

**REGULATORY AND PRACTICE ISSUES RELATED TO THE  
ACQUISITION OF PRACTICAL OSTEOPATHIC SKILLS FOR  
PAEDIATRIC CARE**

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## **ABSTRACT**

Paediatric care is a popular and growing area of osteopathy. This area of practice is sparsely regulated and there are inconsistent educational standards. There is also a gap in the literature regarding competency and education in this field. This research aims to discover the opinions of key stakeholders regarding practical osteopathic skills for paediatric care.

This study employed qualitative research methods using an interpretative approach by conducting three focus group interviews at an international osteopathic conference held in New Zealand. The select groups were separately comprised of regulators, educators and practitioners. Thematic coding was employed to analyse themes across the responses of the three stakeholder groups.

The opinions of all three stakeholder groups were consistent in identifying a need for direct educational instruction for the acquisition of practical clinical skills in paediatric care. For a basic level of competence, that is especially important for clinical safety, the groups were in general agreement that this education should occur in the pre-registration period. The practitioners' group was the least clear regarding training delivery. There was strong agreement across the educators' and regulators' groups that theoretical education, followed by clinical observation and then low-ratio supervised practice in paediatric focussed clinical time, is what is required.

A significant consideration for further consultation and development of this area of practice is that the practitioners' group expressed the least objectivity about conscious competency, the necessity of training and educational considerations. The regulators and educators identified the general absence of competencies for the care of children across the international profession. The key recommendation for all stakeholders is for an international approach to the development of more specific competency and accreditation standards for the osteopathic care of children

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## LIST OF ABBREVIATIONS

AOAC	Australasian Osteopathic Accreditation Council
CPD	Continuing professional development
FORE	Forum for Osteopathic Regulation in Europe
GOsC	General Osteopathic Council (United Kingdom)
OBA	Osteopathy Board of Australia
OCNZ	Osteopathic Council of New Zealand
OIA	Osteopathic International Alliance
PBL	Problem-based learning
WHO	World Health Organization

# CHAPTER ONE: INTRODUCTION

## Introduction

As a practitioner and educator, I have an interest in paediatric osteopathy. The impetus for this study was the Osteopathic Council of New Zealand's (OCNZ) Paediatric Project in which I participated, running from 2010 to 2015 (Stone, 2015) and the subsequent policy decisions (OCNZ, 2016, 2017a). This project has been world leading in developing this area in terms of regulation, yet research related to education, regulation and accreditation in paediatric osteopathy remains very limited. The aim of this thesis is to close some of those gaps by identifying significant regulatory and practice issues related to the acquisition of practical osteopathic skills for paediatric care.

## Paediatric Osteopathy in Context

Osteopathy is a manual therapy system of healthcare that is a part of allied health in New Zealand with varying status worldwide (Osteopathic International Alliance [OIA], 2013). The New Zealand osteopathy workforce comprises a high proportion of practitioners that have trained overseas: nearly 70% between the United Kingdom and Australia according to the most recent survey (Ministry of Health, 2010). There is high usage of osteopathic consultation among paediatric populations. A worldwide survey found that nearly a quarter (23.4%) of osteopaths' most recent ten patients were under eighteen (OIA, 2013). Another study conducted in the United Kingdom showed that the number of osteopaths that treat children is significant, with 50% caring for infants under one, and 82% treating children between the ages of one and eighteen (KPMG, 2011). In this study, 22% of osteopaths noted that children occupied 10-50% of their patient workload. A general survey of the New Zealand osteopathic profession conducted by the OCNZ found that 81% of respondents consulted children, of which half are aged under five (MacSuibhne, 2011). A recent

Australian osteopathic workforce survey discovered 27% of respondents managed paediatric cases (aged four to eighteen) on an “often basis” (Adams, Sibbritt, Steel, & Peng, 2018, p. 4).

Despite the prevalence of paediatric osteopathy, this area of practice is poorly regulated with absent and inconsistent standards of education and regulation worldwide, which are not well quantified (OCNZ, 2015; Stone, 2015). Children were identified as a particularly vulnerable patient population. In response to this, the OCNZ began a paediatric project in 2010 “to explore the nature and extent of child and adolescent osteopathic practice in New Zealand, and to consider the necessary capabilities required for osteopaths wishing to treat child and adolescent patients” (OCNZ, 2015, p. 4). The manifesto behind this the assertion that OCNZ’s duty to protect the public through the setting and maintaining of standards was not being fulfilled. Specifically, OCNZ states that there is a competency and knowledge gap between the desirable standards and current practice and that paediatric components of pre-registration training have little comparability between institutions internationally. Thus far, OCNZ has understood more about the nature of osteopathic practice in New Zealand as well as obtaining the considered views of the profession regarding competencies for paediatric practice, through a series of surveys, interviews, structured workshops, and workgroups (MacSuibhne, 2011; Stone, 2015).

A report on a national, profession-wide consultation conducted in 2015 confirmed the variability of paediatric pre-registration training, and suggested that such training in both the United Kingdom and New Zealand was generally insufficient for the osteopathic care of children in practice (OCNZ, 2016). The study also found overwhelming support for “Council’s preliminary view that it is necessary to upgrade the...syllabus” (OCNZ, 2016, p. 18) of the existing basic osteopathic training in New Zealand (OCNZ, 2015). The absence and inconsistency of standards is confirmed by the literature review presented in this thesis.

One of the elements of the extensive OCNZ Paediatric Project were several attendance weekends that included identification and analysis of paediatric

conditions seen in osteopathic practice, collaborative workshops, peer-reviewed objective structured clinical examinations and standard-setting utilising the Angoff method (Stone, 2015). A critical element of this experience was my observation of the developing consciousness amongst all participants of various levels of incompetence. This process highlighted the validity of OCNZ's position that practitioners are not usually capable of identifying areas of incompetence in isolation (MacSuibhne, 2011; OCNZ, 2015, 2016).

The outcome of OCNZ's investigation has resulted in a specific regulatory framework that involves a compulsory theoretical, online-based recertification programme for all existing and new registrants in New Zealand, that must be completed within a three year time-frame (OCNZ, 2017a). The course content has been written by, and is administered through, a nursing education department, is theoretically based and includes critical generic aspects of child health as well as that are specific to the New Zealand healthcare context (Fairs, 2017). The New Zealand regulator has also stated clear intent to create a vocational (optional, specialist) paediatric scope of practice, the entrance criteria to which is a single prescribed post-graduate qualification (Fairs, 2017). This qualification is delivered through the health faculty of a different institution to that above and is primarily targeted at the nursing profession. It is also theoretically based and has no osteopathy or manual therapy specific content. Both of these regulatory developments are at the time of writing unique internationally and break new ground within the profession.

Given there is no current comparator worldwide for paediatric osteopathy regulation, it is not possible to directly compare and contrast the merits of the OCNZ approach. It is of interest that neither of the prescribed courses of study incorporate manual handling or clinical experience with children. It would therefore become possible to register in a specialist vocational scope of practice in paediatric osteopathy no education in manual skills or supervised clinical training and limited, if any, individual clinical experience with children. Therefore, the role in competency and the means of obtaining practical skills in relation to paediatric osteopathic care remains unaddressed. This thesis aims to provide new knowledge in relation to the identified gap in the literature.

## **Research Problem and Rationale**

The solutions provided by OCNZ to the regulatory issues address theoretical and generic knowledge. The function and adequacy of practical competence is not addressed by this strategy. Competency and safety in a manually oriented discipline also requires practical skills in both diagnostic and therapeutic modes (World Health Organization [WHO], 2010), however the precise relationship of practical skills to competence in osteopathy is not clear (Forum for Osteopathic Regulation in Europe [FORE], 2007b; General Osteopathic Council [GOsC], 2012). Nevertheless, it is clear that practical skills require instruction (FORE, 2008). Internationally, practice standards make scant if any mention of factors relating to paediatric care. Little is known about how osteopaths best acquire practical skills, according to Gibbons and Tehan (2010), except for the work of Browning (2014) in relation to adults. There is little research available on osteopathic paediatric education from any aspect (OCNZ, 2015).

The research problem identified is characterised as the unknown role, relevance and methods of acquisition of practical osteopathic skills for paediatric care in professional competence, education and regulation. The rationale for this research are the apparent discrepancies between the prevalence of paediatric osteopathy and the insufficient regulatory oversight and pedagogical knowledge base. This is amplified by the fact of children being a unique and vulnerable patient sector. Practical osteopathic skills have not been incorporated in the pioneering regulatory development of paediatric osteopathy. This area of practice is not well understood, and there are significant gaps in the literature. The purpose of this study is to seek new knowledge to fill in this void and contribute to understanding and implementation as educational and regulatory aspects of paediatric osteopathy continue to evolve.

Outcomes from this research may assist in competence setting, and the future of paediatric osteopathic education (in particular the relevance of practical

skills). The immediate benefits of this study could be as a basis for further research into the learning theories behind the acquisition of practical osteopathic skills for the osteopathic care of children, to assist regulators in assessing the relevance of practical skills for competence in the osteopathic care of children, and, to assist practitioners in understanding the role of education and regulation in this realm.

### **Research Aims**

- 1.To clarify what documentation exists regarding paediatric osteopathic competence.
- 2.To examine the nature of and the need for practical clinical skills for the osteopathic care of children.
- 3.To discover stakeholders' views regarding best practice for the acquisition of clinical skills for the osteopathic care of children.
4. To discover stakeholders' views as to the learning theories involved in the acquisition of clinical skills for the osteopathic care of children.

### **Research Questions**

1. What documentation exists regarding paediatric osteopathic competence?
2. What is the nature of, and the need for practical clinical skills in the osteopathic care of children?
3. What are stakeholders' views regarding best practice for the acquisition of clinical skills for the osteopathic care of children?
4. What are stakeholders' views as to the learning theories involved in the acquisition of clinical skills for the osteopathic care of children?

## **Thesis Composition**

The thesis is arranged into five chapters with the aim of providing an outline of the views of stakeholders in the profession regarding the acquisition of practical clinical skills for the osteopathic care of children.

Chapter One serves as an introduction to and rationale for research into the education of osteopaths in respect of paediatric practice. It also presents research aims and questions.

Chapter Two reviews the literature in relation to paediatric osteopathic education, and practical skill acquisition. It also examines competency standards and regulation in regards to paediatric osteopathy.

Chapter Three presents the research methodology, which explains the interpretivist approach, utilising qualitative research to address the identified research problem. The research method of focus group interviews is explored along with the matters of data analysis, validity and ethics.

Chapter Four presents the research findings from the three focus group interviews undertaken during an international osteopathic conference. Thematic analysis is employed to interpret and consolidate the findings.

Chapter Five relates the research findings to the literature and explores how the research questions have been addressed. Conclusions and recommendations arising from this are then presented.

## CHAPTER TWO: LITERATURE REVIEW

### **Introduction**

This chapter reviews the literature concerning paediatric osteopathic education, the acquisition of practical osteopathic skills, and the risks of paediatric osteopathy. Note that the terms osteopathic care of children, paediatric osteopathy and at times paediatrics (in the context of osteopathy) may be used interchangeably within this work, and refer to those under eighteen years old. The chapter is organised in three sections with each relating to a theme. The themes are: gaps, documents, and risks. The chapter is completed with a summary.

### **Gaps**

This theme identifies gaps in the literature in the areas of paediatric osteopathic education, practical skill acquisition, clinical learning and related learning theories.

### ***Paediatric Osteopathic Education***

Research and other literature was searched in relation to paediatric osteopathic education. Literature search strings included the following terms in multiple combinations, in groupings of two or three terms, using both individual and OR variations, so as to include or exclude searches relating to paediatrics:

paediatric OR pediatric OR children OR child  
education OR training OR curriculum OR program OR programme  
educational OR learning OR teaching OR theory OR theories  
osteopath OR osteopathy OR osteopathic  
learning OR theory OR theories OR educational OR instruction

Search databases included MANTIS, EBSCO Academic Search Complete, EBSCO Health, EBSCO Education Research Complete, Medline, CINAHL, Google Scholar, Biomedical Central, Science Direct, Sage Premier, Index to Chiropractic Literature and focussed searches within the International Journal for Osteopathic Medicine and the Journal of the American Osteopathic Association. It is worth noting here that osteopathy has two distinct types worldwide as defined by a recent definitive global report (OIA, 2013): Type I are defined as osteopathic physicians, who are licensed doctors and may or may not function as manual therapists (they are principally in the United States); and Type II named osteopaths who are manual therapists and not licensed physicians (rest of the world). As such, literature that relates only to Type I paediatrics in the realm of medicine has been excluded from the review.

In relation to education, the term 'pre-registration' is generally employed in this study, rather than undergraduate, because several osteopathic courses across Australia and New Zealand award a degree during the osteopathic pathway as well as at the conclusion of the overall course that leads directly to professional registration. Additionally, many courses in both these countries and the United Kingdom award a Masters qualification at the conclusion of basic training. Nevertheless, in terms of the literature search, the term undergraduate has been employed as it captures a wider field.

The peer reviewed literature search revealed no results regarding paediatric osteopathic education. A review of four paediatric osteopathic textbooks failed to find any specific reference to education, for instance whether the texts are aimed at undergraduate or postgraduate audiences, or what level the knowledge therein is considered to belong to (Carreiro, 2009a, 2009b; Moeckel & Mitha, 2008; Sergueef, 2007). An example of the disconnect between the reality of paediatric osteopathic practice and curriculum is a two-part series on the important issue of child protection in practice, published in the main osteopathic journal outside of the United States, the International Journal of Osteopathic Medicine. Maddick, Feld, and Laurent (2014) describe the core subject matter clearly, in an educative manner, inferring that most osteopaths do not hold this knowledge. Subsequently Feld, Maddick, and Laurent (2015)

discuss the actions and recourses an osteopath may take, bemoaning the general lack of understanding as they see it and cite the lack of guidance given by the United Kingdom regulator, the GOsC. Yet they write nothing in the way of where this education would ideally lie, nor how osteopaths are expected to obtain it. This subject is arguably a critical current topic and in contrast to the inference above, this subject was a core part of the undergraduate paediatric osteopathic curriculum that I studied in the 1990s.

The GOsC commissioned Warwick Business School to conduct a literature review of the osteopathic profession, practice and regulation in the United Kingdom, which took a historical to current day perspective (McGivern et al., 2015). There was no reference within the whole report to education or practice of paediatric osteopathy. Sposato, Shaw, and Bjerså (2018) note the lack of research and variable standards in relation to osteopathic education generally. Blaich, Steel, Clark, and Adams (2018) conducted focus groups in Australia that demonstrated tension within the osteopathic profession between generalist practice and the early development of specialities, such as paediatrics.

The extensive search for peer reviewed literature has revealed no research in the field of paediatric osteopathic education. This silence presents a challenge and has meant that this review has needed to expand its' search criteria. Some of the references that were found regarding paediatric osteopathy in other respects are discussed under the relevant subsections below.

### ***Paediatric Research and other Health Professions***

A Delphi study open to all United Kingdom osteopaths to ascertain research priorities for osteopathy, nothing in relation to paediatrics featured (Rushton, Fawkes, Carnes, & Moore, 2014). That includes treatment, effectiveness, adverse reactions, education and prevalence. Paediatrics not only did not make it to the final 20 research questions delineated in round three, but did not make it to the 43 themes ascertained in round two. There was only small mention of anything to do with children in relation to osteopathy in round one as a sub-

theme. Education generally made a slightly larger impact by appearing along with continuing professional development (CPD) as a theme unto itself in round one. However, from round two onwards, the subject area of education was dropped. There has been an increase in the publication of research related to paediatric osteopathic effectiveness including two reviews of that subject (Bagagiolo et al., 2016; Carnes, Plunkett, Ellwood, & Miles, 2018).

The lack of priority given to education research is also somewhat surprising given the emphasis that the GOsC has given this in recent years, including extensive consultation with the profession and publicity regarding a wholesale CPD review (GOsC, 2011) between September 2011 and September 2012. The March 2013 publication of review results (Masterson & O'Hanlon, 2013), which was likely in the time period immediately prior to, and / or congruent with that in which Rushton et al's (2014) Delphi study was taking place, suggests that the topic was before the body of the profession, yet this was still not afforded more attention.

Furthermore, Rushton et al's (2014) results are even more surprising given the following characteristics of the osteopathic respondents: 23% self-identified their work as involving education and 11% in research. Despite profession wide distribution, a high proportion – 47% - of respondents were from the British School of Osteopathy (now known as University College of Osteopathy). Whilst one could account for this response rate on the basis of a self-professed strong research culture at that institution (British School of Osteopathy, 2016) it does not explain the absence of education from research priorities, especially given the same institutions' unique hosting of a biannual Osteopathic Education conference (British School of Osteopathy, 2015). The purpose of this somewhat dry analysis of Rushton et al's (2014) study is that it is illustrative of the mountain that is to be climbed in following this line of research enquiry: the of prioritisation for such work appears to feed the vacuum. The reasons for this may only be speculated upon and are beyond the scope of this review.

Given the lack of results from the literature search described above, I expanded the search to include other related healthcare disciplines, firstly be merely

excluding osteopathy in the search strings, and also by actively including the following disciplines as follows:

chiropractic

physiotherapy OR physical therapy

medicine OR medical

To try to focus more on the subject at hand, sizeable search results were made more specific by including the term 'undergraduate'. Without too much surprise, I discovered there was a general lack of coverage in this subject area by related health professions, especially when one considers the much larger size of most other modalities, relative to osteopathy. Medicine was the best represented. I will present here some gleanings that could be considered relevant to the topic at hand. The discovery that paediatric osteopathic education is absent from active inclusion in research literature and curricular dialogue is echoed in medicine by Pinnock et al., (2014) in spite of the vulnerability of this patient group. Sullivan, Gregg, Adams, Rodgers and Hull (2013) ran an interesting study to examine any decline in medical student core paediatric curriculum knowledge one year after initial testing. Average marks dropped from 89.1% to a staggering 37.9%, a decline of some 57%. The authors noted that whilst such declines are not uncommon in medical students' results, they contend that this is a greater issue in paediatrics due to the lack of reinforcement during training. Pinnock and Jones (2008), likely already mindful of the scenario first quantified by Sullivan et al's later study (2013), proposed a completely revised undergraduate paediatric curriculum structure based around the key features of presenting complaints, as a strategy to improve recall and clinical reasoning. It so happens they felt this was particularly suited to their native New Zealand environment. Pinnock was later involved in the group treatise (Pinnock et al., 2014) detailing why it is critical for all prospective practitioners (doctors in this case) to learn paediatrics at an undergraduate level, regardless of their ultimate field of practice. This point is particularly relevant to the current osteopathic debate in New Zealand regarding paediatrics – should it be only those that express particular interest in treating children that acquire child health knowledge, or should there be a baseline that all osteopaths have (OCNZ, 2016)?

A general theme in a number of papers was the insufficiency of undergraduate paediatric curriculum – especially the practical components. This included a national review of nursing curricula (McCarthy & Wyatt, 2014), a review of occupational therapy paediatric undergraduate curriculum in Australia and Canada – that determined the rest of the world was sub-standard - (Brown, Rodger, Brown, & Roevers, 2005) and deficiencies in the teaching of undergraduate paediatrics for medics, especially musculoskeletal aspects (Foster & Jandial, 2013; Gandhi, Primalani, Raza, & Marlais, 2013; Gunz, Canizares, MacKay, & Badley, 2012; Hilliard, Bannister, Amin, & Baird, 2009; Jandial, Rapley, & Foster, 2009; Jandial, Stewart, & Foster, 2015; Macnab, Martin, Duffy, & Murray, 1998; Rushforth et al., 2013; Skinner, 2003) and, lastly, occupational therapists (Howard, 2002). Explicitly or implicitly these studies cite funding issues as being key drivers in terms of content delivery.

Another interesting aspect to come out of two of these studies was that there is a shortage of doctors wanting to specialise in paediatrics. Gandhi et al.'s (2013) study showed how peer-assisted learning could not only improve undergraduate student outcomes but also increase interest in the specialty. Meanwhile, Rushforth et al.'s (2013) work showed that student engagement in primary care as well as secondary, hospital-based, care also increased specialty uptake as well as knowledge. Additionally, O'Dowd (2016) reported recently in the BMJ that there is already a shortage of paediatricians in the United Kingdom. In contrast, paediatrics within osteopathy appears to be well subscribed with no shortage of practitioners wishing to engage, as shown by the surveys presented in Chapter One. Given the status quo of there being no bar or minimum standard for practice (OIA, 2013; WHO, 2010), one wonders if any type of standard setting would see the uptake of this special interest area within osteopathy fall.

## ***Practical Skill Acquisition***

In omitting the search term relating to paediatrics, but maintaining education, it was encouraging to find some papers in the osteopathic domain that are looking at teaching excellence and theories of learning, especially in the acquisition of practical skills (Browning, 2010, 2014; Esteves & Spence, 2014; Kasiri-Martino & Bright, 2016; Vaughan, MacFarlane, & Florentine, 2014). Whilst none of these related to paediatric education specifically, and the amount of work in this area shows it is still in its infancy, the results may apply to paediatric skills (Browning, 2014). Vaughan et al. (2014) and Vaughan and Morrison (2015) describe variously how the “social learning theories of Vygotsky and Rogoff” (2015, p. 279), as well as experiential learning, situated learning and communities of practice inform the clinical education within the same pre-registration programme of osteopathy in Australia. Vygotsky’s zone of proximal development, Lave and Wenger’s communities of practice and design based theory were the learning theories that emerged from Browning’s (2014) Delphi study into the teaching of palpation within osteopathic education. The expert participants’ responses indicated that “the weakest was... the behaviourist approach” (Browning, 2014, p. 9). These results largely aligned with Browning’s (2010) earlier commentary, although the theories of Fitts and Posner, Rogoff and self-directed learning identified as potentially relevant were not borne out in the subsequent Delphi study. In contrast, Aubin, Gagnon, and Morin (2014) describe a technically oriented cognitive approach to learning osteopathic palpation.

Various other learning methods are put forward. Fitzgerald, Denning, and Vaughan (2017) present a case study of employing simulated learning scenarios in place of a portion of pre-registration clinical experience. Lalonde (2013) proposes the uptake of problem-based learning (PBL) in Type II osteopathic education, based on the relative popularity of the model in medical education. The discussion and relatively limited bibliography excludes significant critique and the compelling refutation of the claimed benefits of PBL in the literature such as that provided by Patel, Groen, and Norman (1993) and Kirschner, Sweller, and Clark (2006). Authors such as Hmelo-Silver (2004)

describe how *problem-solving* combined with traditional instruction may be more appropriate in professional education, which resonates with Knowles' andragogy theory of adult learning (Knowles, Holton III, & Swanson, 2005). Smith (2018) makes a case for a new model of thinking and proposes a biopsychosocial model which recontextualises the role of palpatory skills in osteopathy, however this paper does not connect skill acquisition to theories of learning. Billett (2017) states that professional education requires sufficient canonical occupational knowledge and situated learning, as well as opportunities "to construct domain-specific occupational conceptions, procedures and values" (p.62).

The issue of acquisition of practical skills specifically relating to paediatric osteopathy is almost completely absent within the literature. Healthcare education generally appears somewhat short on examining learning theory in relation to skill acquisition, with Sadideen and Kneebone's (2012) excellent paper describing enhancing learning in surgical residents through understanding and applying relevant learning models being a notable exception. Indeed, practical skills feature strongly in their description, engaging the reflective learning theories of Boud and Schon, as well as the well-utilised, cognitive Fitts and Posner approach.

### ***Clinical Training and Reasoning***

The literature search also yielded a number of results that relate to clinical training and clinical reasoning, once the term paediatric was omitted. In common with other areas, none of the following papers make any specific reference to paediatric osteopathy.

Peer and near-peer assisted clinical learning in paediatric medicine (Gandhi et al., 2013) and pre-registration general osteopathy (Vaughan, Moore, & Kleinbaum, 2017) are proposed as mechanisms to reduce strain on supervisor resources, and utilise social, communities of learning theory.

Hands-on clinical experience is clearly required to develop competent clinical reasoning during osteopathic education, according to several recent journal articles (King et al., 2018; McIntyre, Lathlean, & Esteves, 2018; Moore & Vaughan, 2016; Thomson, Petty, & Moore, 2013). Whilst these relate to osteopathy in general, this may equally apply to paediatric osteopathy.

Although there is scant research that relates to paediatric osteopathic education specifically the issues identified in this theme relating to general osteopathic and other healthcare education may well have application. The issues in this section have particular relevance to the second, third and fourth research questions regarding the nature, need for, acquisition of and learning theories associated with practical osteopathic skills for paediatric care.

## **Documents**

Given the scant product of the literature search, I concluded that analysis of the basic regulation in the field was worthy of close examination. In the context of osteopathic education in the United States, Getz (2014) aptly shows how accreditation is inextricably linked to the mission – and aims – of educational institutions. Consistent with the jurisdictional focus explained at the outset, I examined regulatory and educational institution accreditation standards in New Zealand, Australia and the United Kingdom for evidence of regulation and education requirements. In addition, I have included European and global standards inasmuch as they interact with the domain of osteopathic practice that we are concerned with.

This section has been divided into three areas as follows: accreditation standards and benchmarks for training, capabilities and practice standards, and, scopes of practice. Each jurisdiction has slight variations in how information is presented within each of these areas. For all the documents listed the content descriptions were analysed, the content reviewed and electronic versions for all documents were searched for the following word stems: 'child'

and 'paed'. Accreditation documents were also searched for the term: 'curriculum'.

### ***Accreditation and Benchmarks for Education***

In general, documents from New Zealand, Australia and the United Kingdom are either lightly or not at all prescriptive in terms of curriculum content. Several of them make mention of child health in respect of obtaining appropriate consent for treatment (British Standards Institution, 2015; GOsC, 2015; OCNZ, 2017b). Others state the importance of understanding and / or implementing child protection principles (GOsC, 2015; OCNZ, 2017b; The Quality Assurance Agency for Higher Education, 2015). OCNZ's (2017b) accreditation material has only one, somewhat vague specification in terms of paediatric curriculum requiring clinical experience to include "practice that covers the life span" (p. 8). The Australian accreditation standards have no reference to paediatrics, however the procedures for accreditation document, for entry-level osteopathic programmes includes the following study requirements: "the structure, function and normal growth and development of the human body at all stages of life" and "the aetiology, natural history, prognosis and management of relevant disorders in children, adolescents, adults and the aged" (Australasian Osteopathic Accreditation Council [AOAC], 2017, p. 16). The United Kingdom produced handbook for education providers seeking accreditation is devoid of any mention of paediatrics (The Quality Assurance Agency for Higher Education, 2011). Only a re-accreditation review of a specific programme in the United Kingdom notes the fact of child focussed material within the curriculum (The Quality Assurance Agency for Higher Education, 2014).

The most coverage of paediatrics is found, albeit sparingly, internationally. Firstly, within the European Framework for Standards of Osteopathic Education and Training (FORE, 2008), which list paediatrics and osteopathic care of children under curriculum subject matter, and acknowledges child health as one of a few special interest fields. Secondly, the global benchmarks for osteopathic (pre-registration) education, created by the WHO (2010), indicate the number

of hours at each stage of training that should be given to various topic: paediatrics and osteopathic care of children should occupy 116 hours of tuition in total, with the bulk at the early clinical phase. Another WHO (2001) publication regarding the legal status of complementary and alternative medicine worldwide mentions children almost exclusively in the context of childbirth regulation. There is one little known European-based example of a standard for a post-registration specialist level of paediatric osteopathy, which proposes 400 hours of education with 100 clinical hours (International Network of Pediatric Osteopathy, 2008), including specific description of curriculum content, as well as knowledge, qualities, skills and capabilities attributes. Within this are several references to the acquisition of varying practical clinical skills.

There certainly has been time for the international recommendations to be incorporated into national accreditation standards, yet this has not occurred. The discrepancy between these two realms regarding curriculum content generally, and specifically paediatrics, is stark.

### ***Capabilities and Standards for Osteopathic Practice***

The Capabilities for Osteopathic Practice (Stone, Hager, & Boud, 2009) for New Zealand and Australia are identical, as they arose from a collaboration project of the now defunct Australia and New Zealand Osteopathic Council. There is no mention of children in any form within this code. The United Kingdom equivalent (GOsC, 2012) cites child protection and consent issues only. This United Kingdom standard incorporates a code of ethics whereas New Zealand and Australia have separate codes, of ethics and conduct respectively (OCNZ; Osteopathy Board of Australia [OBA], 2014). The Australian version covers the issues of consent and protection amply whilst the New Zealand edition covers these areas a little more simply. In contrast to FORE's previously quoted standard, the edition relating to osteopathic practice has no reference to paediatric osteopathy (FORE, 2007b). However, another of the organisation's publications, "Codes of Osteopathic Practice" (FORE, 2007a), covers the issue

of consent in much the same way as the antipodean versions do, although child protection is not canvassed.

Unique amongst all of these documents, is the New Zealand Capabilities of Paediatric Osteopaths (Stone, 2015) which appears to set out the minimum proficiency of any and all osteopaths who treat children. The title is somewhat confusing in this regard, inasmuch as one could easily assume that this relates to those that self-identify as paediatric osteopaths (whether through post-graduate training or otherwise) rather than all osteopaths. It is certainly clear from the GOsC sponsored study that the vast majority of osteopaths treat children, even if not as a special interest (KPMG, 2011). It should be pointed out at this point, that there are wide variety of post-graduate course in paediatric osteopathy available, ranging from CPD weekends to Masters level. OCNZ's paediatric project initially set out to identify the necessary characteristics and competencies of both general osteopaths and specialist osteopaths in respect of paediatric practice, which thus compounds the potential to misconstrue (OCNZ, 2015). Once this point is clarified however it becomes evident that there is a strong case for acknowledging two key points: firstly, that the osteopathic care of children requires a knowledge and skill set that is fundamentally different to the rest of the population, and that secondly, osteopaths in New Zealand, trained largely at schools within all three of the jurisdictions considered here, are not at a sufficient standard to meet these proficiencies (OCNZ, 2015). Professional competencies and competency-based education are already in place for osteopathic medicine in the United States (Tunanidas & Burkhart, 2005).

### ***Scopes of Practice***

Along with scant mention within regulatory and accreditation standards worldwide, scopes of practice make little mention of paediatric care (Australian Osteopathic Association, 2017; FORE, 2008; GOsC, 2012; WHO, 2010).

OCNZ's published scope of practice for general osteopaths (OCNZ, 2013) specifically states "osteopaths work across the lifespan...from birth to old age". The regulatory bodies of both Australia and the United Kingdom do not publish a specific scope of practice, although the OBA considers "scope of practice as the professional role and services that an individual health practitioner is educated and competent to perform" (OBA, 2017, p. 2). In Australia, the practitioner organisation, Osteopathy Australia, has published a scope of practice, albeit without any acknowledgement of children (Australian Osteopathic Association, 2017). In the United Kingdom, a GOsC (2009) project whose results included a recommendation to define osteopathic practice, including producing a scope, deferred this activity to FORE (GOsC, 2010). However, a review of GOsC published materials and webpages found no reference to FORE or its' publications. FORE subsequently produced a scope document (van Dun & Kouwenberg, 2012) which noted the use of paediatric osteopathy, whilst the GOsC final product on practice standards does not (GOsC, 2012).

The OBA has recently issued a position statement (OBA, 2017) on paediatric care, which firmly places upon practitioners the "responsibility to recognise and work within the limits of their competence and scope of practice" (p. 1) and to only provide care for children if they have the appropriate "education, training, experience and competence" (p. 2).

In conclusion, it is evident that there is little mention of the care of children in most regulator generated documentation, bar that relating to consent and protection. Two issues arise from this analysis: the discrepancy between the paediatric curriculum stated in the WHO and FORE benchmarks and the almost complete absence of any mention of children (bar protection and consent issues) from the accreditation standards for training in New Zealand, Australia and the United Kingdom. The second is the divergence between the documentation of FORE and the GOsC following the initial collaboration. It is not clear why the GOsC did not take FORE's lead regarding paediatric practise or created transparent links to FORE's publications. FORE's work became the groundwork for the official European standard which has been wholesale

reproduced by the British Standards Institute (2015). Mention of the care of children is apparently sparse.

## **Risks**

Whilst studies that examined paediatric undergraduate education in osteopathy, and indeed all health fields, were somewhat sparse, there is more to be discovered in the literature regarding risks and incidence of iatrogenesis: adverse effects of therapy. For breadth, I have also incorporated data on chiropractic and manual therapy more generally.

## ***Osteopathic Treatment***

In keeping with previous themes, paediatric osteopathic populations often get no mention at all in many studies seeking to generally chart adverse events (Carnes, Mars, Mullinger, Froud, & Underwood, 2010; Leach, Fiske, Mullinger, Ives, & Mandy, 2011; McGivern et al., 2015; Vogel et al., 2013) . It's almost as if assumed exclusion is the default. These studies all conclude that osteopathic treatment is relatively safe. Although sequelae often occur, they are usually mild and self-limiting. Osteopathic treatment is considered to have a lower effect rate the standard drug therapy and therefore is somewhat safe.

Specific to the osteopathic care of children, both Hayes and Bezilla (2006) and Stubbe (2006) both found that osteopathic treatment had created little in the way of iatrogenesis and as such posed almost no risk. Whilst it is accepted that there were no significant adverse events, the self-reporting capabilities of paediatric patients regarding temporary unpleasant effects is highly variable, and so the incidence could well be that or greater than that of adults. Humphreys (2010) conducted a systematic review of new studies in paediatric manual therapy safety, identifying two chiropractic and one osteopathic papers. Echoing the potential mentioned above, whilst Humphreys finds that serious adverse events are rare, he notes that more research is required to sufficiently

record evidence as to whether mild to moderate adverse events are as prevalent in paediatric populations as in adults.

Chiropractic focussed literature was more prolific, with five journal articles identified, all showing no to low incidences of adverse effects from manual chiropractic care in paediatric manual therapy (Alcantara, Ohm, & Kunz, 2009; Hawk et al., 2009; J. E. Miller & Benfield, 2008; Vallone, Miller, Larsdotter, & Barham-Floreani, 2010). Todd, Carroll, Robinson, and Mitchell (2015) in their literature review of adverse events in paediatric manual therapy found that one out of fifteen reported injuries was related to osteopathic care, and most related to high velocity spinal manipulation and that “underlying pre-existing pathology was associated in a majority of reported cases” (p. 699).

On the face of it, the evidence is fairly conclusive: paediatric manual therapy, and by inference paediatric osteopathy is low risk and unlikely to inadvertently cause harm. This therefore raises valid questions as to whether (further) regulation of this area of practice is worthy of being the focus of finite resources. However, on the other hand, the fundamental nature of this patient group is relatively vulnerable due to a number of factors. Consent for treatment procedures is normally given by a guardian or carer, up to the age of sixteen: there is a likelihood that some children truly do not wish to receive treatment, as well as those that do but are unable to access it, based on their parents' choices, both economically and in terms of permission (Katz & Webb, 2016). Treatment reactions and adverse sequelae are likely to be under-reported, especially in the youngest children, due to identification, validation and communication issues. Further vulnerability is seen in the fact of significantly different anatomy and physiology of the neonate and infant. Whilst these differences diminish over time, the ailments and conditions prevalent in childhood are clearly somewhat different to those of adulthood. This predicament is encapsulated by Pinnock et al who note that the paediatric patient population is “unable to advocate for itself” (2014, p. 949).

## **Competency**

That which has been written about paediatric core competence (OCNZ, 2015; Stone et al., 2009) relates mainly to acquisition of knowledge rather than skills. Theory is evidently important from a safety point of view, however manual handling skills, both diagnostic and therapeutic are also critical for competence (Abbey, 2008; London, 2008; Vaughan & Morrison, 2015). A study of European new osteopathic registrants' perceived preparedness for practice found this was higher in countries without professional regulation, which may indicate that those in regulated countries have a degree of consciousness about their fitness for practice and those in unregulated countries display unconscious incompetence (Luciani et al., 2015). This is echoed post-registration, where Davis et al. (2006) conducted a systematic review that found physicians "have limited ability to accurately self-assess" (p. 1094), and recommend that regulators design or accredit CPD curriculum content, which is also supported by the work of Cauffman et al. (2002), Mazmanian and Davis (2002) and Winzenberg and Higginbotham (2005). This research has contributed to the institution of compulsory recertification or revalidation within many health professions (Department of Health, 2011; Medical Council of New Zealand, 2018; Tunanidas & Burkhart, 2005). OCNZ (2016) came to the same conclusion as Davis et al. (2006) on the basis of the Paediatric Project: that practitioner self-assessment of learning needs for competency is not reliable. Meanwhile, competency-based education has become the standard in medicine, superseding a period in which PBL was popular (Caccia, Nakajima, & Kent, 2015; Frenk et al., 2010; Gruppen et al., 2016). An early study examining the results of competency-based medical education found that graduates were no more clinically skilled compared with prior curricula, but were "more aware of their competencies and incompetencies...which is an important step in the development of competence" (Kerdijk, Snoek, van Hell, & Cohen-Schotanus, 2013, p. 7). Manthey and Fitch (2012) propose a strategy for skill acquisition in medicine that specifically guides learners through four stages using a conscious competence model.

OCNZ has made it clear that it considers it has a duty to provide better for regulation of paediatric practice based on the Paediatric Project results and has also cited both the New Zealand governments' Children's Action Plan (Children's Action Plan Directorate, 2016) consultation process as well as discussions with the Ministry of Health regarding regulation of paediatric practice under the guiding statutes: the Health Practitioners Competency Assurance Act 2003, and in response to disciplinary cases (MacSuibhne, 2011; OCNZ, 2016). Since the 2004 regulatory enactment of the Health Practitioners Competency Assurance Act 2003 in New Zealand, there have been six disciplinary decisions involving osteopaths published by the Health Practitioners Disciplinary Tribunal. One of these relates to a paediatric case in which the penalty handed down was at the time the third most serious across twenty one health professions (New Zealand Health Practitioners Disciplinary Tribunal, 2011). The Health and Disability Commission has published three cases regarding osteopaths and the latest case relates to an infant (Health and Disability Commission, 2015). Whilst it is (thankfully) a small sample size, two out of nine cases is a substantial minority.

## **Summary**

In spite of the prevalence of paediatric osteopathy, this review identifies a distinct lack of data regarding education, accreditation and regulation of the care of children in osteopathy and the competence of the osteopaths relative to paediatric practice is generally unknown. This dearth of knowledge extends to a global extent. Despite these imperatives of prevalent practice and a poor research base, there appears to have been little work done in this field outside of New Zealand, meaning OCNZ's Paediatric Project is pioneering. Presentation of this unfolding project to OIA annual conferences (Fairs, 2015) have been keenly received (E. Fairs, personal communication, 18<sup>th</sup> February 2016).

Given that the capabilities that have come out of the New Zealand project (Stone, 2015) are firmly theory based, and the significant gaps in both the

research literature and documentation, there are few if any answers as to the role in competency, methods and timing of practical skill acquisition for the care of children in osteopathy. It is not clear whether the research literature relating to general osteopathy is applicable to paediatric practice. This reality affirms the relevance and need for this research. The review of documents presented in this chapter answers the first research question.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **Introduction**

This chapter explores an interpretivist approach to the identified research problem in osteopathic clinical education, with particular reference to paediatrics. This is followed by a review of qualitative methodology. The research method of focus group interviews is described. Data analysis strategies and issues of validity and reliability are considered before ethical aspects of the study are examined.

My research set out to particularly examine the regulatory environment in the jurisdictions of Australia and the United Kingdom in addition to New Zealand due to the similarities in background, training, regulation, medico-legal frameworks, and especially the cross-accreditation between these countries of pre-registration osteopathic educational pathways (WHO, 2001). Data gathering regarding education and practitioners was open to participants from all parts of the globe, since theory and opinion readily crosses borders.

### **Qualitative Methodology**

The ontological position that there are many realities (Creswell, 2013) is especially relevant to the field of osteopathy, given it is renowned for multiple and differing viewpoints, with relatively few areas of consensus agreement (Parsons & Marcer, 2006). A social constructivist viewpoint is taken, in which participant's knowledge is seen to be based upon their experience (Lincoln & Guba, 2005). The epistemological position taken is interpretive, since the data sought is primarily knowledge which does not exist in the literature and is to be found in the minds of the focus group participants. Therefore, it is the way in which participants in the study interpret their reality that will provide new knowledge. This means that the research is necessarily qualitative in nature

and based on the experiences and accumulated learning of participants. An interpretative approach is appropriate in order to make sense of these opinions and areas of knowledge of research participants (Bryman, 2012; Creswell, 2013; Davidson & Tolich, 2003).

### **Research Method: Focus Group Interviews**

The unique opportunity to engage with a range of international participants due to a rare visit of the premier international osteopathic conference to New Zealand was chosen as the source of research data. Given the limited time frame of availability for delegates, holding focus groups allowed for a wide range of contributions to the proposed research in a short space of time. Conference organisers were willing to facilitate the research alongside the conference and to inform registrants of the research so that potential participants could engage with information and consent processes prior to the time (see Appendix 4). Given the socially constructed epistemological position, and the nature of a focus group being a microcosm of a learning community it aligns well with this perspective (Fern, 2001; Wenger, 1999). Using researcher's knowledge of the subject matter, and in view of the context, opportunity sampling was employed (Jupp, 2006).

Focus group interviews were indicated as a primary source of data gathering (Wellington, 2015) because they "can provide insight into complicated topics when opinions or attitudes are conditional" (Krueger & Casey, 2015, p. 21) and allows rich data gathering in a short time frame (Stalmeijer, McNaughton, & Van Mook, 2014). The method allows researchers to explore a topic in some depth (Bryman, 2012) and is suited to eliciting opinions in complex issues (Carey & Asbury, 2012). In addition, Ary, Jacobs, Razavieh, and Sorensen (2006) state that focus groups are particularly useful when there is little information available about a topic, as is the case in paediatric osteopathic education. The most significant advantage of focus groups may be the potential for synergistic enablement that facilitates elucidation, clarification and expression of

perspectives, shared understanding and sometimes deeply held knowledge, through discussion and reflection, which is an important consideration in a subject poorly represented in the literature (Bryman, 2012; Creswell, 2012; Jupp, 2006; Wellington, 2015; S. Wilkinson, 2004). Mutch (2013) sees the benefit of focus groups as being in the ability to gain both the breadth associated with surveys, along with the depth gained from interviews. Jupp (2006) suggests the method is most successful when participants are as interested in the topic and outcomes as the researcher, and this is likely given the currency of the subject (OCNZ, 2017c). Disadvantages of focus groups include the inability to directly observe activity, and a limit to the depth of inquiry that can be achieved in a group setting (Jupp, 2006; S. Wilkinson, 2004).

Rigour and validity are aided by a clear, structured and predetermined questioning route which allows for improved ability to make comparisons across several homogenous groups according to Bryman (2012). Krueger and Casey (2015) also show how academic rigour requires more pre-set questions than may be required in other contexts. Bryman (2012) and (Carey & Asbury, 2012) suggest one or two 'icebreaker' questions to begin with before moving on to a structured approach. Krueger and Asbury (2015) recommend five categories of questions: opening, introductory, transition, key and ending; beginning with one from each of the first three types. Their recipe is to pilot or seek prior feedback such that the developed questions are clear, short, open-ended and one dimensional.

I generated the same set of questions for each focus group, as shown in the focus group schedule in Appendix 1. These questions had their genesis in the research questions two to four, and went through several stages of development with feedback from my supervisor, and from a colleague familiar with the subject area. Question one served as an introduction and icebreaker for the participants, for the purposes of bringing the focus group together. Responses to this question were not transcribed as they were identifying. Participants were then asked to refer only to the randomly assigned numbers, displayed in front of each participant, when responding during the interview, meaning each participant would therefore have an anonymous identifier

(Cohen, Manion, & Morrison, 2011). This ensured that it was straightforward to maintain confidentiality of each participant in the group interview transcription. Questions two to four were designed to be slightly more open, than questions five to eight that are more directive.

### ***Group Composition***

The aim of the focus group method is to approximate saturation, the point where little new data is generated (Krueger & Casey, 2015). The optimum number of focus groups to achieve this in academic enquiry reduces as groups demonstrate greater homogeneity, cooperation and utilisation of structured questions (Carey & Asbury, 2012; Creswell, 2012). The minimum number of groups advocated by authors ranges from one to two (Fern, 2001; Wellington, 2015; S. Wilkinson, 2004), up to three to four (Krueger & Casey, 2015; Stalmeijer et al., 2014). Groups that are largely homogenous are recommended by many authors (Bryman, 2012; Carey & Asbury, 2012; Coleman, 2012; Creswell, 2012; Jupp, 2006; Kitzinger, 1995; Krueger & Casey, 2015; Wellington, 2015), as the strong common ground of experience and, or, background allows each group to explore different opinions with some depth (Creswell, 2012), and without that, group members may feel vulnerable or reluctant to contribute and the group may focus on discovering areas of safety or commonality (Carey & Asbury, 2012; Kitzinger, 1995). Krueger and Casey (2015), and Bryman (2012) claim that comparing and contrasting the views of different categories of participants is best achieved by running separate homogenous groups, rather than several heterogenous sessions. Jupp (2006) acknowledges that, in common with many qualitative methods, focus groups do rely “on small, purposefully chosen samples that generate theoretical insights” as distinct to survey methods in which large samples are more useful for “generalizability” (p. 122). Group number and size need to be considered together in respect of purposeful selection, sample size and overall heterogeneity, as ultimately the study design in these respects can have significant impact on the research data (Krueger & Casey, 2015).

The design of this study involved three focus groups organised around the relatively homogenous groupings of regulators, educators and practitioners, representing the three main stakeholders of the profession. Each participant was asked to attend the group that best represented their role(s). The educational, institutional and geographic differences within each group gave plenty of ground for different perspectives to emerge. In addition to the opportunity aspect, purposive sampling was employed. Through researching conference speakers and principally networking, most of the potential participants for the regulators' group and many for the educators and practitioners' groups were contacted prior to the conference and invited to participate with provision of the focus group information sheet – see Appendix 2. Early within the OIA conference within the research plenary, I presented the intended research (Evans, 2017): through this and further networking at the conference, the remaining focus group seats were filled. The regulators' group comprised of representatives of the statutory national regulatory and accreditation bodies from each of the comparable jurisdictions of Australia, New Zealand and the United Kingdom. The educators' group comprised of participants affiliated with New Zealand, Australia, the United Kingdom, the United States, Canada, Scandinavia and mainland Europe, including institutional leaders and prominent paediatric focussed educators, involved in both pre- and post-registration training. The practitioners' group comprised of senior representatives of professional organisations in New Zealand, Australia, the United Kingdom and Europe, as well as experienced practitioners from each of these areas. Whilst most of the participants were associated with Type II osteopathic training, there were some Type I trained participants. Some contributors had extensive experience in the osteopathic care of children in a practitioner role, whilst others had not consulted children in practice - either through professional choice, or because they are non-osteopaths and hold an organisational leadership role. I worked actively to ensure the groups were as broad, representative and mixed as possible within each type, and was extremely fortunate that almost all those approached were willing to participate, which contributed to the high calibre roll call. The mix of participant gender for each group and overall is expressed male:female as follows:

Regulators 4:3

Educators 5:4

Practitioners 4:5

Total 13:12

### ***Group Size***

In respect of this study, the number of potential participants available to participate in terms of regulation and education was relatively low given that the size of the profession globally is relatively small (OIA, 2013) and the number of attendees at a conference in a far flung corner of the world. The number of participants from the three jurisdictions focussed on in terms of regulation is a particularly small pool. Educators, especially those involved in paediatric osteopathy also number relatively few. In addition, participant enrolment should allow for the possibility of no shows (Bryman, 2012; Krueger & Casey, 2015). A group size of between six to a maximum of nine participants was targeted to allow for the possibility of no-shows or competing commitments that may arise in the course of the busy conference schedule. The final group numbers were nine for the educators', seven for the regulators' and nine for the practitioners' groups. Only one potential participant – for the regulators' group – was unable to attend, due to other commitments arising. There were not any no-shows.

Sampling of a number of texts suggested that there is a trend from a previously held notion of an optimal focus group size of generally six to eight participants (Carey & Asbury, 2012; Greenbaum, 2000; Krueger & Casey, 2015; Mutch, 2013; Wellington, 2015), to group sizes as low as four to six in respect of in-depth qualitative research (Creswell, 2012; Fern, 2001; Greenbaum, 2000; Krueger & Casey, 2015; S. Wilkinson, 2004). Bryman's (2012) review of thirteen studies shows that the mean size of most researchers' groups was between four and seven participants. Stalmeijer et al's (2014) work also acknowledges the six to eight notion in general terms, and goes on to state that "a minimum number of three to four participants is possible and for some topics may be preferable" (p. 930). Krueger and Casey (2015) develop a number of criteria to

guide the ideal numbers in the group, suggesting reducing the group size as the factors of topic complexity, number of questions, and participant expertise and passion, increase. However, the decision to keep group size in the range of six to nine was determined by the fact that there was only one group per stakeholder type, and therefore facilitating a diverse discussion and capturing a representative range of data in each group guided away from small group size. The alignment with classic group sizing maximised the opportunity presented by the international delegation attending the conference.

### ***Moderation***

There is a consistent voice in the literature about the requirement for skill in moderation (Fern, 2001; Mutch, 2013; Stalmeijer et al., 2014; Wellington, 2015; Wong, 2008). S. Wilkinson (2004) characterises this as participant management. Carey and Asbury (2012) show how moderator direction increases as the focus group is more formal, structured, has more questions and a more defined topic. Useful additional skills for moderators include probing and clarification type questions (Carey & Asbury, 2012; Coleman, 2012; Wellington, 2015). Carey and Asbury (2012) further suggest moderators verbally summarise answers to key questions in order to clarify opinions and facilitate further questions. Wellington (2015) and Krueger and Casey (2015) suggest that moderators remain neutral, avoid head-nodding, making of comments and limit the use of 'why' in questions. Wong (2008) and Wellington (2015) both show how environmental factors can facilitate discussion. MacDougall and Baum (1997) describe how premature group consensus ('groupthink') can be avoided by introducing new questions, asking the same question from a different perspective, or by playing "devil's advocate" (p. 532). Mature moderation reveals the particular of strength of focus groups, which Kamberelis and Dimitriadis (2013) describe as 'collective conversations'.

Given that I had not facilitated a focus group interview before, I arranged two confidential pilots: mini focus group interviews with a small group of practice colleagues at the conference, ahead of the bona fide groups. The purpose of

this was to practice introductions, scene setting and moderation strategies, along with testing the recording equipment. I also experimented with room setup, concluding that constructing a large square table to sit around, in the centre of the room, provided the most familiar and comfortable milieu for participants. No data was retained from the short pilots, and the focus group questions remained confidential. This experience was critical in ensuring success with the subsequent focus group interviews.

In moderating the focus group interviews, I employed several of the strategies proposed in the literature:

- maintenance of neutrality
- rephrasing of a set question in response to participant's queries
- rephrasing of a set question when responses strayed or lost focus
- summarising responses for confirmation or gauging agreement levels

### ***Recording***

General opinion is that focus groups require recording since contemporaneous detailed note-taking is virtually impossible whilst moderating (Bryman, 2012). Mutch (2013) clearly states, echoing many others, that focus groups can present challenges for transcription and suggests coding the order of participants' contributions such that later transcription is facilitated. Video recording is more likely to inhibit participants, add questionable value, as well as being more likely to cause objections (Krueger & Casey, 2015). As such, most authors recommend audio recording (Tong, Sainsbury, & Craig, 2007). In doing so, good quality duplicate or at least back-up equipment is advisable to ensure success (Wong, 2008). For this research, three audio recording devices were used simultaneously to ensure capture of the focus group data.

An important question is whether to provide participants with the written transcription, or summary for comment or not, and if so, how to frame later contribution (Kamberelis & Dimitriadis, 2011). It is certainly a more complex

consideration than an interview, where such provision is not uncommon (Bryman, 2012). It was decided that provision of transcriptions to the 25 participants and processing of further contribution was too complex and had the potential to detract from the rich contextual data captured in the focus group (Bryman, 2012). Several authors discuss the importance for the researcher to do their own transcription, so that they can add contextual data such as pauses, tone of voice and non-verbal clues observed during the group (Carey & Asbury, 2012; Krueger & Casey, 2015; Stalmeijer et al., 2014). This was certainly my experience with transcribing the focus group interviews – it enabled a richness and depth in both data collection and in the subsequent data analysis.

## **Data Analysis**

Among the main methods of data analysis in focus group research are thematic and content analysis which are related by the use of coding, according to Carey and Asbury (2012). These authors characterise the difference as content style looking for patterns where they exist, whereas the thematic style is more structured looking at what data matches predetermined categories. In complete contrast, Mutch (2013) states that the thematic style “takes its categories from the data”, unlike content analysis “which pre-determine categories” (p. 164). As Mutch points out, it is the emergence of themes that is important.

Krueger and Casey (2015) decline to name their recommended analysis style, which does avoid some confusion. They prescribe a structured multilevel thematically based analysis for focus groups, pointing out that the beginnings of analysis occur in the data collection stage itself, as the moderator assimilates information from the focus group and helps to steer the discussion. Creswell (2013) shows it is not in the identifying of themes and patterns that differentiates analytical models as most styles do this to a large extent. It is rather in the process employed that different analytical models play out. Wellington (2015) describes a thematic coding approach, which is named the constant comparative method, which, according to Mutch (2013) equates to thematic analysis.

Seidman (2013) describes how a thematic style is most appropriate for direct spoken data from interview. The mantra to develop some kind of structure, and process, in order to sort, condense, order and create meaning is continued by Watling, James, and Briggs (2012). Whilst these authors, as well as Bryman (2012) describe how computer software can be utilised in to assist coding in data analysis, Krueger and Casey (2015) argue that these programmes are indicated where there are very large sets of text data, which will not be the case for the proposed research.

S. Wilkinson (2004) makes a premise that there is, in relation to focus group data analysis, confusion, lack of literature and general failure to connect methods to the epistemological basis of the research. Her thesis is that content analysis is more quantitative in nature, regarding the occurrence of data, whereas “ethnographic analysis” (p. 182) concerns eliciting the “why”, “how” and “what is going on” aspects of the topic of enquiry (p. 183). This really corresponds to the ‘thematic analysis’ of others, already described. Interestingly, S. Wilkinson (2004) suggests that the two styles could both be employed, so that the raw data is processed through qualitative and quantitative screens.

Bryman (2012) clearly sets out that themes are a core component of many styles of data analysis. He further claims that thematic analysis is not a distinct style, which may go some way to accounting for the contradiction and lack of definition noted above. Nevertheless, Bryman (2012) goes on to describe the coding process that can be used in the identification of themes. In the proposed study, themes will need eliciting from each focus group, in the whole sample and in comparative analysis between the groups (Cohen et al., 2011; Krueger & Casey, 2015). Given the above review of data analysis literature, thematic analysis was chosen as the most appropriate method for interpretation of the focus group interview data.

### ***Thematic Analysis***

The process of thematic analysis is described as multi-layered (Elo & Kyngäs, 2008; Fereday & Muir-Cochrane, 2006). Summarisation of focus group interview transcripts in a two-dimensional process does not allow for the rich and evolving development of thematic coding and comparative analysis (Lofland, Snow, Anderson, & Lofland, 2006). The experience of analytic methods described is more holographic in nature. There is a reflective cycle of listening, reading, clarifying, relating, analysing, reflecting and repeating in a somewhat circular or perhaps spiralling fashion with the findings gradually taking shape (Lofland et al., 2006), similar to the process described in action research (Cardno, 2003). Repeated listening to the interview recordings allows the added appreciations of tone, exchange dynamics and inflection that enhance depth and context in the transcript (Carey & Asbury, 2012).

I followed a cycle of summarising the findings of each group per question, then combining the responses of the groups per question, assembling according to category and then referred back repeatedly to the raw transcript data that allowed for the teasing out of themes, opinions, commonalities and differences that were not at first apparent, especially where a participant or group as a whole were not consistent or in agreement regarding an area of the enquiry, over the course of the focus group. Then, the process of tabulating, in two forms, the key findings required further layers of reconsideration and reconfirmation from the transcripts and through each of the summaries. Table 4.1 condenses the response of each group in terms of each broad category of findings. The scoring scheme employed in Table 4.2 is notional and devised to compare and contrast the findings of each group in terms of individual emergent themes. Each process of forming the discussion, drawing together conclusions and making recommendations in Chapter Five involved traversing a continued reflective and comparative spiral from, reviewing where necessary, audio recordings, transcripts, and the two layers of transcript summaries of the findings.

## **Validity and Triangulation**

Research validity has its basis in robust procedures in methodology and data collection (Krueger & Casey, 2015). It is further demonstrated in the thoroughness of data analysis. Perakyla (2004) notes that careful transcription of recordings increases reliability, compared to solely relying on interview notes. Bryman (2012) essentially equates reliability with validity on the basis that the latter requires the former. He states that internal validity is created when the measures, or structures that one utilise to interpret data give consistent results even when data is split, or processed differently, whereas external validity is supported by attempting to engage representative sampling so that results may be generalised (Bryman, 2012).

Seidman (2013) argues that the terms reliability and validity are less useful in qualitative research, preferring the concepts of credibility, dependability, transferability and confirmability. This view, employing exactly the same terms is also supported to some extent by Bryman (2012), with both authors noting that these qualities extend throughout the research stages. The group nature of interviewing in focus groups increases validity of interview data as there is the potential for both self and peer moderation within the group context (Fern, 2001). The moderator technique of summarising the response to each question can also be seen as increasing reliability through ensuring clarity in meaning from participants (Krueger & Casey, 2015). Carey and Asbury (2012) show how rigour is increased simply by comparing notes, recollection of contextual information and recordings as soon as possible after focus groups, which extends to transcription. It is for the correlation of these factors that Krueger and Casey (2015) argue it is preferable that researchers do the transcription themselves, rather than a third party.

Cohen et al. (2011) suggest implicitly that thematic analysis, that identifies emergent themes, has greater validity than content analysis that relies on pre-determined themes. The impressive range, representation and combined credentials of the focus group participants afforded by the conference setting and high uptake of invitations adds significantly to this studies' credibility. The layered thematic coding, multiple analytic lenses and reflective cycle employed

in the thematic data analysis increases the dependability of the findings presented.

The credibility of a qualitative study is strengthened when rich data is collected and analysed from multi-faceted perspectives. The employment of multi-perspective triangulation of data to achieve comparative consolidation is proposed as an enhancer of validity by Cohen et al. (2011). The specific aspects of triangulation in this research are the multiple perspectives provided by the design of three stakeholder groups represented in each focus group. These perspectives were clarified in the findings of each group through the thematic analysis in Chapter Four. Triangulation is gained by the engagement of a range of separate, relatively homogenous groups (Bush, 2012; Mutch, 2013). Further triangulation is generated through the two devised forms of tabulation of the consolidated key findings (Tables 4.1, 4.2) which provide visual, thematic and numerical methods of comparison. These schematic representations of the data increased objectivity, especially in terms of the discussion in Chapter Five where significant points of agreement and divergence of key findings from each group are highlighted with reference to the literature. These strategies to maximise triangulation increase validity.

## **Ethical Issues**

G. Miller, Dingwall, and Murphy (2004) characterise the concept of ethics in research as essentially “fair-dealing” (p. 338). Central to this is the principle of protecting study participants from harm through the process of informed consent (Krueger & Casey, 2015; Seidman, 2013; T. M. Wilkinson, 2001). Carey and Asbury (2012) emphasise that this primary obligation to the participants, needs careful consideration regarding all of the potential aspects of involvement, including potential publication and secondary research. As such, they stress that informed consent is a process, rather than just in the one-off obtaining of a signature. This process was enacted by the prior provision of an information sheet (see Appendix 2) as well as an informed consent form (see Appendix 3), and by answering any and all questions that prospective

participants had. The information sheet explains relevant background along with the aims and objectives of the research including methodology, data analysis, reporting and to whom and how the results are made available (Creswell, 2013; Mutch, 2013).

Core considerations for the protection of participants include voluntary involvement, anonymity and confidentiality (Bryman, 2012; Busher & James, 2012; Carey & Asbury, 2012; Cohen et al., 2011; Mutch, 2013). Two groups of authors (Cohen et al., 2011; Stalmeijer et al., 2014) discuss the balance that must be sought between preventing harm of participants, and the potential 'greater good' of research. Whilst not suggesting that participants are compromised, it is proposed as a contrasting view such that research usefulness is not annulled by perhaps over concern for participants. The establishment of trust between the researcher and participants is critical in successful navigation of this balance, according to Stalmeijer et al. (2014). Busher and James (2012) propose that the threshold for gaining ethical consent is relatively low for research involving groups that does not involve vulnerable populations or sensitive topics.

Wellington (2015) and Creswell (2013) observe that ethics apply to all stages of research, not only human participants and data collection. Confidentiality and security in data handling also requires both careful consideration and clarity methodologically, and in terms of consent (Bryman, 2012; Creswell, 2013). Aspects to this include data storage location, data storage length, identification codes, and defining access. Further, ethical practice bestows a responsibility upon the researcher to aim for high quality in all stages including planning, execution, analysis and reporting (Bryman, 2012; Creswell, 2013). Ethics in analysis includes taking a neutral and unbiased approach, and in reporting both the avoidance of plagiarism and the fair presentation of findings (Cohen et al., 2011; Creswell, 2013; Wellington, 2015) There is a degree of moral obligation on the researcher to share the findings as appropriate, for the benefit of others, given the time and energy put in by participants, which is usually on a voluntary basis (Creswell, 2013; Stalmeijer et al., 2014). During data collection, researchers need to be mindful that they are, or may be perceived to be, in a

position of power in relation to participants (Busher & James, 2012; Mutch, 2013). This aspect is particularly important to counteract from a Maori ethics perspective (Christians, 2011).

A bicultural viewpoint in Aotearoa New Zealand that honours commitment to the principles of the Treaty of Waitangi means that a Kaupapa Maori perspective on research and ethics is necessary (Hudson, Milne, Reynolds, Russell, & Smith, 2010). This is because all research that occurs in New Zealand is of interest to Maori, and, Maori may be involved in the research. If any individuals of Maori descent become involved in the research, then consultation and advice should be taken: active engagement with Maori is a given, and it may be appropriate to afford a Kaitiaki role to a Maori participant in the research (Hudson et al., 2010). The Maori principles of collectivity, respect, collaboration, representation, reciprocity and hui (meeting in person) are all highly relevant to research (Bishop, 2003, 2005). Much of the wider Kaupapa Maori perspective of educational research in respect of research benefits, legitimacy and accountability (Bishop, 2005) overlap with mainstream ethical thinking (Christians, 2011; Mutch, 2013). Focus group research lends itself to aligning with the principles of Maori research ethics by the nature of its' face to face inclusive group approach, allowing each participant to speak and the voluntary nature of engagement (Cram, 2001; Mutch, 2013). Colonial or oppressive power is avoided if the researcher is co-led by the group of participants (Christians, 2011; Jahnke & Taiapa, 2003). The simple hui process of whakatau (welcome) in which all parties identify themselves is not only common-sense for a focus group (Krueger & Casey, 2015) but also partners a Maori perspective on engagement (Mutch, 2013). The welcome provided as group facilitator, the provision of food and water, and the introductions initiated by the first group question (see the Focus Group Schedule in Appendix 1) all contributed to honouring Kaupapa Maori. This considered approach to Maori research principles enriches the overall ethical premise on which the proposed research is based.

Bryman (2012) points out that it is difficult to ensure, in advance, that every single detail relating to the research is covered in a consent form. Rather it is a

matter of common-sense to ensure that all critical elements are included and that wherever any small variations occur, to safeguard the integrity of the spirit of the consent. Anything more than unforeseen minor details risks breaching consent and must be avoided. Ethics in this, and a general sense, are also for the protection of the researcher, by ensuring that due process has both been followed, and can be demonstrated (Bryman, 2012). The disclosure by researchers of affiliations, funding and any conflicts of interest creates clarity and protection for both parties (Cohen et al., 2011).

Collaboration and permission for conducting this research was sought from the conference organising representatives of the OIA, Osteopathy Australia and Osteopaths New Zealand. Support letters to this effect may be found in Appendix 4. The level of cooperation of these organisations was significant and facilitated the successful completion of data gathering for this research.

The process of gaining ethics approval necessitated engaging with conference organisers prior to ascertain what requirements they may have in order to facilitate and support this research. Participant recruitment, anonymity of participants, the provision of a separate and discreet room in which to conduct the focus groups, the holding of the groups outside of conference sessions, and presentation of the proposed research within the OIA conference research plenary were among the issues discussed. The conference organisers also required sighting of formal institutional ethics approval, information sheet and consent form before finally confirming support for this research. Once the plan was set for how this research would be conducted, ethics approval was sought through the Unitec Ethics Committee application process.

## **CHAPTER FOUR: RESEARCH FINDINGS**

### **Introduction**

This chapter reports on the findings of my qualitative research that involved three focus group interviews. The focus groups were organised around regulators, educators and practitioners of the osteopathic profession worldwide. In this chapter, the first section describes the constitution of the focus groups in terms of the research participants. The second section introduces the broad categories into which the data is organised. In the substantive portion of this chapter I have presented the findings of my study under three broad categories that connect with the review of literature and the research questions that guided this study. Under each category, I have clustered the responses from participants in the focus groups. The categories are, with respect to the acquisition of practical clinical skills for osteopathic paediatric care: Training Requirement, Training Timing and Training Delivery. The first category deals with whether it was considered necessary for osteopaths to receive specific training in relation to practical osteopathic skills needed for paediatric care. The second category deals with when, within a practitioners' training and development, that specific instruction was best indicated. Then, the third category describes the findings regarding methods and types of training delivery. The concluding section of this chapter summarises the findings from across the three main constituents of the profession.

### **The Research Participants**

The three focus groups were populated by highly representative and internationally renowned groups of educators, regulators and practitioners attending the OIA conference in Auckland, New Zealand. Detail regarding group composition, sampling and size is described in Chapter Three. It was acknowledged that the focus groups were truly international and therefore a

number of participants were not first-language English speakers: whilst their grasp and expression of the English language was more than adequate to fully engage in the English-language conference and these focus groups, verbatim quotes are unmodified, and the reader is encouraged to take this into account.

## **The Categories**

Three broad categories were identified as underpinning the field of enquiry through grouping of the focus group questions in the context of the participants' responses. They are training requirement, training timing and training delivery. The questions from the focus group interview schedule generally align with the categories as follows:

Training Requirement	- Questions 2,4,5,7
Training Timing	- Questions 3,4,8
Training Delivery	- Questions 3,5,6,8

It is worth noting both that some questions align with more than one category, and, that data arising in any given question may in fact relate to a category that does not align with the above schema. Nevertheless, the associations shown serve as a general guide and give some structure to the data analysis.

The focus group data has been presented in the following order for each category of findings:

1. Educators
2. Regulators
3. Practitioners

Data coding has been assigned to verbatim statements in the following manner:

(PE1) means Participant 1 from the Educators' Group.

(PR7) means Participant 7 from the Regulators' Group.

In response to participants' questions during the focus group interviews, it was clarified that the phrase 'practical osteopathic skills' is employed to mean the

subset of clinical skills that involve manual skills used in physical examination and treatment during normal consultation. Whilst this phrase was sometimes interchanged with 'practical clinical skills' for variation, the intent was to exclude clinical skills such as case history taking, observational skills, communication in general, and management strategies, such as exercise prescription, such that hands-on skills can be considered in detail.

### ***Training Requirement***

#### *1. Educators*

This group was clear that training was required. There was however some animated discussion as to what is necessary for a basic level of osteopathic competence. Nevertheless, it was unanimously agreed that acquiring practical skills through education is essential for competency in the osteopathic care of children. There was also extensive discussion around the difference between a registrant level of competence, that required more basic skills to ensure clinical safety, and the acknowledgement of the nature of continual professional learning and development post-registration, that is more aligned to developing clinical effectiveness. In this respect it was discussed that there is an absence of competencies for the two levels of care noted (registrant and specialist), and that professional educational pathways are best designed to fulfil a purpose, that is, competencies. Therefore, this group recommended the development of those competencies, that include the "knowledge, skills and attributes" (PE5) of practitioners, and standardisation and accreditation of post graduate pathways leading to a specialist osteopathic paediatric scope of practice.

There was a desire to avoid limitation on the scope of practice for new registrants, and acknowledgement that this meant that training is certainly required. It was considered of particular importance that there was training to develop a screening protocol that would cover both a general health examination as well as osteopathic evaluation. It was also noted that the acquisition of handling skills for children, especially infants was something missing in education currently, and that this would be appropriate given the

osteopathic principle of understanding and “knowing the normal” (PE1,5,7) prior to identifying the abnormal. There was no direct discussion of training for osteopathic treatment – the focus was on the diagnostic and handling aspects. Engaging with infants without prior instruction, whether as a part of PBL, or without specific training was considered inappropriate.

## *2. Regulators*

The members of the regulators’ group were definite that some form of training was indicated. The participants made the point simply that children, and their health conditions are substantively different to adults, and so it is not possible to transfer adult-based knowledge and skills to the osteopathic care of children. Nevertheless, adult based skills form a pre-requisite of the gaining of child-specific practical skills. The group stated that acquisition of these skills must include exposure to each age group concerned within specific child-orientated education.

In common with the educators’ group, assessment skills – especially screening as a part of a general health examination was considered the most critical aspect of training, and also, that standardisation of procedures was desirable. There was also alignment with the differentiation between registrant level competence and developed competence representing being a ‘paediatric osteopath’. Practitioners’ own recognition of their level of competence, in relation to the osteopathic care of children, was seen as an appropriate and important safety factor.

The regulators noted that the care of children is more complex than with adults, in part due to their special anatomy, and different conditions, and also because children may not lie still and be compliant, and there are significant communication considerations – both with the child, and the dynamics with the adult care-giver, all of which vary with age group.

The regulators concluded with a logic that because registration gives practitioners licence to consult children, they need to have had exposure in their

pre-registration education to handling children – “unless scopes are limited” (PR6 – with agreement), meaning that if practitioners have not had requisite pre-registration education the logical consequence is to limit their licence such that consulting children is not permissible. It was acknowledged, that currently there are many registered practitioners who have not had specific paediatric education at any stage. There was general agreement that this was not acceptable going forwards.

### *3. Practitioners*

The practitioners’ group were generally less clear about the interview questions than the other groups. With respect to this theme, the response was more mixed in regards to whether training was required, and a complete consensus was not reached. Some felt that training was absolutely necessary, whilst others felt that the practical skills learnt were, with guidance, transferable from adult to paediatric situations. Nevertheless, this was in the context of acknowledging potential practical challenges in providing paediatric education, and the proponents of the transferability argument agreed that it was desirable to have direct educational experience with children. This train of thought was also evident in a proposition that paediatric skills did not require new techniques, but an adaptation:

“there’s no more manual techniques to learn, there’s a major refining of what you already learnt in the undergraduate to make it fit for the small person” (PP7)

As a group, there was general agreement that practical clinical skills are required for competency in the osteopathic care of children, especially for the age groups birth to two years and two to five years of age. The rationale for this also referred to the fact that children are different to adults, with different skill sets required. There was also consensus that specific education was necessary for the acquisition of these skills, and that general health screening was considered the most critical. There was some discussion about whether because general health screening education may be available outside of osteopathic education, whilst these skills remained important, it may in fact be

of greater benefit for osteopathic education to focus on treatment aspects in education as these are not attainable elsewhere.

Further discussion gleaned the group opinion that theoretical knowledge is a prerequisite for palpation and assessment, and that there are skill-level differences between safety and effectiveness.

### *Key Findings*

- All groups agreed that practical clinical skills are an essential part of competency in the osteopathic care of children.
- All groups agreed that general health examination is the most critical component of an osteopathic interaction that requires specific education.
- Educators and Regulators were consistent that practical skill education is required for practitioners to develop clear and appropriate consciousness around the limits of their competence in respect to the osteopathic care of children.

### ***Training Timing***

#### *1. Educators*

The educators' group were in general agreement that practical training for paediatric skills is best placed within pre-registration courses, and that specific education is required for the acquisition of practical skills. This position was supported by the general sentiment that it was not desirable for new registrants to have their scope of practice limited – for instance by not being licensed to consult children under a certain age.

This theme generated some of the most robust debate within the group. This began with the difference between the skills required for generalist (registrant) level practitioners, and those specialising in paediatrics. Allied with this was discussion regarding the quanta of training required at the pre-registration level, and alongside this the ideal contrasted with practical limitations of what is

realistically possible, given curricula, funding, time and clinic organisational constraints. It was not the purpose of this interview to ask or ascertain the best indicated amount of pre-registration training in practical paediatric skills – merely whether they should be taught or not. The range of time frames proposed for clinical exposure to paediatrics in pre-registration, varied enormously, from one afternoon, to 6 weeks of afternoon and beyond. There was nevertheless, consensus that there should be *some* training, and that this should be designed to meet stated competencies for registrant osteopaths in paediatric care. This clearly spelled out the need to develop such competencies which educators identified as being largely absent from the international literature and regulatory frameworks. What also arose from this extended discussion was clarification that the role of any pre-registration training is to ensure safety through both basic knowledge, and an appreciation of the edges of competence as described by the following two participants – the first in terms of safety:

“Safety and referral are knowing your limitations. If one child comes to us and we haven’t had any paediatric education, well, we can’t even see them. We can’t do it, so if we’re going to be generalist, we need to have paediatrics.” (PE5)

And the second in terms of the potential consequences of not having the requisite skills:

“Whatever he does, he must be consciously competent – what is he evident for. But in the paediatric area it is a very sensitive area, because if you do the wrong diagnosis and the wrong treatment you can have big failures” (PE1)

This was confirmed and concisely put by another participant:

“So the goal there as an educator is to graduate a person who is consciously competent regardless of the specialty or sub-disciplinary” (PE6)

What also became very clear in this discussion, which was the most extended of any of the questions, was the need for specialist post-registration training

and a desire to see this more organised and accredited with specialist scopes and standardisation. The traditional and informal methods of learning through mentorship in post-registration clinical practice was acknowledged, with a desire to incorporate this into a more formalised learning pathway. The discussion also touched on the role and desirability of specialism within osteopathy and parallels were drawn with the medical professions' model of specialisation. These latter issues were somewhat open ended and did not arrive at a conclusive position within the group – and these questions were in any case somewhat ancillary to the research questions. Nevertheless, it was perhaps natural that such considerations arise in the course of considering the matter at hand. There was early cohesive opinion of the group regarding the unique nature of clinical education in respect of children, including their 'special' anatomy, displayed by the following two participant quotes:

“it would be absolutely essential to know the special anatomy of infants, especially of babies, newborns” (PE2)

“every osteopath and osteopathic physician should have a basic knowledge of ... the special anatomy, and this you can teach theoretically, you can do a lot of, and then you can demonstrate it on babies, but it must have this knowledge” (PE1)

However, later discussion saw questioning by one or two participants as to why paediatric care had this particular focus given to it: why should other specialist areas such as sports osteopathy or geriatrics not receive the same level of attention, regulation and education as paediatrics? This backtracking was at risk of contradicting the previous consensus but did however form an important part of the discussion in relation to the next theme of training delivery.

## *2. Regulators*

The regulators' focus group was clear, consequential and consistent in its' agreement regarding the timing of education to acquire practical clinical skills for the osteopathic paediatric practice. Such education was agreed as

necessary to gain basic competence, which is more in respect of patient safety than effectiveness at the registrant level. Following this thinking, the group agreed that if registrants are “licensed to see children” (PR2) then “there should be some experience pre-registration” (PR5). Whilst it was acknowledged that the current situation sees many existing practitioners and new graduates who have had little or no paediatric training pre-registration, the group was clearly not in favour of this continuing. There should be some educational exposure to the handling of children pre-registration “unless scopes (of practice) are limited” (PR6).

The importance of pre-registration clinical experience with children was further cemented by a discussion which saw that experience as critical for students to understand “how difficult it is” (PR5). General support was garnered for the notion that safety at the pre-registration level is not only about diagnostic and recognition skills, but it is also about being realistic about the limits of one’s competence and what can be achieved with osteopathic care. Specifically, it was seen:

“that ‘some experience’ (pre-registration) allows them to understand what their boundaries are” (PR1)

In other words, having hands on, clinical paediatric experience was seen as being pivotal in being able to consciously recognise where one has the ability and skills to continue managing a case, and when and where to refer on to.

The ongoing development of practical skills associated with clinical effectiveness was squarely placed in the post-registration phase in the group discussion. There was both acknowledgement of the career-long nature of learning and development, and the importance of the quality and appropriateness of education in the post-graduate arena. There was not more detailed discussion regarding education in this phase.

Although there had been general agreement without dissent regarding the need for and timing of practical skill education, there was a final wondering from one participant about whether this is essential in the pre-registration phase: “I’m not

one hundred percent convinced” (PR6). The response from other participants was to reaffirm the importance of knowing the limits of competence: “it’s unknown unknowns that are the problem” (PR5).

### 3. Practitioners

This group were mostly in agreement that pre-registration is the best phase of education to include practical clinical skills. There was acknowledgement that registrants should be able to assess children such that patients are safe. Certainly there was a concern expressed that practitioners did not want registrants to be excluded from paediatric practice.

However, the lack of congruity of this group previously noted regarding the necessity for specific education for practical clinical skills flowed through to the question of the timing on any such education. There was, in the context of affirming the imperative for direct practical instruction in pre-registration training the following response from a participant, who holds a senior professional organisational role:

“I would say so. Because otherwise I meet so many osteopaths who leap or spring fully formed from the (*institutional names withheld*) who will treat anyone at any point in their lives, and I think it’s kind of dangerous. It doesn’t do the reputation of the profession much good.” (PP8)

This inferred that such education is necessary to improve the perceived lack of self-awareness of the limits of competence for many practitioners. Concerns were raised by one participant about the practicalities of this, stating “the number of presenting small patients” (PP6) at an existing pre-registration educational facilities’ clinic was insufficient. Another practitioner, felt that the pre-registration “curriculum is already full” (PP7) and that post-registration would be a more appropriate phase in which to conduct paediatric education.

Additionally, there was animated debate about the role of transferability of adult clinical skills to children. There were those that felt there should be a theoretical

emphasis on how to adapt palpatory and handling skills learnt with adults to children, such that learning directly on children was not necessary, whilst others were adamant that because of the distinct differences in the anatomy and presentation of children, especially infants and under-fives, that direct clinical experience with children was required in pre-registration education. The debate about the practicalities of providing pre-registration paediatric clinical experience oscillated between “talking ideals” (PP3) contrasted with some gloomier realism. In essence there was agreement that it is preferable to have that direct hands-on experience. The differences of opinion lay in what was acceptable in limited resource or non-ideal situations. In fact, three participants changed their position, sometimes more than once, during the course of the discussion regarding the necessity of pre-registration practical clinical education, in the context of how to deliver that education.

In the final and detailed analysis, three participants felt that specific pre-registration training involving handling was necessary for the acquisition of practical paediatric clinical skills, whereas six did not. Of those six, most felt it would be ideal, however they felt sufficient theoretical instruction or self-led adaptation of adult technique would be satisfactory, with several expressing concern regarding the possibility that registrants “couldn’t be registered to treat this” (PP5). However, in the context of another question this same participant stated in respect of associate osteopaths treating “my small people patients” (PP5) within their own clinic:

“They would’ve had to have had some hands-on experience with me tutoring before I’d let them take on their own.” (PP5).

Of the three participants that were clearly in favour of pre-registration training involving handling, two held leadership roles in national professional organisations.

### *Key Findings*

- Each group differentiated between a basic, registrant level of competency focussed on clinical safety, and an advanced, specialist level of competency focussed on clinical effectiveness.
- There was general agreement across the stakeholder groups that education for practical clinical skills is necessary in the pre-registration phase. Educators and Regulators were clear that this should become a requirement for any registrant that is licensed to consult children, whilst acknowledging that this has not been the case historically.

### ***Training Delivery***

All groups noted the challenges of providing practical instruction, however they were mostly consistent with the assertion that it should involve live patients under supervision of suitably qualified instructors.

#### *1. Educators*

This theme generated both cohesion and divergence within the group. There was a clear consensus in response to Question 3, that training delivery is best achieved in person, practically, on children, with experienced practitioners. Further, that education should involve each broad age group, within a specific children's clinic setting, rather than within a generalist clinic environment, so that the supervisors are appropriately experienced and trained. This followed on from the general agreement that children represented a special, or different case scenario to other patient populations due to their different anatomy, different conditions and also due to the different communication skills required. Yet in Question 8 the point was made:

“why not stop with just children – why not somebody who's got one leg, or something that you don't have the expertise in?” (PE4).

This contrasted with the previous agreement regarding paediatrics being a scenario in which skills and knowledge were not directly transferable from adult

skills. The discussion continued in terms of regulatory limits on practice and how to prepare students for registration within the practical constraints that any programme experiences. This led to some animated discussion around what ideally falls within pre-registration and that which occurs in post-registration training. The trend of the group was to speak from the point of view that practical pre-registration training is likely to occur during a specialist or focal clinical time within the educational institutions teaching clinic, whereas post-registration practical training was discussed in terms of academic and weekend-based attendance courses and separate observation and mentoring in individual private clinics. There appeared to be a degree of shared assumption around this, perhaps given that this has been the operating model within the profession for some time. There was no discussion regarding the desirability of supervised clinical experience within an educationally, or institutionally based teaching clinic in the post-registration period. The thinking around post-registration training tended towards the creation of pathways that might incorporate the elements of CPD, institutional study, private short course providers and private clinic mentoring:

“I’m really in favour of the module-based training which is like ours that means that you do stuff - like the CPD model but the institutions should instruct a pathway that includes clinical and research.” (PE5)

Accreditation of learning elements was also raised, along with the suggestion that the inclusion of reflective professional learning form part of the process: “If you’re looking to improve the general practice standards of osteopaths within paediatric care then focal, framed, reflective CPD can be very useful. There can be a lot of poor post graduate courses, very poor modular courses, very poor post registration specialist courses, so I don’t think it’s what of those is good – it is the quality of them within it” (PE4).

Regarding Question Six, there was animated engagement without dissent. General agreement was afforded to the notion that a theoretical academic background should precede practical learning. The corollary of this is that PBL, for instance hands-on practical with infants without prior instruction or directive guidance, was considered “dangerous” (PE1) - with consensus. Other learning

theories that were specifically discussed included contextual and complex learning - through clinical observation with experienced practitioners, constructivism - working gradually from adults down the age groups, working from “knowledge as to what is (a) normal” (PE1), and competency based and systems-based methods of learning. There was also some animated discussion around simulated learning, which it was agreed as being only potentially useful in learning early handling skills, as in terms of learning clinical skills was clearly stated that:

“we’ve tried it and it’s totally inaccurate and unhelpful” (PE7)

## *2. Regulators*

The group of regulators were quite emphatic regarding this point. There was clarity and consensus that direct instruction was required and therefore online courses would not suffice. Further, that practical instruction could not be satisfactorily achieved by utilising adult models as proxies, as stated by one participant, with agreement of several others:

“you can’t gratuitously repeat the procedure in the way that you would do with an adult” (PR5)

This elucidated the need for the practical education to include supervised handling of children themselves, with “a high teacher student ratio” (PR1).

The group did not recommend experiential learning at the outset of practical paediatric learning. A more traditional approach where theory is explored before and continued on during practical hands-on experience. Additionally, observation was recommended to precede handling, as this would help bridge from the practical clinical skills gained prior with adults. Essentially, practical experience was seen to be through dedicated supervised children’s clinics within the pre-registration training. This was seen as necessary for aspiring practitioners to develop the ability to be “super flexible” (PR1) for successful engagement with children, and to appreciate the communication dynamics with parents which contribute to the care of children being “necessarily very

complex” (PR5). It was expressed generally that it is “absolutely critical” (PR2) for aspiring practitioners to have clinical pre-registration experience that:

“reflect the range of conditions and patients that you’re expecting that those graduates to be competent with” (PR2)

The regulators cited a number of learning theories that were appropriate including a constructive, Vygotsky style approach. It was felt that adult learning theory, the reflective cycle and situated learning were also applicable to the acquisition of the required practical clinical skills. Adult learning theory was described as follows:

“it’s inquisitive, and that it has clear outcomes against which the opportunity of discovery is matched.” (PR2)

The conversation also engendered discussion around the standards of educators and supervisors in this field, with the suggestion that an accreditation system would be preferable to the current status quo, where often the length of time in practice was seen as a proxy for credibility:

“accorded by the number of their grey hairs” (PR6)

This developed into discussion about the lack of modern learning theory application in the traditional behaviourist approach that has prevailed, with general agreement that “the guru in the room” (PR1) method “doesn’t fit with manual skill acquisition” (PR5).

### *3. Practitioners*

The practitioners’ group displayed the least consistency and clarity under this category. In terms of the best methods of acquiring practical clinical skills, there was general agreement for “attending courses” (PP5). Mentorship was also seen as an important method of acquiring paediatric clinical skills. This was discussed largely in the context of informal post-graduate education in private clinical practice. However, this strategy was also described as a process whereby pre-registrant students could gain experience through clinical

observation and following. One participant described hosting pre-registration students in their private clinical practice “spending hands-on time with me” (PP5), in a self-described mentoring situation. The practitioner then described a process of:

“formally reporting back to the Uni on how competent they are” (PP5)

There were several self-reflective recounts of practitioner’s own journey with learning in the osteopathic care of children. The following observation encapsulates much of this:

“historically, informal education in paediatric education plays a critical role, because undergraduate and postgraduate are not formally organised to treat safely with competence and with effectiveness for the child” (PP2)

The principle of clinical observation and shadowing established practitioners, along with emulation were repeated themes in the discussion, demonstrating traditional, behaviourist learning theories. This behaviourist theory was expressed further through the description the description of an “iterative process” (PP8) of learning. Learning on adults first before then working with children was also described. However, there was no direct expression of specific learning theories by this group. It was also pointed out that “learning in paediatrics is very difficult” (PP2) due to the short time frame available to examine young children as they tend to move around.

The question of training delivery necessarily circled back to the lack clarity and lack of agreement as to whether direct education involving direct practical skills was required, and if so, when that should occur.

### *Key Findings*

- All groups suggested a learning order beginning with theoretical knowledge, progressing through observation and communication skills to the acquisition of practical clinical skills.

- Educators and Regulators saw specific education involving supervised clinical experience with children as a requirement for paediatric practical clinical skill acquisition.
- Educators and Regulators proposed that the development of specific, registrant and specialist level competencies for the osteopathic care of children is required, which in turn would allow the development of learning outcomes which educational design can be aligned with.
- The Practitioners group was split as to whether any direct handling experience with children was required to adequately acquire practical clinical skills for a minimum level of competence at registrant level.
- The accreditation of educators for both levels of training, and for post-registration courses was discussed by both the educators' and regulators' group.

## **Consolidated Key Findings**

This section shows how the Key Findings relate to the original research questions. The data gathering set out to answer the research questions which are as follows:

1. What documentation exists regarding paediatric osteopathic competence?
2. What is the nature of, and the need for practical clinical skills in the osteopathic care of children?
3. What are stakeholders' views regarding best practice for the acquisition of clinical skills for the osteopathic care of children?
4. What are stakeholders' views as to the learning theories involved in the acquisition of clinical skills for the osteopathic care of children?

The first research question was answered by the literature review, presented in Chapter Two. The remaining three research questions determined the development of the Focus Group Interview questions (refer to the Schedule in

Appendix 1). The data generated from the each of the focus group interviews was in turn categorised into three broad areas.

The key findings in terms of the three identified categories are presented here in two different formats:

Table 4.1 shows the concise answers to the three categories, along with the level of intra-group agreement.

Table 4.2 lists the emergent themes from the focus group interview a provides a numerical score to indicate the strength of each theme. The number schema utilised is not concerned with absolute totals per se, rather as a method of facilitating objectivity in comparative analysis of the patterns and within and between the three focus groups, representing the main stakeholder groups of osteopathy.

Both agreement levels and scoring schema have been applied according to the methods of assembly and analysis of the data as described in Chapter Three. The purpose of these tabulation constructs is to further clarify and triangulate the data and thereby increase validity.

**Table 4.1: Summary of Category position and level of agreement by Focus Group**

<b>Focus Group:</b>	<b>Training Requirement</b>	<b>Agreement</b>	<b>Training Timing</b>	<b>Agreement</b>	<b>Training Delivery</b>	<b>Agreement</b>
<b>Educators</b>	Yes	Strong	Pre-registration	Strong	Supervised hands-on specialist paediatric clinical experience	Strong
<b>Regulators</b>	Yes	Strong	Pre-registration	Strong	Supervised hands-on specialist paediatric clinical experience	Strong
<b>Practitioners</b>	Yes	Moderate	Pre-registration	Strong	Direct supervised hands-on experience	Weak

**Table 4.2: Summary of Emergent Themes with comparative scoring**

<b>Themes</b>	<b>Educators</b>	<b>Regulators</b>	<b>Practitioners</b>	<b>Theme Score</b>
<b>Training Requirement</b>				
Practical clinical skills required for competency	3	3	3	8
General health examination most critical	3	3	3	9
Education required to develop conscious competence	3	3	1	7
<b>Training Timing</b>				
Differentiation of basic registrant and advanced specialist levels	3	3	3	9
Focus on safety at registrant and effectiveness at specialist level	3	3	3	9
Necessity of practical clinical skill training at pre-registration level	3	3	1	7
<b>Training Delivery</b>				
Progression: theory, observation, communication to handling	3	3	2	8
Social Constructivism and dangers of experiential or PBL	3	3	1	7
Necessity of supervised, specialist paediatric clinical experience	3	3	1	7
Accreditation of educators and post-registration training	3	2	0	5
Competencies for registrant and specialist levels required	3	3	0	6
<b>Totals by Group</b>	<b>33</b>	<b>32</b>	<b>18</b>	

Key:

3=Clear with general agreement

2=Present with several examples of agreement

1=Mentioned or split agreement

0= Not mentioned

The similarity of responses between the educators' and regulators' groups was of a high level. Table 4.1 shows that the summarised response to each of the three categories was the same, and all with strong agreement. The similarities in the themes arising in these two groups' interviews was remarkably consistent, according to the results shown in Table 4.2. Of the eleven themes

arising across the three categories, every one of these themes emerged within both group interviews. Furthermore, there was clarity and general agreement in each of the groups in respect of ten of these themes. Only one theme had several examples of agreement, rather than general agreement, in one of the groups. This resulted in almost identical results in terms of the notional scoring schema employed in Table 4.2.

The practitioners' group developed the least agreement within the group whilst also showing some divergence from the congruent opinion shown by the educators' and regulators' groups. In terms of the category results presented in Table 4.1, there is moderate and strong agreement for the first two categories, training requirement and training timing, respectively. It is with the question of training delivery that there least similarity with the other groups, both in respect of intra-group agreement and clarity about what is required. However, theme development is where the discrepancy between the practitioners' group on the one hand, and the other two groups on the other, is most evident. There was one theme in each of the first two categories that was evident yet did not feature or generate agreement. This resulted in one score less than the educators' and regulators' groups for each of these categories. Under the third category, one theme did not arise, and all of the remaining four did not reach general agreement with two reaching moderate levels of agreement and the other two failing to feature. The scoring under this category was the most divergent with the practitioners' group scoring six versus the educator's and regulators' fifteen and fourteen respectively, where fifteen was the maximum possible score.

The congruent and divergent answers to the research questions, as manifest through the focus group interview questions, and theme development from each of the groups are compared and contrasted in detail in the following chapter.

## **CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

### **Introduction**

This chapter includes a discussion of the data and key findings presented in Chapter Four and relates these findings to the literature that is reviewed in Chapter Two. The chapter consists of four sections: discussion, conclusions, recommendations and suggestions for further studies. The discussion section is organised around the three categories identified in Chapter Four: training requirement, training timing and training delivery. The chapter is completed by the conclusion, recommendation and suggestions sections.

### **Discussion**

The three different focus groups had unique conversations and raised interesting, and different points. Yet, there was a high degree of concurrence from the groups in many of the areas discussed. The themes and questions that did not display accord were relatively few. The salient points arising from this analysis are discussed here. The significant themes of knowledge gaps, methods and theories of practical skill acquisition, training and competency are discussed in relation to the literature reviewed in Chapter Two.

### ***Training Requirement***

Each group was explicit that practical clinical skills are an essential part of competency for the osteopathic care of children, and that training is required to acquire these skills. Whilst two groups were clear that this training needs to involve in-person, hands-on, supervised engagement with children, the practitioners' group faltered on this point, particularly as the focus group

evolved. Because of the paucity of available literature, I am unable to discuss this key finding in relation to what has been previously researched. Outside of published research, there is sparse reference within worldwide English language regulatory and accreditation documentation that refers specifically to practical skill acquisition, the only references to clinical experience in relation to paediatric care being in broad terms in international model curriculum documentation (FORE, 2008; WHO, 2010), and the somewhat open inclusion within OCNZ's Accreditation Standards that states "clinical experiences will encompass... practice which covers the life span" (OCNZ, 2017b, p. 8). Australian model curriculum documentation suggests the inclusion of theoretical study in relation to paediatric care, but does not give any indications regarding the acquisition of practical clinical skills (AOAC, 2017). Therefore, the findings of this study represent novel research that contributes to the emerging knowledge in this field.

General health examination was clearly identified as the most critical element of the manual component of an osteopathic consultation, because of its' role in determining appropriate management and thereby assuring patient safety. It was also considered the one most requiring specific education. There were views expressed by two individual participants that whilst general health examination may be the most critical, there was perhaps a great need to provide education for osteopathic treatment, since training for general health examination could be obtained from other providers of education, other than specifically osteopathic. These ideas did not garner traction in the discussion, with the educators' and regulators' groups being particularly forthright. The practitioners' group found this conclusion the hardest to come to, in particular differentiating the end product of an osteopathic consultation, where the skills of general health assessment, osteopathic evaluation and osteopathic techniques tend to be somewhat blended – arguably more so in a paediatric consultation because of the communication challenges present with this age group. Yet standard educational process sees these elements traditionally taught separately, with integration occurring in the clinical phase of education. There is no research literature with which to compare this finding, however two prominent textbooks both present general health examination as a largely

discrete topic and emphasise its' importance (Carreiro, 2009b; Moeckel & Mitha, 2008). Arguably the practitioners' viewpoint is valuable with implications for regulators and educators to potentially re-think educational processes, and, at the same time demonstrates that practitioners are not in the habit of deciphering what is required educationally to attain competence.

Conscious competency was seen by educators and regulators as a critical factor for patient safety. Further, these groups felt that satisfactory development of conscious competency in relation to paediatric care necessitated practical clinical training, so that practitioners can appreciate the challenges and difficulties associated with this area of practice. The calibre and leadership roles of the participants within these two focus groups suggests that the identification of this gap within the profession, and the collective agreement regarding the need to develop competencies at two levels of practice, carries some weight. The only participant to raise this theme within the practitioners' group, albeit indirectly, was a senior leader of a national professional organisation, who therefore arguably has a wider viewpoint than an individual practitioner. The discrepancy between the educators' and regulators' groups on the one hand, and the practitioners' on the other with respect to this theme is perhaps particularly notable, given that it is the role of the former groups to ensure public safety and maintain educational standards such that practitioners are suitably competent, yet the practitioners' themselves did not raise the idea that specific education in practical manual skills was necessary for conscious competency in paediatric care, and in fact wavered on whether practical experience and or instruction was necessary at all. This suggests that practitioners are less aware of what is required to attain conscious competency and thereby validates the *raison d'être* of regulators. Simply put, it indicates that practitioners as a group are not particularly aware of where insufficient competency lies and this may have implications beyond the subject of the osteopathic care of children. The OBA (2017) position statement places the responsibility on the practitioner in respect to paediatric skills and recognition of the limits of competency. However, this research finds that if registrants are licensed to consult children, they must have at least a basic training in paediatric skills that includes theory and practical skill acquisition, particularly in relation to general health

examination. The literature shows that practitioners are not reliable in assessing their own competence (Davis et al., 2006; Mazmanian & Davis, 2002). This was certainly evident in the experience of the OCNZ Paediatric Project (Stone, 2015), where gaps in knowledge and skills became more apparent to participants through the experience. Conscious competency learning models for skill acquisition have been developed in medical education (Manthey & Fitch, 2012), and graduates of a competency-based medical curriculum had greater consciousness of their areas of competence (Kerdijk et al., 2013). There were very limited results from the literature review in terms of conscious competency in paediatric osteopathy, yet this key finding suggests it is an important regulatory and practice issue, that is supported by literature in medical education.

### ***Training Timing***

Each stakeholder group identified two levels of practice in respect to osteopathic paediatric care, without focus group question prompts. Further, the two levels were associated with matching emphases by all of the groups: a registrant level, requiring a clinical safety emphasis for generalist practice, and a post-registration advanced or special interest level, requiring a clinical effectiveness focus for specialist practice. In this sense there was resonance with the differentiation that has occurred in the New Zealand regulatory environment, as an outcome of the OCNZ Paediatric Project (Stone, 2015), between base level competence for all practitioners, and a specialist skill level proposed to be nominated as a vocational scope of practice (OCNZ, 2016). This distinction was not found elsewhere in the review of international literature and documentation, however this research further validates it. It is significant to reflect that an outcome of the OCNZ Paediatric Project is to require all registered osteopaths in New Zealand to undertake a basic level theoretically-based recertification programme, on the basis that it identified that current registrants do not generally have sufficient competency in the osteopathic care of children (OCNZ, 2017a).

The educators' and regulators' groups were clear with logical progression that if practical skills are required for competency in basic, registrant level paediatric practice, and that specific hands-on training is necessary to acquire these skills, then it must occur in the pre-registration phase. Taking this to the next step, both of these groups noted that without such training, the licensed scope of practice may need to be modified in respect of children, especially under-fives. For the practitioners' group, despite clarity that practical skills are necessary for competency, and moderate agreement when this subject was addressed directly, the practitioners' group began, within the discussion on training delivery, to show significant lack of resolve regarding this. In particular, their concerns regarding the practicalities of providing such training, and the frequently expressed reflection of practitioner's own journeys with skill acquisition further added to some lack of clarity toward consequential thinking. Stone (2015) argued that infants (under one year of age) represented the highest risk group of patients, and therefore considered that any restrictions on scope of practice should focus initially on this age group, and this aligned with the age group delineation employed in the GOsC survey in the United Kingdom (KPMG, 2011). There is also alignment with the findings of a recent survey of osteopathic profession in New Zealand that identified infants under-one as the group requiring highest priority, and the age group one to five, as the second most important age group for ensuring competence (OCNZ, 2016). As identified in the previous category, the only reference in the literature to the necessity of paediatric clinical experience in basic training occurs in the OCNZ education accreditation document (OCNZ, 2017b).

### ***Training Delivery***

Each group was clear that theoretical education, and clinical observation should precede practical hands-on training. Situated or contextual learning, along with emulation or social learning were identified as both historical strategies and of continued relevance in training for the acquisition of practical skills. Learning theories such as cognitive and social constructivism, complex or adult learning, and systems theory were identified as relevant by the educators' and regulators'

groups, and more appropriate than the historical behaviourist models. Additionally, simulated, experiential and PBL in respect of practical skill acquisition was seen as inappropriate by these groups. The practitioners' group had some difficulty separating the components of education in terms of theoretical instruction versus direct hands-on in respect of manual skill acquisition, and did not directly espouse any learning theories. The results align somewhat with general concepts for modern competence-based professional education according to Billett (2017). As such the findings align with the general osteopathic literature on the acquisition of practical manual skills in terms of social constructivism, but not in terms of simulated learning which was seen as ineffectual for paediatric osteopathic education. There was further lack of alignment in terms of experiential learning and Lalonde's (2013) manifesto for PBL which was seen as undesirable and potentially dangerous with respect to the acquisition of manual skills for osteopathic paediatric care. This finding in terms of PBL does however align with compelling critique of the utility of the theory in modern healthcare education which is clearly espoused by Kirschner et al. (2006). Problem-solving, as shown by Hmelo-Silver (2004) aligns well with Knowles' andragogy (Knowles et al., 2005) which was proposed within the regulator's group. The osteopathic profession would do well to note that medical education is moving away from PBL and is now directed toward competence-based training (Frenk et al., 2010; Gruppen et al., 2016). The findings of this study are largely consistent with those of (Browning, 2014) that social constructivist learning theories are more applicable than behaviourist. Therefore it is important to recognise that competency-based education has its' roots in behaviourist theory (Morcke, Dornan, & Eika, 2013).

The clarity from the educators' and regulators' groups regarding the importance of suitably qualified clinical supervisors tends to negate the utility of peer or near-peer clinical education proposed in the literature (Gandhi et al., 2013; Vaughan et al., 2017) for paediatric clinical education.

Both the educators' and regulators' groups suggested, and agreed, that identifying specific competencies at basic registrant and advanced specialist levels of paediatric practice are critical to developing and accrediting education

designed to equip learners to develop the knowledge, skills and attributes required for competency. The OCNZ Paediatric Project (OCNZ, 2015), and its' work on competence, whilst acknowledged in the OIA conference introduction of this proposed research (Evans, 2017), direct conference presentations (Fairs, 2015, 2017), and the presence of participants from New Zealand in each of the stakeholder groups, was barely referred to in respect of the focus group interviews. The development in Australia of special interest clinical practice groups, including paediatrics, was also not mentioned in spite of also being a concurrent conference paper (Lalli, 2017). This suggests that the work conducted in New Zealand has not been as widely disseminated as it could have been, for instance through journal articles or direct sharing of research results. The practitioners' group did not mention or reference professional competencies or capabilities, which was the most significant discrepancy between the groups, as evident in the scoring schema within Table 4.2. The dialogue within the practitioners' group was frequently oriented around the practitioners' own experiences, and in particular their past experience concerning skill acquisition relative to and the practice of paediatric osteopathy. This personal and experiential viewpoint generated rich sharing and debate, that was quite different to the other two groups. Arguably, educators and regulators are required to take a more objective and forward-looking view in relation to the professional question at hand. It is the nature of their roles to understand the status quo, including how it came to pass, to consider factors relative to future practice and to make assessments based on the information at hand. The educators' and regulators' groups identified that specific competency documentation is essentially absent from the international literature and regulatory frameworks, and certainly the review of literature agrees largely with this position, whilst acknowledging the small references to paediatric care in Australian and New Zealand accreditation documentation (AOAC, 2017; OCNZ, 2017b), and child protection in the United Kingdom context (Feld et al., 2015; GOsC, 2015; Maddick et al., 2014) previously identified. The broad core competencies identified in an international benchmarking project under the auspices of the WHO seem to have largely stayed on the page in terms of implementation or presence in the minds of regulators and educators (World Health Organization, 2010), whilst the work on

competencies for a specialist level of paediatrics is little known (International Network of Pediatric Osteopathy, 2008). There is ample evidence in the literature that many health professions have developed competencies and that medical education is now largely competency focussed as a result (Caccia et al., 2015; Frenk et al., 2010; Morcke et al., 2013).

The regulatory and educational stakeholder groups raised the issue of ensuring quality and consistency in osteopathic paediatric training through the credentialing of educators and accreditation of post-registration courses. The educators' group particularly noted that the profession has not done this historically. The credentialing of educators was seen as particularly important for supervisors of clinical experience, both within institutionally-based specialist clinics and for private practice-based placements. There was no evidence for this in the literature with respect to the paediatric field. Therefore this finding represents new information for the profession.

The participants in the regulators' group were limited to being from one of the three jurisdictions of New Zealand, Australia and the United Kingdom, as discussed in Chapter Three. The rationale behind this was because of the similarities of the regulatory and educational environments between these countries. The movement of osteopaths, in part due to qualification cross-accreditation, and communication within the profession between these countries confers a sense of commonality. Yet there was little evidence of co-operation or substantive data sharing between these regulators.

The subject of the real-world challenges of providing practical clinical education for the acquisition of osteopathic skills for both identified levels was vexing for each of the focus groups. The discussions concentrated exclusively on pre-registration training and there was a general assumption on the part of all groups that practical osteopathic skills are learnt with adults first, before refining and adapting those skills to neonates, infants and children. Under this lens, the regulators and educators nonetheless confirmed the necessity of pre-registration training given the agreed non-transferability of adult skills. More than half of the practitioners' group felt that given the pressures, it would be

acceptable for students to receive theoretical instruction in how to adapt their adult-based skills to paediatric scenarios at the pre-registration level. This garnered vigorous debate within the practitioner group, and those participants who held leadership roles in professional organisations espoused views that aligned with the educators' and regulators' groups. The literature, including osteopathic paediatric texts, is silent on the issue of transferability of manual skills from adults to children, meaning this finding represents new knowledge. Several recent journal articles affirm the criticality of practical clinical experience in developing competent clinical reasoning (King et al., 2018; McIntyre et al., 2018; Moore & Vaughan, 2016), and whilst these relate generally to osteopathy, there is arguably alignment with the finding that practical clinical experience is required for competency in the osteopathic care of children.

The thinking required as an educator or regulator is necessarily more analytical, and less personal. An outlook that includes safety, competency, accreditation and education is necessary for both stakeholder positions. It is therefore not surprising that there is a difference in the output from these two distinct group types: those where the participants have a distinct role (educators and regulators) and where the participants are simply their professional self (practitioners). The findings show that the two types of stakeholder groups have different viewpoints that reflect the position they occupy.

## **Conclusions**

This research found that professional stakeholders' collective opinion is that specific education is required to acquire practical osteopathic skills for paediatric care and that this is best provided for in supervised specialist clinics during pre-registration training, to attain a basic level of competence to ensure safety for this vulnerable patient population. All groups identified a general health examination as the most critical aspect of practical osteopathic skills, and that theoretical instruction and observation precede manual handling. The implications for practice is the regulation, through the accreditation process, of pre-registration osteopathic training worldwide to incorporate paediatric

osteopathic education including supervised clinical practice in specialist clinics, unless scopes of practice are restricted.

It could be said that the practitioners group had more of a tendency to be more historically orientated and reflective of their own osteopathic journeys, and that the regulators' and educators' groups tended to be more forward looking and objective. Arguably this is consistent with the roles and is an important consideration for each of the groups going forwards. In particular, deeper rapport building and education for practitioners on the issues involved, may be required on the part of regulators and educators to achieve a stable platform on which to progress consultation, policy and effective change with respect to regulatory and practice issues regarding paediatric osteopathy.

There was clear evidence in direct and observational data from the focus group interviews that conscious competency in paediatric osteopathy is obtained through education that included practical clinical skills. Regulatory approaches that place responsibility for competency on individual practitioners are not supported by this research.

The general lack of acknowledgement and discussion within the focus groups regarding country specific paediatric osteopathy development projects suggests that constructive sharing of data and collaborative effort could benefit from further development, both between similar jurisdictions, and internationally. Although there are certainly differences between the professional environments globally, the research findings show a high degree of commonality and shared opinion regarding the issues and challenges in respect of paediatric osteopathic practice.

There was a critical discrepancy between the groups regarding the necessity of direct clinical training with respect to the transferability of skills. Educators and regulators clearly state adult skills are not transferable to children without practical education, whereas most of the practitioners thought they were. This confirms the stated tendency for practitioners to overrate their skills and not be aware of their limits of competence. Whilst most focus group discussion related

to the pre-registration phases, there are implication of the non-transferability principle for post-registration effectiveness-based training also.

The practitioners' group were unable to meaningfully engage with learning theories. The data from the educators' and regulators' groups suggest that social constructivist theories are most applicable in the continued move away from behaviourist traditions. Movement towards competency-based education would therefore need to consider its' behaviourist roots.

The prevalence of the osteopathic care of children is not reflected by the profession's regulation, education and accreditation of this area of practice. This has come to the attention of regulators worldwide who are beginning to address this fact, albeit sometime after the publication of international guidelines. This study identifies the critical role of clinical education in the acquisition of practical osteopathic skills to attain basic competency at registrant level in this field in line with the WHO (2010) recommendation. Given the identified importance of clinical experience in competency, the necessity of supervised clinical experience for specialist level post-registration training is also confirmed, in line with guidelines (International Network of Pediatric Osteopathy, 2008).

## **Recommendations**

### ***For Regulators***

- Regulatory review of practitioners' fitness for practice in respect to the osteopathic care of children.

### ***For Educators***

- Develop competency-based curricula that incorporate social constructivist learning theories for the acquisition of practical clinical skills for the osteopathic care of children.

### ***For Educators and Regulators***

- Recognition of the significantly different viewpoint of practitioners, particularly in relation to conscious competency.
- The development of specific competencies for paediatric osteopathic care for both registrant and specialist levels of practice.
- Pre-registration osteopathic training accreditation to incorporate basic paediatric education including the acquisition of practical skills through supervised specialist clinical training.
- Post-registration paediatric osteopathic training accreditation which includes supervised clinical practice.

### ***For All Stakeholders***

- An international approach to the development of more specific competency and accreditation standards for the osteopathic care of children through OIA sponsored collaboration.

### **Research Limitations and Suggestions for Further Studies**

This study certainly has limitations that need to be taken into account. Initially I had intended to perform a documentary analysis of selected pre-registration curricula as well as accreditation documentation with respect to paediatric osteopathic education, which was to include the three jurisdictions of Australia, New Zealand and the United Kingdom. Whilst this may have broadened this research, obtaining confidential access to curricula proved more challenging than anticipated, and in the final analysis was decided that this inclusion would render the scale of the research beyond what was appropriate for this thesis. Therefore, whilst accreditation documentation from these countries was included in the literature review, it has not gone through an in-depth analysis process and, it is not possible to ascertain what is the current baseline for pre-registration education in terms of paediatric education.

The relatively small sample size necessitated by the focus group format is counterbalanced by the broad, representative and high-level positions of the participants. Because the regulators' focus group was limited to participants from the jurisdictions of Australia, New Zealand and the United Kingdom, this needs to be taken into account when considering the results in relation to practice outside of these countries. Nevertheless, the high degree of congruency in results between this regulators' group and the broadly international educators' group suggests this may not be a significant factor.

The disparity between the relative congruency found within and between the regulators' and educators' focus groups on the one hand, and the divergent opinions discovered within the practitioners' group on the other, is perhaps compounded in the discussion by lack of a fuller exploration of those divergent opinions and may represent a form of researcher bias.

Patients' and caregivers' viewpoints are neither directly nor indirectly considered and this lack is therefore acknowledged as a limitation of this research.

Areas identified as worthy of potential further research in respect of paediatric osteopathic practice include:

- Exploration of learning theories relevant to the acquisition of practical osteopathic skills for paediatric care
- Determining competency standards for registrant and specialist levels of osteopathic paediatric practice
- Development of age-range specific physical screening protocols
- Ascertaining appropriate credentialing for clinical educators in paediatric osteopathy
- Defining accreditation standards for entrance-level osteopathic training and specialist post-registration training
- Exploring the role and best-practice models of clinical education in specialist post-registration training in paediatric osteopathy

This study provides data in areas of professional knowledge related to education for paediatric osteopathic care, with particular reference to the acquisition of practical osteopathic skills, where there was previously little or no research. It is hoped that this will contribute to a growing body of research that supports and enhances the practice of paediatric osteopathy through appropriate and progressive regulation and education. It is a privilege, and thanks to the participants of this research, that the results may add to professional knowledge and strengthen understanding between the key professional stakeholders.

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# APPENDICES

## Appendix 1: Focus Group Interview Schedule



### FOCUS GROUP INTERVIEW SCHEDULE

**RE: Master of Education**

**THESIS TITLE: Regulatory and practice issues related to the acquisition of practical osteopathic skills for paediatric care**

**RESEARCHER: Ben Evans**

**Location: OIA/ONZ/OA Conference 2017, Sky City Convention Centre, Auckland, New Zealand**

1. Please introduce yourself with your name, where you are from and your role.
2. Which practical skills are essential for the osteopathic care of children?
3. How are practical clinical skills for the osteopathic care of children best acquired?
4. Is specific education required for the acquisition of practical clinical skills for paediatric care?
5. Which element of a typical osteopathic interaction has the greatest need for education in clinical skills: general health examination, osteopathic evaluation or osteopathic treatment?
6. What learning theories are relevant to the acquisition of practical clinical skills for the osteopathic care of children?
7. To what extent are practical clinical skills required for competency in the osteopathic care of children?
8. In which phase or phases of education is the acquisition of practical clinical skills for the osteopathic care of children most, or, best indicated: pre-registration, formal post-registration, informal post-registration or continuing professional development?

## Appendix 2: Participant Information Sheet



### INFORMATION SHEET FOR PARTICIPANTS

#### Regulatory and practice issues related to the acquisition of practical osteopathic skills for paediatric care

My name is Ben Evans, an Osteopath from New Zealand. I am currently enrolled in the Master of Education degree at Unitec Institute of Technology and seek your help in meeting the requirements of research for a Thesis course which forms a substantial part of this degree.

The purpose of my study is to examine issues related to the nature of and need for practical clinical skills for the osteopathic care of children by drawing on a range of stakeholder views. I request your participation in the following way:

I will be conducting three focus group interviews, for regulators, educators and practitioners at the September 2017 OIA/ONZ/OA Conference in Auckland, and would appreciate your contribution as a member of a group. In registering your interest for participation, please indicate which group category suits along with details of your role (if applicable). I will also be asking you to sign a consent form regarding this event. The focus group interview location will be in a side room at the conference venue. The duration of the focus group interview will be approximately 45 minutes and will be scheduled outside of conference session times e.g. immediately following or before sessions, or during a lunchtime.

Neither you nor your organisation will be identified in the thesis. I will be making an audio only recording of the focus group for transcription purposes. Each participant will be assigned pseudonyms. All data and identity coding will be held securely and available only to the researcher and supervisor.

I do hope that you will agree to take part and that you will find this participation of interest.

If you have any queries about the project, please contact myself or my supervisor at Unitec Institute of Technology.

**Researcher:** Ben Evans Phone: +64 27 411 3833 Email: [ben.evans@rathboneclinic.co.nz](mailto:ben.evans@rathboneclinic.co.nz)

**Supervisor:** Prof Carol Cardno Phone: +64 9 815 4321 x8406 Email: [ccardno@unitec.ac.nz](mailto:ccardno@unitec.ac.nz)

Yours sincerely,  
Ben Evans

#### UREC REGISTRATION NUMBER: 2017-1060

This study has been approved by the Unitec Research Ethics Committee from 18<sup>th</sup> August 2017 to 18<sup>th</sup> August 2018. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 8551 ). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

## Appendix 3: Participant Consent Form



### CONSENT & CONFIDENTIALITY AGREEMENT

**RE: Master of Education**

**THESIS TITLE: Regulatory and practice issues related to the acquisition of practical osteopathic skills for paediatric care**

**RESEARCHER: Ben Evans**

#### Participant's consent for focus group interview

I have been given and have understood an explanation of this research and I have had an opportunity to ask questions and have had them answered. I understand that neither my name nor the name of my organisation will be used in any public reports. I acknowledge that audio recording of the focus group interview will be made. I also understand that I may withdraw myself at any point prior to the commencement of audio recording within the focus group. I understand that I will be directed to an electronic copy of the final thesis on the Unitec Research Bank.

#### Participant's agreement for focus group interview confidentiality

The purpose of this agreement is to acknowledge and agree that all topics, information, discussion and disclosures made within the focus group are confidential. I understand that this is to offer assurance to myself and other participants that the entire content of the focus group, which may involve professionally sensitive or identifying information, is not to be disclosed outside of the focus group. The information shared in the focus group will only be made available through the anonymised research results.

**I agree to take part in this project.**

**Signed:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**UREC REGISTRATION NUMBER: 2017-1060**

This study has been approved by the Unitec Research Ethics Committee from 18<sup>th</sup> August 2017 to 18<sup>th</sup> August 2018. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 8551). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

## Appendix 4: Support Letters from Conference Organisers



28 July 2017

**RE: Regulatory and practice issues related to the acquisition of practical osteopathic skills for paediatric care**

To whom it may concern

I am writing to provide a letter of support and approval for Ben Evans for associated requirements for his Ethics application regarding his attendance and focus groups at the Joint Osteopaths New Zealand, Osteopathy Australia and Osteopathic International Alliance conference.

I am writing in two capacities:

1. Chief Executive of Osteopathy Australia, and
2. The Conference Organising Chair of the Osteopathic International Alliance.

Osteopathy Australia is the peak body representing the interests of osteopaths, osteopathy as a profession and consumer's right to access osteopathic services. Our core work is liaising with state and federal government, all other statutory bodies regarding professional, educational, legislative and regulatory issues as well as private enterprise. Today Osteopathy Australia represents osteopaths in every state and territory across Australia with 85% of the profession being members. We are a member of Allied Health Professions Australia and the Osteopathic International Alliance.

The Osteopathic International Alliance is the leading organization for the advancement and unity of the global osteopathic profession. As an "organization of organizations," the OIA unifies osteopathic medicine by connecting schools, regulatory bodies, and regional, national, and multi-country groups. Today the OIA represents more than 75 organizations from 30 countries on five continents, which include over 120,000 osteopathic practitioners. It is the primary international organization advocating for high quality osteopathic healthcare and a leading representative of osteopathic clinicians worldwide.

Both organisations are keen supporters of furthering osteopathy through research and as such welcome the opportunity for skilled regulators, educators and clinicians to participate in this worthwhile work.

Please don't hesitate to contact me if you need any further information on 02 9410 0099 or [ceo@osteopathy.org.au](mailto:ceo@osteopathy.org.au)

Regards

A handwritten signature in blue ink, appearing to read 'Anthony Nicholas', is written over a light blue circular graphic element.

Anthony Nicholas  
Chief Executive – Osteopathy Australia  
Director & Conference Organising Chair - OIA.

Osteopathy Australia  
PO Box 1144  
Chatswood West NSW 1515  
p. 02 9410 0099  
f. 61 2 9410 1559  
[info@osteopathy.org.au](mailto:info@osteopathy.org.au)  
[www.osteopathy.org.au](http://www.osteopathy.org.au)

Osteopathy Australia strives to enhance and promote the profession



31 July 2017

To Whom it may Concern

Further to our Chief Executive's letter of 28 July 2017, Osteopaths NZ as co-host of the Osteopathic International Alliance conference, welcomes Ben Evans' proposed focus group research into paediatric osteopathy to be run alongside the combined Osteopathic International Alliance / Osteopaths New Zealand / Osteopathy Australia September 2017 conference, subject to Ethics approval and sighting of an appropriate information sheet and consent form.

A handwritten signature in black ink, appearing to read "Jonathan Lloyd Paine", is written over a light blue rectangular background.

Jonathan Lloyd Paine  
President

P O Box 34 530  
Birkenhead,  
Auckland 0746  
Phone: (09) 419-0450

**Full name of author:** .....Ben Evans.....

**ORCID number (Optional):** .....

**Full title of thesis/dissertation/research project ('the work'):**

Regulatory and practice issues related to the acquisition of practical osteopathic skills for  
paediatric care.....

**Practice Pathway:** .....

**Degree:** .Master of Education.....

**Year of presentation:** ...2018.....

**Principal Supervisor:** ...Professor Carol Cardno.....

**Associate Supervisor:** ...Dr Jo Howse.....

**Permission to make open access**

I agree to a digital copy of my final thesis/work being uploaded to the Unitec institutional repository and being made viewable worldwide.

**Copyright Rights:**

Unless otherwise stated this work is protected by copyright with all rights reserved.  
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AND

**Copyright Compliance:**

I confirm that I either used no substantial portions of third party copyright material, including charts, diagrams, graphs, photographs or maps in my thesis/work or I have obtained permission for such material to be made accessible worldwide via the Internet.

---

Signature of author: ..........

Date: ...22.... / .....11... / ...2018.....



## Declaration

**Name of candidate: Ben Evans**

This thesis entitled: "Regulatory and practice issues related to the acquisition of practical osteopathic skills for paediatric care" is submitted in partial fulfillment for the requirements for the Unitec degree of Master of Education.

**Principal Supervisor: Professor Carol Cardno**

**Associate Supervisor/s: Dr Jo Howse**

### CANDIDATE'S DECLARATION

I confirm that:

- This Thesis represents my own work;
- The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
- Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.

Research Ethics Committee Approval Number: 2017-1060

A handwritten signature in blue ink, appearing to be 'BE', on a light blue background.

Candidate Signature:

Date: 16<sup>th</sup> November 2018

Student number: 118532