, “Attendance rate required”, and “Other (Specify):” were added as this was considered additional and relevant information not thought of in the expert group meeting.

Question B2.7 Previous question B2.6. “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

**Subsection B3: “Recognition of foreign animal chiropractic qualifications within this geographical administered area”**

“Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B3.1 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B3.2 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B3.3 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B3.4 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B3.5 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area, “Yes” and “no” answer options were added, and the question “If yes – which accreditations are required?” was added to the second part of the question in order to provide logical answers to the question.

**Subsection B4: “Practitioner registration and Licensing within this geographical administered area”**

“Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question B4.1 “Is registration required” was changed to “Is separate registration as animal chiropractor” to enhance clarity.

Question B4.2 Previous question B4.3. Position changed to enhance flow of line of questioning. “Within this geographical administered area” was added to the question to limit confusion in cases where a state or province is the geographical administered area

Question B4.3 Previous question B4.4 position changed to enhance flow of line of questioning. “International” was changed to “national” as this information is considered to be more relevant to this study.

Question B4.4 Previous question B4.2. “Education” was changed to “animal chiropractic education” to enhance clarity, and “country/state”

was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

**Subsection B5: “Other roles of the regulatory body: Code of Ethics/Scope of Practice and Continuing education requirements”**

Question B5.3 “If yes to question B5.2 – “was added to the question in order to improve logical flow of the questions.

Question B5.4 “If yes – “was added prior to the question “what are the consequences of not meeting the CPD requirements?” in order to improve logical flow of the questions.

**Section C: “ANIMAL CHIROPRACTIC PROFESSIONAL ASSOCIATION”**

Question C1 “Country/state” was changed to “geographical administered area” to limit confusion in cases where a state or province is the geographical administered area.

Question C4 “Lobbying for legislation” was added as an answer option to include all possible answer options.

## APPENDIX D5

### FINAL DATA COLLECTION TOOL

<b>A</b>		<b>BACKGROUND INFORMATION OF JURISDICTION</b>	
A1	Country name		
A2	Geographical administered area (if applicable)		
<b>B</b>		<b>ANIMAL CHIROPRACTIC REGULATION</b>	
<b>B1</b>		<b>Background: Regulatory model and legislative instruments of this geographical administered area</b>	
B1.1	Under which legal paradigm does animal chiropractic regulation fall?	Direct government administration and regulation	
		Government devolved authority to a separate/independent regulatory body	
		Government-sanctioned self-regulation	
		Independent self-regulation	
		Unregulated	
Name of separate, animal chiropractic specific body, either government institution, authority with government devolved regulation, body operating under government sanctioned self-regulation or self-regulating body.			
B1.2	If no separate, animal chiropractic specific regulatory body exists, under which other regulatory body/ies does animal chiropractic fall?	Veterinary	Chiropractic
		Veterinary and Chiropractic	Other (specify):
B1.3	State date and title of enactment of the legislative instrument regulating the chiropractic treatment of animals, if any, or the legislative instrument which regulates any treatment of animals generally.	Date:	
		Legislative instrument	
B1.4	Was this the original legal instrument?	Yes	No
B1.5	What is the legal position of the chiropractic treatment of animals?	Legal., without referral or supervision from a veterinarian	Legal., under referral from a veterinarian
		Legal., under direct supervision of a veterinarian	Unregulated
		Legal., if practitioner is a licensed veterinarian	Illegal
<b>B2</b>		<b>Background: Educational institutional regulation and course requirements within this geographical administered area</b>	
B2.1	Is there an educational institution for animal chiropractic in this geographical administered area?	Yes	No
		If yes, specify and continue with this section (B2):	
B2.2	Is the educational institution:		
	a Regulated by an educational regulatory	Yes	No

	body?							
	b If yes – on what level and provide name of regulating body	Institutional		National				
		Regional (state)		International				
	c Regulated by a professional regulatory body?	Yes		No				
	d If yes – on what level and provide name of regulating body	Institutional		National				
		Regional (state)		International				
	e Accredited / certified/ approved by any professional association?	Yes		No				
	f If yes – on what level and provide name of regulating body	Institutional		National				
		Regional (state)		International				
B2.3	Requirements for registration for the course:	Secondary school		Credit transfer				
		Chiropractic qualification		Veterinary qualification				
		Osteopathic qualification		Recognition of Prior Learning				
		Registered to practice relevant profession in country of origin		Practical experience in relevant profession				
		Language proficiency						
		Other (specify):		Additional requirements				
B2.4	Average amount of course hours required for completion of qualification:	Less than 100	100-150	150-200	200-250	More than 250		
	How are these hours allocated?	Number of Lecture hours			Number of Practical hours			
	Is there a self-study / home component? If, so, elaborate (total number of hours/case studies/projects):							
B2.5	Structure of course:	Traditional curriculum (didactic)	Classroom lectures		Practical lectures			
			Group discussions		Demonstrations			
			Other (specify):					
		Non-traditional curriculum (Online, case-based etc)	Online		Case-based			
			Reading (Articles / Books)		Other (specify):			

		Mixed mode curriculum		
B2.6	What are the minimum requirements to be met in order to pass this course?	Pass rate required	%	
		Attendance rate required	%	
		Other (Specify):		
B2.7	Which title is the professional allowed to use upon completion of registration within this geographical administered area?	Veterinary Chiropractor	Veterinary Spinal Manipulative Therapists	
		Animal Chiropractor	"certified in animal chiropractic by the ACCC of the AVCA"	
		Certified IVCA animal chiropractor	Other (specify):	
<b>B3 Recognition of foreign animal chiropractic qualifications within this geographical administered area</b>				
B3.1	Do the educational authorities of this geographical administered area recognize animal chiropractic qualifications from another geographical administered area?	Yes	No	
		If yes, name educational authority:		
B3.2	Do any regulatory body/ies of this geographical administered area recognize animal chiropractic qualifications from another geographical administered area?	Yes	No	
		Veterinary	Chiropractic	Both
		If yes, name regulatory body:	If yes, name regulatory body:	
B3.3	Does any professional association/s of this geographical administered area recognize animal chiropractic qualifications from another geographical administered area?	Yes	No	
		Veterinary	Chiropractic	Both
		If yes, name professional association:	If yes, name professional association:	
B3.4	Minimum registration requirements to practice animal chiropractic within this geographical administered area:	None		
		Certification		
		Chiropractic qualification		
		Veterinary qualification		
		Osteopathic qualification		
		Animal chiropractic qualification		
		B3.4.1	If animal chiropractic qualification is applicable, please select educational institutions that are accepted within this county/state:	
			Anglo European college of Chiropractic (UK)	
			Animal Chiropractic Education Source (TX, USA)	
			Backbone Academy (Ger)	
	Box Hill Institute (Aus)			
	International Academy of Veterinary Chiropractic– (Ger)			



			McTimoney College of Chiropractic (UK)	
			Options for Animals (KS, USA)	
			Parker University (TX, USA)	
			The Healing Oasis (WI, USA)	
			Veterinary Chiropractic Learning Centre (Can)	
			Other (specify):	
		Other (specify):		
B3.5	Are any course accreditations required in order for the graduate to register to practice in this geographical administered area?	Yes	No	
	If yes – which accreditations are required?	ACCC (American Chiropractic Certification Commission)	Other (specify):	
		AVCA (American Veterinary Chiropractic Association)		
		IVCA (International Veterinary Chiropractic Association)		
<b>B4 Practitioner registration and Licensing within this geographical administered area</b>				
B4.1	Is separate registration as animal chiropractor required in order to practice animal chiropractic after qualification?	Yes	No	
	If yes, with whom:			
	If yes, how many registered animal chiropractors are there?			
B4.2	Are there any limitations on registration imposed by legislation within this geographical administered area?	Yes	No	
	Limitations imposed by legislation:			
B4.3	Are there any limitations on registration imposed by national bodies?	Yes	No	
	Limitations imposed by national body/ies:			
B4.4	Is registration with the regulatory body during/after animal chiropractic education required within this geographical administered area?	Yes	No	
	If yes, which categories apply?	Educational only	Student Intern	
		Animal Chiropractor		
		Other (Specify):		
	If no, are board exams required to be written in order to register as animal chiropractor?	Yes	No	
<b>B5 Other roles of the regulatory body: Code of Ethics/Scope of Practice and Continuing education requirements</b>				
B5.1	Does a code of ethics exist for the animal chiropractic profession?	Yes	No	
	If yes - by whom?	Regulatory body	Professional association	
B5.2	Is the scope of practice clearly defined?	Yes	No	
	If yes - by whom?	Regulatory body	Professional association	

B5.3	If yes to question B5.2 - what does the scope of practice include according to the regulatory body? Tick (✓) relevant.	General:		
		Communication and education of clients		
		Diagnosis		
		Examination		
		Imaging studies (Performing)		
		Imaging studies (Referral for)		
		Medication advice		
		Nutritional advice		
		Record keeping		
		Referral to veterinarians		
		Referral for other tests (e.g. blood tests) (specify):		
		Tack fitting		
		Treatment plan (development)		
		Treatment plan (reassessment)		
		Treatment (application of):		
		Dry needling		
		Electro modalities		
		Manipulation	Spinal	
			Extremity	
		Rehabilitation		
		Soft tissue therapies		
		Other treatment modalities (specify):		
		Conditions within scope of practice treated include:		
		Acute musculoskeletal conditions (traumatic and insidious)		
		Chronic musculoskeletal conditions		
		Chronic lameness, as complementary treatment for the following conditions:		
		Arthrosis		
		Bone spavin		
		Ligament related conditions		
Navicular syndrome				
Spondylosis				
Tendon related conditions				
Fitness maintenance (Prophylactic treatment)				
Soundness maintenance in older animals				
Sports performance enhancement				
Vertebral subluxation				
Other (specify):				
B5.4	Are there CPD requirements in place?	Yes	No	
	If yes – are they legally enforced?	Yes	No	
	If yes – by whom?	Regulatory body	Professional Association	

	If yes - what are the consequences of not meeting the CPD requirements?				
	If yes – how many continuing professional development units are required per year?	Less than 10	10-20	21-30	31 or more
<b>B6</b>					
<b>Disciplinary consequences</b>					
B6.1	Are there disciplinary procedures in place?	Yes		No	
B6.2	Is there a complaints procedure for animal owners?	Yes		No	
B6.3	Are there structures for self-reporting (e.g. adverse reactions)	Yes		No	
B6.4	What are the consequences of being found guilty of misconduct?				
<b>C</b>					
<b>ANIMAL CHIROPRACTIC PROFESSIONAL ASSOCIATION</b>					
C1	Does this geographical administered area have a professional association for animal chiropractic within this geographical administered area?	Yes		No	
		If yes, specify:			
		If yes – year established:			
C2	Does animal chiropractic fall under any of the following professional associations?	Animal Chiropractic professional association			
		Internal			
		Specify all:			
		External			
		Specify all:			
		Veterinary professional association			
		Internal			
		Specify all:			
		External			
		Specify all:			
		Chiropractic Professional association			
		Internal			
		Specify all:			
		External			
		Specify all:			
C3	Does the professional association fulfil the role of a regulatory body?	Yes		No	
C4	Does the animal chiropractic professional association have defined parameters for the following? Tick (✓) relevant.	Affiliations			
		Code of Ethics (professional conduct)			
		Educational standards			
		Lobbying for legislation			
		Membership requirements			
		Mission			
		Protection of the practitioner			
		Protection of the public			
		Scope of practice			
		General:			
		Communication and education of clients			
		Diagnosis			
		Examination			
		Imaging studies (Performing)			
		Imaging studies (Referral for)			
		Medication advice			
		Nutritional advice			

		Record keeping		
		Referral to veterinarians		
		Referral for other tests (e.g. blood tests) (specify):		
		Tack fitting		
		Treatment plan (development)		
		Treatment plan (reassessment)		
		Treatment application of:		
		Dry needling		
		Electro modalities		
		Manipulation	Spinal	
			Extremity	
		Rehabilitation		
		Soft tissue therapies		
		Other treatment modalities (specify):		
		Conditions within scope of practice treated include:		
		Acute musculoskeletal conditions (traumatic and insidious)		
		Chronic musculoskeletal conditions		
		Chronic lameness, as complementary treatment for the following conditions:		
		Arthrosis		
		Bone spavin		
		Ligament related conditions		
		Navicular syndrome		
		Spondylosis		
		Tendon related conditions		
		Fitness maintenance (Prophylactic treatment)		
		Soundness maintenance in older animals		
		Sports performance enhancement		
		Vertebral subluxation		
		Other (specify):		
Staff/board				
Strategies				
Vision				
C5	Does the professional association have any affiliations?	Yes	No	
	If yes, specify (tick (√) applicable option)	Other professional association/s		
		Specify:		
		Educational institution/s		
		Specify:		
		Other		
Specify:				

## APPENDIX E

### ANIMAL CHIROPRACTIC PROFESSIONAL ASSOCIATIONS AND MEMBERS

Animal chiropractors registered with the International Chiropractic Veterinary Association (IVCA, 2015)

<b>Country/ies</b>	<b>Number of Animal chiropractors in each</b>
United States of America (USA)	275
Germany	238
United Kingdom (UK)	60
Austria	45
Denmark	38
Switzerland	32
The Netherlands, Norway	29
Canada	10
Sweden, Australia	9
Spain	8
Ireland	6
New Zealand	5
Belgium, Finland, Italy	4
South Africa	3
Brasil, Northern Ireland, France, Iceland, Czech Republic	2
Argentina, Portugal., Poland, Japan, Malaysia	1

Animal chiropractors registered with the Australian Veterinary Chiropractic Association (AVCA, 2015)

<b>States/Territories</b>	<b>Number of Animal chiropractors in each</b>
Victoria	22
Queensland	14
New South Wales	13
South Australia	6
Tasmania, Western Australia	2
Northern Territory	1

Animal chiropractors in the United States of America registered with the American Veterinary Chiropractic Association (AVCA, 2015)

<b>States/Territories</b>	<b>Number of Animal chiropractors in each</b>
Texas	83
California	43
Illinois	27
Florida	25
Oklahoma	24
Colorado, Wisconsin	20
Pennsylvania	19
North Carolina	17
New York	16
Virginia	14
Ohio, Oregon, Washington	12
Massachusetts, Michigan, New Jersey	11
Arkansas, Arizona, Iowa	10
Georgia, Minnesota, Tennessee	9
Missouri, New Mexico	8
Kansas, New Hampshire	7
Louisiana, Nevada, South Carolina	6
Connecticut, Montana	5
Indiana, Kentucky, Maryland, Utah	4
Maine, Mississippi	3
Idaho, North Dakota, Nebraska, Rhode Island	2
Alaska, Alabama, Columbia, Delaware, Vermont	1

Animal chiropractors in the Canada registered with the American Veterinary Chiropractic Association (AVCA, 2015)

Provinces	Number of Animal chiropractors in each
Ontario	35
Alberta	7
British Columbia	6
Manitoba	2
Nova Scotia	1

Known relevant animal chiropractic professional associations

Australia	Australian Veterinary Chiropractic Association (AVCA) <a href="http://www.avca.com.au/">http://www.avca.com.au/</a>
Europe (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Iceland, Italy, The Netherlands, Northern Ireland, Norway, Poland, Sweden, Switzerland)	International Veterinary Chiropractic Association (IVCA) <a href="http://ivca.de/">http://ivca.de/</a>
Ireland	Veterinary Chiropractic Association of Ireland (VCAI) <a href="http://www.vcai.ie/">http://www.vcai.ie/</a>
Latin America (Argentina, Brasil, Portugal., Spain)	Asociación Iberoamericana de Quiropráctica Veterinaria (AIQV) <a href="http://www.quiropacticaveterinaria.com/">http://www.quiropacticaveterinaria.com/</a>
United States of America (USA), Canada	American Veterinary Chiropractic Association (AVCA) <a href="http://www.animalchiropractic.org/">http://www.animalchiropractic.org/</a>
United Kingdom (UK)	British Veterinary Chiropractic Association (BVCA) <a href="http://bvca-uk.org/">http://bvca-uk.org/</a>
South Africa	None

## APPENDIX F

### FISCHER'S p-VALUES and Eta SCORES OF STATISTICAL CROSS-TABULATION RESULTS

#### OBJECTIVE ONE

		<b>B1.1</b>	<b>B1.5a</b>	<b>B1.5b</b>	<b>B1.5c</b>	<b>B1.5d</b>	<b>B1.5e</b>	<b>B4.2</b>
		Legal paradigm	Legal position – Veterinary Referral Legally Required	Legal position – Legal with Veterinary Supervision	Legal position – Unregulated	Legal position – Legal if Veterinarian	Legal position – Legal only if Veterinarian	Legislative Limitations
<b>Education</b>								
<b>B2.1</b>	Existence of Educational Institution	0.435	1.000	1.000	1.000	1.000	1.000	1.000
<b>B2.2a</b>	Educational Institute Regulation by Educational Regulatory Body	1.000	1.000	1.000	1.000	1.000	.a	.a
<b>B2.2c</b>	Educational Institute Regulation by Professional Regulatory Body	.a	.a	.a	.a	.a	.a	.a
<b>B2.2e</b>	Educational Institute Recognised by Professional Association	.a	.a	.a	.a	.a	.a	.a
<b>B2.3</b>	Course Enrolment Requirements	0.573	0.406	0.369	0.406	0.223	0.969	0.946
<b>B2.4</b>	Number of Course Hours	0.250	1.000	0.400	0.333	1.000	.a	.a
<b>B2.5</b>	Course Structure	.a	.a	.a	.a	.a	.a	.a
<b>B2.6</b>	% to Pass Course *	.a	<b>0.288*</b>	<b>0.471*</b>	.a	0,233*	.a	.a
<b>B3.2</b>	Recognition of Animal Chiropractic Qualifications	0.435	0.444	0133	1.000	<b>0.022</b>	1.000	1.000



		<b>B1.1</b>	<b>B1.5a</b>	<b>B1.5b</b>	<b>B1.5c</b>	<b>B1.5d</b>	<b>B1.5e</b>	<b>B4.2</b>
	Legal paradigm		Legal position – Veterinary Referral Legally Required	Legal position – Legal with Veterinary Supervision	Legal position – Unregulated	Legal position – Legal if Veterinarian	Legal position – Legal only if Veterinarian	Legislative Limitations
<b>Registration</b>								
<b>B3.4</b>	Registration Requirements to Practice	0.587	<b>0.079</b>	<b>0.205</b>	0.232	<b>0.019</b>	<b>0.019</b>	0.774
	None	0.264	0.206	0.524	0.167	0.444	1.000	1.000
	Chiropractic qualification	0.435	<b>0.048</b>	0.190	0.200	0.133	1.000	1.000
	Veterinary qualification	0.435	<b>0.048</b>	0.190	0.200	0.133	1.000	1.000
	Animal chiropractic qualification	0.240	1.000	0.500	0.475	0.067	0.300	1.000
<b>B4.1</b>	Separate Animal Chiropractic Registration	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>
<b>B4.4</b>	Animal Chiropractic Student Registration	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>
<b>Code of Ethics, Scope of Practice and CPD Requirements</b>								
<b>B5.1</b>	Existence of Code of ethics	<b>0.007</b>	<b>0.524</b>	0.076	<b>0.033</b>	0.467	1.000	0.400
<b>B5.2</b>	Existence of Scope of Practice	0.435	1.000	0.133	1.000	1.000	1.000	1.000
<b>B5.4</b>	Existence of CPD Requirements	<b>0.022</b>	0.167	0.200	<b>0.008</b>	1.000	1.000	0.300
<b>Disciplinary Procedures</b>								
<b>B6.1</b>	Existence of Discipline Procedures	<b>0.022</b>	0.167	0.200	<b>0.008</b>	1.000	1.000	0,300
<b>B6.2</b>	Existence of Complaints Procedures	<b>0.022</b>	0.167	0.200	<b>0.008</b>	1.000	1.000	0,300

\*ETA scores apply in this row only

.<sup>a</sup> No statistics were computed because one of the variables were constant

Significant values are shaded in green

## OBJECTIVE TWO

		<b>B4.3</b>	<b>C1</b>	<b>C3</b>
		Limitations by Professional Associations	Existence of an Animal Chiropractic Professional Association	Animal Chiropractic Professional Association fulfilling Regulatory Body Role
<b>Education</b>				
<b>B2.1</b>	Existence of Educational Institution	1.000	0.571	.a
<b>B2.2a</b>	Educational Institute Regulation by Educational Regulatory Body	0.333	1.000	.a
<b>B2.2c</b>	Educational Institute Regulation by Professional Regulatory Body	.a	.a	.a
<b>B2.2e</b>	Educational Institute Recognised by Professional Association	.a	.a	.a
<b>B2.3</b>	Course Enrolment Requirements	0.406	0441	.a
<b>B2.4</b>	Number of Course Hours	1.000	1.000	.a
<b>B2.5</b>	Course Structure	.a	.a	.a
<b>B2.6</b>	<i>% Required to Pass Course *</i>	<i>0.327</i>	<b>0.327</b>	.a
<b>B3.2</b>	Recognition of Animal Chiropractic Qualifications	1.000	0.133	.a
<b>Registration</b>				
<b>B3.4</b>	Registration Requirements to Practice	0.753	0.205	.a
	None	1.000	0.524	.a
	Chiropractic qualification	1.000	0.190	.a
	Veterinary qualification	1.000	0.190	.a
	Animal chiropractic qualification	1.000	0.133	.a

		<b>B4.3</b>	<b>C1</b>	<b>C3</b>
		<b>Limitations by Professional Associations</b>	<b>Existence of an Animal Chiropractic Professional Association</b>	<b>Animal Chiropractic Professional Association fulfilling Regulatory Body Role</b>
<b>B4.1</b>	Separate Animal Chiropractic Registration	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>
<b>B4.4</b>	Animal Chiropractic Student Registration	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>
<b>Code of Ethics, Scope of Practice and CPD Requirements</b>				
<b>B5.1</b>	Existence of Code of ethics	<b>0.048</b>	1.000	. <sup>a</sup>
<b>B5.2</b>	Existence of Scope of Practice	0.444	0.467	. <sup>a</sup>
<b>B5.4</b>	Existence of CPD Requirements	0.167	1.000	. <sup>a</sup>
<b>Disciplinary Procedures</b>				
<b>B6.1</b>	Existence of Discipline Procedures	0.167	1.000	. <sup>a</sup>
<b>B6.2</b>	Existence of Complaints Procedures	0.167	1.000	. <sup>a</sup>

*\*ETA scores apply in this row only*

*.<sup>a</sup> No statistics were computed because one of the variables were constant*

*Significant values are shaded in green*