Osteopathy use in Families of the Auckland Playcentre Association of New Zealand: prevalence and associated factors

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A research project submitted in partial fulfilment of the requirements for the degree of Master of Osteopathy at Unitec New Zealand, 2012
Declaration

Name of candidate: Felice Karuna


Candidate’s declaration

I confirm that:

- This Thesis/Dissertation/Research Project 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: 2008.904

Candidate Signature: ........................................Date: ......................

Student number: 1131527
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Abstract

Objectives: To determine the prevalence of osteopathy use in New Zealand (NZ) preschool children and their parents and establish whether factors associated with Complementary and Alternative Medicine (CAM) use are relevant to the use of osteopathy; providing information about health care practices and preferences to health care professionals, in particular osteopaths, that can be utilised towards meeting the current health, safety and education needs of NZ families.

Methods: Approximately 300 families of the Auckland Playcentre Association of New Zealand, a parent-run preschool education, were surveyed in 2009; questionnaires were self administered by volunteers from 16 Playcentres. The questionnaire incorporated 3 measures to assess the association of osteopathy and CAM use with; conventional medicine dissatisfaction; health provider role preference; and beliefs about CAM validity and holistic health.

Results: From 114 analysable responses the reported prevalence was; osteopathy: adults 54%, children 38%; CAM: adults 81%, children 69%. Child CAM and osteopathy use was positively associated with parental use (p<0.00001). Significant demographics associated with CAM and osteopathy use include; age (p<0.01) and gender (p<0.001); no demographic differences were found between osteopathy and other CAM users. Beliefs about the validity of CAM were significant for osteopathy (p=0.036) and CAM use (p<0.0001). Preference for an egalitarian health provider was significant for osteopathy (p=0.018) and child CAM use (p=0.033).
Conclusions: Osteopathy and CAM are popular health care practices for both adults and children in this sample. The high prevalence of children’s use in this sample reinforces the need to ensure children are receiving safe and effective care, and supports further investigation into the osteopathic paediatric scope of practice. Further research into the safety, efficacy and usage of osteopathy is needed in establishing osteopathy as a legitimate and safe health care option for children.

Keywords: children; complementary and alternative medicine; osteopathy; parents; paediatric
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To Nick, Dylan, Siara and Nyah – I love you. Thank you for giving me the space to work on what felt to all of us like a never ending task...finally the end is here! I am so glad to get away from the computer and finally spend time with you.
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<td>Accident Compensation Corporation</td>
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<td>Complementary and alternative medicine</td>
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<td>CONV</td>
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Preface

This research project explores the use of Complementary and Alternative Medicine (CAM), and more specifically osteopathy, in New Zealand (NZ) families, and is presented here in 3 main parts. Firstly, in order to contextualise the findings, the literature review describes the contribution of CAM to western health care. The development of western health care and the role of CAM and osteopathy in the NZ health care system are explored. Factors associated with CAM use for both adults and children are summarized and, with relevance to the paediatric population in particular, concerns about CAM use and the issues surrounding the use of osteopathy and manual therapy for children are also outlined; providing a basis for understanding the implications of the findings of this study. Secondly, the study is presented as a manuscript with related appendices to suit publication in the *International Journal of Osteopathic Medicine*, utilising the stipulated formatting and referencing style. Thirdly, the appendix contains documentation of ethics approval, participant information and guidelines for journal publication.
Literature Review
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Complementary and Alternative Medicine

Definition

Complementary and Alternative Medicine (CAM) covers a range of modalities that promote health and wellbeing and/or treat illness, and are outside the orthodox biomedical model of health care offered as part of the government funded health system (Rayner, McLachlan, Forster, & Cramer, 2009). The National Centre for Complementary and Alternative Medicine (2011) defines alternative medicine as health care used in place of conventional medicine (CONV) while complementary medicine is used together with CONV. These therapy categories of alternative or complementary define CAM therapies by their acceptance to the medical profession and may not be distinguished or utilised in this way by the CAM consumer (Low, 2001), nor does it describe what CAM actually represents (Coulter & Willis, 2007). Complementary and alternative therapies are united by a holistic, integrative model of health care, where by the body is viewed as self-healing (Coulter & Willis, 2007; Vincent & Furnham, 1999) and health represents a balance that can be altered by nutritional, emotional and lifestyle factors.

The classification of a health practice as CAM can alter between populations and is essentially defined by two main points. Firstly, it is not conventional medicine; this definition is different for each population as practices that are clearly CAM in one country may be integrated into the publicly funded health system in another country (Cuzzolin, et al., 2003). Secondly, it promotes wellbeing; CAM therapies, while vastly different to each other in mechanism, are united by an underlying philosophy of facilitating a balance within the body, enabling treatment to support wellbeing and thereby prevent illness (Pal, 2002). This differs from conventional biomedicine, which is based on the pathogen theory of disease, and focused on cure rather than prevention of illness (Baer, Singer, & Susser, 2003).

The Medical Council of New Zealand’s statement on CAM (2011) utilises a definition which accommodates the potential of CAM therapies to integrate into the dominant health system:

“Complementary and alternative medicine (CAM) is a broad domain of healing resources that encompasses all health systems, modalities, and
practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CAM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and wellbeing. Boundaries within CAM and between the CAM domain and that of the dominant system are not always sharp or fixed.” (Medical Council of New Zealand, 2011, p. 1)

As CAM is associated with the concepts of holism and promotion of health and wellbeing, difficulties arise in defining CAM by its differences to conventional medicine. The concept of holism is a philosophy giving consideration to the whole being greater than a sum of parts, in addition holism is defined in part by its opposite, the concept of reductionism, which is associated with the origin of modern scientific study. Complementary and alternative medicine is therefore associated with being holistic and unscientific. However with the adoption of a holistic viewpoint any health care provider, whether CAM or conventional, may be holistic in caring for a patient’s wellbeing. In turn CAM, although currently perceived as unconventional, may become incorporated into conventional medical practice and as further research explores the efficacy and mechanism of CAM therapies it may also cultivate scientific support. Already this combination of emerging scientific validity for CAM modalities and greater focus on holistic care in modern medicine is giving rise to a concept of integrative medicine (Kemper, Vohra, & Walls, 2008).

Introduction

Over the past century in New Zealand (NZ), the use of CAM and the number of CAM providers has grown rapidly (Armishaw & Grant, 1999; Duke, 2005; Evans, Duncan, McHugh, Shaw, & Wilson, 2008; Gilbey, 2009; Wilson, Dowson, & Mangin, 2007). This growth is not unique to New Zealand but is a global trend in industrialised countries; recent studies show
the international prevalence of CAM use to range between 34-68% in the adult population (Barnes, Powell-Griner, McFann, & Nahin, 2004; Hanssen, et al., 2005; Hori, Mihaylov, Vasconcelos, & McCoubrie, 2008; Hunt, et al., 2010; Xue, Zhang, Lin, Da Costa, & Story, 2007).

Comparatively little research has been done to investigate New Zealanders’ use of CAM. Recent NZ studies report 38-91% of their participants to be CAM users (Evans, et al., 2008; Nicholson, 2006; Wilson, et al., 2007; Yates, Armour, & Pena, 2009); these figures are higher than the 2002 NZ Health Survey results which reports that 23.4% of New Zealanders had visited a CAM practitioner in the past 12 months, however no life time prevalence was reported which often gives a higher prevalence (Ministry of Health, 2004).

Diverse health states, ages, and cultures cause large variations in findings between populations (Armishaw & Grant, 1999; Cotton, Luberto, Yi, & Tsevat, 2011; Nicholson, 2006; Saquib, et al., 2011). Research findings are influenced by the definition of CAM and inclusion of modalities used (Kristoffersen, Fonnebo, & Norheim, 2008), for example, a broad definition of CAM may include vitamin use or mind-body therapies i.e. prayer, resulting in a much higher prevalence of CAM use than a definition limited to visiting a CAM practitioner in the past 12 months (Cotton, et al., 2011; Kristoffersen, et al., 2008; Saquib, et al., 2011). Cultural and ethnic health practices, categorised as traditional medicine, also influence findings when included in the term CAM (Armishaw & Grant, 1999; Nicholson, 2006). In addition differences may exist between users of different CAM modalities as well as those who use CAM in place of CONV or as an adjunct (Bishop, Yardley, & Lewith, 2007; Caspi, Koithan, & Criddle, 2004; Saquib, et al., 2011).
Health care in western countries

**History**

From an anthropological perspective every society’s health care system is an amalgamation of medical subsystems; conventional biomedicine, professionalised heterodox systems i.e. chiropractic, and ethno-medical practices i.e. cultural or traditional practices (Baer, et al., 2003). Allopathic biomedicine has dominated the health scene of western societies since the early 1900’s; by the 1950’s conventional biomedicine had become the most socially prevalent health care option.

Prior to the 1920’s a variety of health care options existed, however with the strengthening popularity of scientific testing, underpinned by a reductionist cause and effect model, allopathic medicine asserted itself as scientific (Carlson, 1979; Weatherall, 1996) with its emphasis on the theory of pathogens as the source of disease, acquiring the term biomedicine (Baer, 2009). Allopathic medicine became the conventional orthodox health practice of industrialised societies and by disassociation all other health care therapies acquired a label of “alternative medicine” or in the terms of the time “quackery”. Allopathic medicine is commonly referred to as conventional medicine (CONV).

The events of the first half of the 20th century, including World Wars 1 and 2 alongside the continued advancements in science and technology, provided a fertile ground on which conventional medicine flourished. For the majority of the population allopathic medicine was the sole contributor to health care while alternative medicine continued to exist on the fringe of health care until the 1970’s when the social and philosophical movements of this era supported an alternative health care resurgence and the development of the holistic health care movement (Baer, 2009; Baer, et al., 2003).

Societal perceptions about health began to shift in the 1980’s as ideas about what embodied health changed and the concept of maintaining health through lifestyle choices gained popularity. Not only was health an option that was within the individuals’ control, it also became a commodity that could be purchased (Easthope, 2003). Changes in the political climate of the 1980-1990’s generated a shift towards a competitive health care market; the restructuring of health care systems and funding structures has placed demands on health providers to supply consumer orientated services (Ashton, Mays, & Devlin, 2005;
The current prevalence of chronic illness (World Health Organisation, 2011) alongside societal expectations of obtaining health, has resulted in a growing number of chronic illness sufferers utilising alternative health options (Bishop & Lewith, 2008), particularly where conventional options have undesirable side effects or where a resolution of symptoms is not achievable (Baer, et al., 2003; Willison, Williams, & Andrews, 2007). For example, Ménière’s syndrome has limited resolution with conventional biomedical treatment, however acupuncture was found to be an effective therapy in a review by Long, Xing, Morgan, and Brettle (2011) of 27 studies of varying design, including three randomised controlled trials. The lack of research into the efficacy of the majority CAM therapies however means that the potential of many therapies is yet unknown and their efficacy and safety is yet to be proven.

**Health care consumers**

Individual, societal and political factors in the past 60 years have facilitated the redefining of relationships between patients and medical professionals resulting in a shift in locus of control and responsibility for health (Lober & Flowers, 2011). Prioritisation of patient’s rights in health care with consideration to informed consent and patient centred health care has empowered the individual; transforming the relatively passive role of the health care recipient into that of the health care consumer (Lober & Flowers, 2011). Health care decision making utilises the shared knowledge, experience and views of friends, family and the wider social community, which thanks to the internet and social media has become global (Eytan, Benabio, Golla, Parikh, & Stein, 2011; Hartzler & Pratt, 2011). Empowered and informed about health care options, individuals are active participants in maintaining their health (Easthope, 2003). A huge variety of health care practices exist with varying degrees of medical and social acceptance; for those who are able to afford it the health care choices are seemingly endless.

**The development of Complementary and Alternative Medicine**

As the popularity and utilisation of non-orthodox health practices has grown, a handful of therapies have been acknowledged by the medical community for their contribution to health care, allowing them to be valued in terms of their usefulness alongside allopathic medicine (Easthope, 2003). In the role of being an adjunct to orthodox medicine as opposed
to a replacement, these few therapies have been redefined as complementary medicine rather than alternative. This distinction allows complementary medicine to gain some recognition and status in the medical world, on par with other allied health providers (Easthope, 2003).

The stumbling block for recognition and acceptance of the majority of CAM is the inability to test and prove the theories underpinning each modality. Research trials of CAM therapies are limited by a lack of funding (Rogovik & Goldman, 2005) and methodological difficulties, many therapies are individualised, there is often no standardised prescription for a condition (Kemper, et al., 2008; Vincent & Furnham, 1999). The current western medicine focus is on evidence-based practice (Coulter & Willis, 2007; Easthope, 2003); the aim of scientifically explaining how something works has shifted towards testing for outcomes by randomised controlled trials, the gold standard of evidence-based medicine. Despite the difficulties with testing CAM therapies, by testing for outcomes a possibility exists for CAM therapies to prove that they do work without having to provide scientific rational as to why (Easthope, 2003).

Although many CAM therapies have been utilised for 40 years, or longer in the cases of traditional medicine, little research exists; information about the risks and benefits of individual therapies is severely limited. Caspi, Koithan, & Criddle (2004) felt that CAM users were insufficiently educated about the risks and adverse effects of CAM therapies, and that obtaining this information was difficult. The misconception that CAM is “natural and therefore safe” is prevalent in the general public (Crawford, Cincotta, Lim, & Powell, 2006; Evans, et al., 2008; Jean & Cyr, 2007; Rogovik & Goldman, 2005). Although adverse effects are frequently mild and self-limiting (Crawford, et al., 2006; Gottschling, et al., 2011), serious and fatal reactions have been reported (Ernst, 2003; Lim, Cranswick, & South, 2011).

The lack of evidence associated with the safety and efficacy of CAM modalities and insufficient regulation of CAM therapists are considerable barriers to acceptance by the general public (Jain & Astin, 2001) and the medical profession (Mistry, Wademan, Avery, & Tan, 2010; Poynton, Dowell, Dew, & Egan, 2006; Wardle, 2008). Negative attitudes about CAM therapies and practitioners are contributed to by reports of; adverse reactions due to CONV / CAM interactions (Ernst, 2006), CAM practitioners making unsubstantiated claims
about curing health issues (Holt, 2008), and delays in timely medical care (Mistry, et al., 2010); resulting in compromised health of consumers (Ernst, 2003). Further research into the safety and efficacy of CAM is needed to support the medical profession and health consumers in making informed health care choices, not only to increase knowledge of contraindications, but also to support patients’ preferences and choices; patients need advice on the best treatment available, this may include a CAM therapy (Caspi, et al., 2004; Gilmour, Harrison, Asadi, Cohen, & Vohra, 2011b; Kemper & O’Connor, 2004).

**Integrative medicine**

Consumer demand has led to the concept of integrative health care, where both orthodox and alternative health care modalities contribute towards maintaining the health of the individual (Bell, et al., 2002). Kemper, Vohra, and Walls (2008) describe a shift in definition between what is perceived to be CAM and what is not. In some countries changes to legislation have resulted in the regulation of a few non-orthodox therapies, shifting perceptions on which therapies are considered CAM and which are now integrated into the conventional medical system of that country (Poynton, et al., 2006). There is however no standardised acceptance of complementary therapies, two doctors within the same practice may have differing levels of acceptance to a certain CAM therapy; while internationally differences exist between the degrees of regulation or integration of CAM therapies (Cuzzolin, et al., 2003; Pal, 2002). The perception of what constitutes a conventional or CAM therapy depends on the political and cultural context of a society and can change with time. With this change the term CAM is becoming out-dated and is being replaced by holistic medicine or integrative medicine (Kemper, et al., 2008).

**Holistic medicine** is patient-centred care that views the individual in context to all the domains that contribute to the whole experience of being human, encompassing the biological, psychological, social, spiritual and environmental aspects. Imbalance in one or more of the domains influences the experience of health. As holism is a philosophy rather than a treatment a medical doctor utilising only conventional medical treatment could still utilise a holistic approach in patient care (Kemper, et al., 2008).
Integrative care is focused around the practitioner–patient relationship and combines all possible therapies appropriate to restoring health on an individual basis, both CAM and conventional medicine options (Kemper, et al., 2008).

Numerous issues are associated with the integration of CAM into mainstream health care including, cost effectiveness, safety and efficacy; resulting in uncertainty in how to incorporate health care practices that are as yet unproven, into a medical model driven by evidence based practice (Barrett, 2003; Hollinghurst, Shaw, & Thompson, 2008). Despite these issues it appears integration is already occurring; studies indicate many medical professionals have positive attitudes towards CAM, with an increasing number providing CAM therapies or referring patients to them (Joos, Musselmann, & Szecsenyi, 2009; Poynton, et al., 2006) and the integration of certain CAM therapies into the public health care of some countries (Cuzzolin, et al., 2003). While it is unclear exactly how the integration of CAM may occur, it does appear that change is arising, enabling CAM to make a greater contribution to future health care models.
Complementary and Alternative Medicine in the New Zealand health care system

The New Zealand Heath Care System

New Zealand has a dual funded health care system; with full government funding for hospitals, maternal and mental health services, and partial subsidisation for primary health care services (Ashton, 2005; Howell, 2005). New Zealand’s health care system finds its roots in the Social Security Act of 1938, since this time it has undergone several changes, influenced by the political climate of the time, from the free market initiatives of the 1990’s to the most recent restructuring in 2002 following the implementation of the Primary Health Care Strategy (NZPHCS) as the first stage in realising the aims of the New Zealand Health Strategy 2000 (Ashton, 2005; King, 2000, 2001).

To ensure the needs of the current population are met, a recent assessment and review of the health care system led to the development of the 2000 New Zealand Health Strategy. The strategy outlines goals of improving primary health care, supporting preventive care and reducing disparities in health levels (King, 2000). The implementation of the Primary Health Care Strategy determined changes in the primary health sector to support these aims, and resulted in a change in funding structure (King, 2001).

Funding is currently allocated to community based Primary Health Organisations on a per capita basis via District Heath Boards. Primary Health Organisations are responsible for providing health services suitable for the health needs and preferences of the community as well as appropriate to meeting the aims of the NZPHCS. Health and disability services are obtained via contracts with primary health care providers; placing the responsibility for a healthy community with the providers of primary health care and the individuals in the community.

The NZPHCS describes primary health care providers as suppliers of first-level health care services for general health care, specific conditions, or specific therapies, and includes both CONV and CAM providers in its definition (King, 2001). Although the NZPHCS recognises CAM practitioners as primary health care providers, no funding is currently provided for any CAM modalities (King, 2001).
The exception to this status is the subsidisation, through the Accident Compensation Corporation (ACC), of treatment with registered osteopaths, acupuncturists and chiropractors for injuries occurring in NZ. This crown owned organisation essentially acts as a separate entity to the health care system; arising from legislation in 1972 it was most recently updated in 2010 (New Zealand Department of Labour, 2001, 2010). The “no fault” policy of this government organisation covers treatment, rehabilitation and compensation for accidents and injuries occurring in New Zealand.

**The role of Complementary and Alternative Medicine**

In the past 10 years CAM has been acknowledged in several New Zealand health documents, including: recognising CAM therapists as primary health care providers (NZPHCS); regulation of osteopaths and chiropractors through the 2003 Health Practitioners Competence Assurance Act; and the acknowledgement of the potential for CAM to contribute to primary health care aims (NZHS).

The Ministerial Advisory Committee on Complementary and Alternative Health (MACCAH) was established in 2001 to inform the Minister for Health of the safety, efficacy, and efficiency of CAM use, and of the role of CAM within the NZ health system (Ministerial Advisory Committee on Complementary and Alternative Health, 2004a). Using data from the Ministry of Health NZ Health Survey 2002, information was obtained about some essential aspects of New Zealanders’ usage of CAM including prevalence and reasons for using CAM. Of New Zealanders surveyed 23.4% had made a visit to a CAM practitioner in the past 12 months (Ministry of Health, 2004). In 2004 MACCAH presented the Minister for Health a discussion document, identifying the need for greater integration of CAM into the current provision of health care despite the difficulties in scientifically measuring the safety and effectiveness of CAM. In the interests of consumer safety, regulation of CAM providers is required to ensure the quality of services provided, either by a governing body or via self-regulation (Ministerial Advisory Committee on Complementary and Alternative Health, 2004b).

Prior to the presentation of this report the Health Practitioners Competence Assurance (HPCA) Act (2003) was passed to protect the safety of the public through the regulation of health service therapies, both CONV and CAM where a risk of harm exists to the public,
ensuring that practitioners in regulated professions are competent to practice (New Zealand Ministry of Health, 2003). This Act governs the CAM modalities of osteopathy and chiropractic, replacing the Chiropractic Act 1982, and includes a provision for further modalities to be added in the future which will soon include acupuncture and medical herbalism. The HPCA Act defines the scope of practice of the therapies it regulates and ensures practitioner registration with a professional governing body for each health care modality.

The report by MACCAH also states that medical practitioners require training in CAM modalities, in order to better care for the individuals in their communities by providing appropriate, knowledgeable advice. The document recognises the potential for CAM to contribute towards the aims of the New Zealand Health Strategy and outlined strategies to further explore these possibilities (Ministerial Advisory Committee on Complementary and Alternative Health, 2004b). The current structure of the health care system, whereby PHO’s are required to purchase primary health care services in response to the preferences of the community (Howell, 2005), focusing on illness prevention and wellness promotion (King, 2001), and the acknowledgment of CAM therapists as primary health care providers in the NZPHCS (King, 2001) may permit funding of CAM health care services to arise in the future.

*Complementary and Alternative Medicine and the New Zealand medical profession*

The New Zealand Medical Council guidelines on CAM, recommend that doctors should have knowledge of CAM therapies regardless of whether they practice or refer to CAM (Medical Council of New Zealand, 2011). The growing popularity and utilisation of CAM therapies has resulted in the need for the medical profession to become educated about the types of CAM their patients are using (Bocock, Reeder, Perez, & Trevena, 2011; Caspi, et al., 2004; Livingston, Krass, & Li, 2010; Nicholson, 2006; Poynton, et al., 2006; Shaw, Thompson, & Sharp, 2006b; Wilson, et al., 2007). This education supports doctors to ensure the safety of the individuals in their care, as well as providing accurate, knowledgeable information about the use of CAM. Doctors have reported feeling ill equipped to provide knowledgeable information about CAM to their patients (Bocock, et al., 2011; Poynton, et al., 2006; Stevenson, Britten, Barry, Bradley, & Barber, 2003); it is perhaps for this reason that
Disclosure rates of CAM use are low 23-50% (Nicholson, 2006; Wilson, et al., 2007; Yates, et al., 2009), as doctors often fail to enquire about CAM use (Bocock, et al., 2011; Livingston, et al., 2010). While doctors have indicated an interest in knowing more about CAM (Bocock, et al., 2011) and believe it should be incorporated in their medical training (Poynton, et al., 2006), the limited evidence base on CAM use, provides insufficient resources on which doctors can be educated to make recommendations about CAM (Woolf & Gardiner, 2010).

Despite the lack of evidence available about the safety and efficacy of CAM modalities an increasing number of NZ medical professionals are supportive of the contribution of CAM to health care, especially when conventional medicine has failed to resolve the complaint (Poynton, et al., 2006) or where the illness is incurable (Bocock, et al., 2011). Although the number of NZ GPs providing CAM in their practice has reduced from 30% in 1990 to 20% in 2006 (Marshall, et al., 1990; Poynton, et al., 2006), GP referral to CAM therapies has grown from 80% in 1988 to 95% in 2005 (Hadley, 1988; Poynton, et al., 2006). Patient request was the main reason given by 86% of GP’s for referral of a patient to a CAM therapy, followed by failure of CONV treatment 60% (Poynton, et al., 2006). Poynton et al. (2006) found that many NZ GPs viewed some CAM therapies to be conventional medicine including acupuncture (44.7%) osteopathy (42%) and chiropractic (42%). Perceptions of legitimisation of CAM therapies may have resulted from the inclusion of CAM therapies in policy documents and legislation including; Ministerial inquiry, inclusion in the NZPHCS, HPCA Act and ACC subsidisation of treatment by chiropractors, osteopaths and acupuncturists.

Consumer demand for CAM has yet to create significant change in the New Zealand public health system; however current health statistics on CAM use, the inclusion of CAM in health legislation and vision documents, as well as support for CAM use from GPs, may herald a more integrated approach to health care in the near future.
Users of Complementary and Alternative Medicine

Introduction
Determining the factors involved with the health consumer’s decision to use CAM is a widely researched topic but is yet to be sufficiently understood. Initial research into this field focused on the prevalence of CAM use with those of poor health status; on the basis that these individuals were more likely to try different approaches to health (Bishop & Lewith, 2008). Over the past 20 years the widening acceptance of CAM therapies has broadened the research parameters. Current research investigates CAM use in healthy populations in addition to the use of CAM by the chronically ill. The research focus has shifted away from prevalence of use and is moving towards understanding why people choose CAM, how the health behaviours and beliefs of the individual CAM user may differ from other CAM users or non-users, and the influence these factors may have in their preferences and patterns of CAM use. While many different factors have been linked to CAM use it is important to remember that CAM users are not a homogenous group, each individual will have a different agenda for using CAM depending upon their needs; despite the volume of research in this field there is little agreement in findings about the defining features of a CAM user.

Prevalence
The prevalence of CAM use has been widely investigated internationally in a variety of populations and depends greatly on the characteristics of the population surveyed. Findings indicate CAM use to range from 34-68% in adults (Barnes, et al., 2004; Hanssen, et al., 2005; Hori, et al., 2008; Hunt, et al., 2010; Xue, et al., 2007) and 41-57% in children (Cincotta, et al., 2006; Gottschling, et al., 2011; Jean & Cyr, 2007).

The few studies on NZ CAM use indicates its popularity with both the adult (23-91%) (Chrystal, Allan, Forgeson, & Isaacs, 2003; Evans, et al., 2008; Ministry of Health, 2004; Nicholson, 2006; Yates, et al., 2009) and child (29-70%) populations (Armishaw & Grant, 1999; Wilson, et al., 2007).

To understand why these recent NZ studies have reported such a wide prevalence range of CAM use (23-91%) these studies are briefly reviewed below. Studies specific to the chronic
illness populations were not reported here as they are associated with higher CAM use than the general population. The studies by Armishaw & Grant (1999) and Wilson, Dowson, & Mangin (2007) on NZ children’s prevalence of CAM use, are reported in detail later.

The NZ Health Survey 2002, a population based survey of 12,000 NZ adults, found that 23.4% had visited a CAM practitioner in the past 12 months, this figure is at the low end of the prevalence range, however no life time usage was reported, commonly yielding a higher reported prevalence (Ministry of Health, 2004).

Nicholson (2006) reported a 38.1% (n=397) adult lifetime CAM usage of the 1043 surveyed respondents; presenters and their accompanying support people at a hospital emergency department. The inclusion of CAM therapies utilised in this study was limited to biological products used for self treatment, with the exclusion of vitamin use, and excluded all CAM physical therapies and practitioner-based CAM.

Evans, Duncan, McHugh, Shaw, & Wilson (2008) report a 91% (n=84) lifetime CAM use in their small study of 92 adult inpatients at a provincial hospital. Massage and vitamins were included as CAM modalities and were the most commonly used, 70% and 63% respectively. The majority of respondents reported using between 4-9 different CAM modalities; therefore no respondents solely used vitamins or massage as a health practice. Although the sample contained approximately equal numbers of chronically or acutely ill participants, differences in CAM usage between these groups were not reported.

Yates, et al. (2009) report a 56% (n=180) lifetime CAM use prevalence of the 321 adult patients surveyed at a hospital emergency department; vitamin use, physical therapies and prayer were included in their definition of CAM.

Although the association between CAM use and chronic illness is widely reported none of the latter three studies report on any relationship between acute or chronic health status and CAM use despite being based in a hospital setting.

The prevalence range of NZ adult CAM use, as summarised in Table A, illustrates the variability issues associated with inclusion and exclusion criteria as outlined previously. Although the NZ Health Survey reports the lowest CAM prevalence of all the NZ studies, only practitioner-based CAM use and within the past 12 months is reported. Both of these
conditions will result in a lower reported prevalence of CAM use; limiting the definition of CAM to practitioner-based modalities omits the prevalence of self-administered CAM, while the utilisation of a narrow timeframe will give a current picture of CAM use. The other NZ studies reviewed above all report on lifetime usage only; no comparisons to the 12 month prevalence of the NZ Health Survey can be made. It must be noted that the NZ Health Survey is the only study with results that can be generalised to the greater population of New Zealand as the other three studies have very select groups of participants by comparison. The reported prevalence rates also reflect differing inclusion criteria of CAM therapies; Nicholson’s (2006) study reports 38% CAM use but limits CAM to self obtained and administered ingestible therapies with the exception of vitamins and excludes practitioner-based therapies, all CAM physical therapies; this narrow spectrum of CAM therapy results in a lower reported prevalence of use. Yates et al. (2009) and Evans et al. (2008) report higher CAM use rates, 56-91% respectively, and both have a very broad inclusion of therapies including massage and vitamin use. The inclusion of massage and vitamins as CAM is somewhat controversial, as these therapies have become commonplace and potentially not perceived as “alternative” to consumers; some studies exclude one or both of these therapies from their definition of CAM. Studies that do include vitamin use or massage may overstate the prevalence of CAM use, for example an individual using massage may not use other forms of CAM therapies, and may not therefore be considered a true “CAM user”.

Table A. Studies of CAM prevalence in NZ adults

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
<th>Prevalence past 12 months</th>
<th>Prevalence lifetime</th>
<th>Type of CAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evans et al.</td>
<td>2008</td>
<td>not reported</td>
<td>91%</td>
<td>Any</td>
</tr>
<tr>
<td>MOH</td>
<td>2004</td>
<td>23.4%</td>
<td>not reported</td>
<td>Practitioner-based</td>
</tr>
<tr>
<td>Nicholson</td>
<td>2006</td>
<td>not reported</td>
<td>38.1%</td>
<td>Biological - self administered</td>
</tr>
<tr>
<td>Yates</td>
<td>2009</td>
<td>not reported</td>
<td>56%</td>
<td>Any</td>
</tr>
</tbody>
</table>
While recent studies report the international prevalence of CAM use to range between 34-68% in the adult population (Barnes, et al., 2004; Hanssen, et al., 2005; Hori, et al., 2008; Hunt, et al., 2010; Xue, et al., 2007) direct comparisons are limited by variations in study designs; timeframes of CAM use and inclusion of CAM modalities varies the reported prevalence as outlined in Table B.

### Table B. Adult CAM use prevalence internationally

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
<th>Country</th>
<th>Prevalence - past 12 months</th>
<th>Prevalence - Lifetime</th>
<th>CAM modalities</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes et al.</td>
<td>2004</td>
<td>USA</td>
<td>62%</td>
<td>not reported</td>
<td>Any</td>
<td>31,044</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36%</td>
<td>not reported</td>
<td>Excluding prayer</td>
<td></td>
</tr>
<tr>
<td>Hanssen et al.</td>
<td>2005</td>
<td>Norway, Denmark, Stockholm</td>
<td>not reported</td>
<td>34%</td>
<td>Any</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>45%</td>
<td>Any</td>
<td>16,690</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>49%</td>
<td>Any</td>
<td>1,001</td>
</tr>
<tr>
<td>Hori</td>
<td>2008</td>
<td>Japan</td>
<td>50%</td>
<td>not reported</td>
<td>Any</td>
<td>496</td>
</tr>
<tr>
<td>Hunt</td>
<td>2010</td>
<td>England</td>
<td>26%</td>
<td>44%</td>
<td>Any</td>
<td>7,630</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12%</td>
<td>not reported</td>
<td>Practitioner-based</td>
<td></td>
</tr>
<tr>
<td>Xue</td>
<td>2007</td>
<td>Australia</td>
<td>68%</td>
<td>not reported</td>
<td>Any</td>
<td>1,067</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>41%</td>
<td>not reported</td>
<td>Practitioner-based</td>
<td></td>
</tr>
</tbody>
</table>

**Demographics**

Demographics commonly associated with CAM include: female, middle-aged, of European descent, well educated, with above average income and poor health status (Bishop & Lewith, 2008; Pledger, Cumming, & Burnette, 2010). A review of the literature conducted by Bishop and Lewith (2008) investigates the demographic characteristics and health factors associated with CAM use, using 110 articles reporting on CAM use in the general adult population published over a decade from 1996. The demographic findings from this review have associated CAM use with:

- Gender – CAM use is slightly higher in the female population, however other studies have found women to be higher consumers of health care in general (Green & Pope, 1999).
- Education – CAM use was found to increase with education. While higher education often leads to a higher income, there is insufficient evidence for income alone to be
a predictor for CAM use. The results from the articles selected in this review are inconsistent and may be influenced by the association between education and income.

- Ethnicity – this review was unable to establish the relationship between ethnicity and CAM use. Several studies found positive correlations between CAM use and Caucasian ethnicity, while others reported significant CAM use in ethnic minorities.
- Age – little consensus was found between CAM use and age in these studies; correlation of CAM use was found with middle age, older age and younger age.
- Health Factors – CAM use was found to be higher in those with chronic health conditions. However it is unclear in the studies reviewed whether the individuals were CAM users prior to developing poor health or have sought CAM therapies since the deterioration in their health status.

In general this review found that while demographics have been positively correlated with CAM use in the majority of studies, these demographics vary between the populations surveyed and the CAM therapy investigated or CAM definition used.

Preferences and patterns of use

The utilisation of CAM therapies by consumers may vary with each individual’s needs over time. The individuals approach to using CAM will depend on a number of factors including; the nature of their illness, its severity and chronicity, and their familiarity and experience with CAM. The literature frequently reports the use of CAM for the purpose of preventing illness and maintaining wellness (D’Crus & Wilkinson, 2005; Pitetti, Singh, Hornyak, Garcia, & Herr, 2001; Wilson, et al., 2007). In the treatment of illness a CAM therapy is commonly used alongside the CONV medical approach (Sirois & Purc-Stephenson, 2008). D’Crus and Wilkinson (2005) found CAM users may not be replacing CONV with CAM but rather using it as an adjunct to CONV, as they seek another perspective on their health. Familiarity with CAM and previous positive experience may result in CAM being used as a first step to treating a health problem (Sirois & Purc-Stephenson, 2008).
Motivations

The increasing availability of health information has led to a greater awareness about alternative options for managing health. Studies have found that people choose CAM with expectations of a milder treatment and less adverse side effects (Wapf & Busato, 2007) and on the basis of wanting a specific therapy; seeking increased self-insight and a wider perspective of healing through using CAM therapy (D’Crus & Wilkinson, 2005). The literature regularly identifies several factors that motivate an individual to use CAM: recommendations from family, friends and other trusted sources i.e. doctor; alignment between the individual’s beliefs about health care and the holistic philosophy of CAM; unsatisfactory CONV experiences.

Dissatisfaction with CONV can arise from both poor experiences within the health care system as well as a lack of congruency between an individual’s beliefs and expectations about health care and CONV. The experience of adverse effects or ineffectiveness of CONV treatments and experiences of brief, disempowering medical encounters are factors that have been associated with CAM use (Hyland, Lewith, & Westoby, 2003; Sirois & Gick, 2002; Sirois & Purc-Stephenson, 2008). Those who suffer from chronic illness may have more exposure to a variety of CONV practitioners and treatments and more opportunity to experience negative effects; potentially contributing to the higher usage of CAM by this population (Bishop & Lewith, 2008).

However CAM is not only chosen in reaction to negative experiences of CONV but also in alignment with an individual’s beliefs about health, a preference for participation in health and a desire for holistic and natural therapies (Bishop, et al., 2007). CAM therapies are attractive as they are perceived as being congruent with the patients’ spiritual/religious values, beliefs or philosophy regarding the nature and meaning of health and illness (Caspi, et al., 2004; Wapf & Busato, 2007). Complementary and alternative CAM use has been correlated with philosophy of holistic living, the unity of mind, body and spirit; CAM therapies are united by a holistic, integrative model of health care, whereby the body is viewed as self-healing (Coulter & Willis, 2007; Vincent & Furnham, 1999) and health represents a balance that can be altered by nutritional, emotional and lifestyle factors.
Users of CAM believe in the validity of CAM therapies despite the lack of scientific basis as they find CAM to be more in harmony with their own values (Astin, 1998; Hyland, et al., 2003; Sirois & Gick, 2002), they have a higher health awareness, an openness to trying new experiences and wish to be actively involved in their health (Sirois & Gick, 2002). Sirois and Purc-Stephenson (2008) found CAM users to prefer an egalitarian health care provider who supports personal responsibility, empowerment and self-determination in health care.

A review of the available literature on CAM use and health beliefs was performed by Bishop, Yardley and Lewith (2007; 2008), using 94 articles from 1995 to 2005, and identified these key beliefs: general unconventional life philosophies; beliefs in the role of psychological factors in health and disease; desire for participation in health care; a preference for holistic and natural treatment.

**General Philosophies:** Belief systems associated with the “cultural creatives” who hold unconventional ideals and are characterised by their support for feminism, environmentalism, spirituality, personal growth and an interest in the foreign and exotic, are all associated with CAM use (Astin, 1998). Bishop et al. (2007) found an association between spiritual beliefs and CAM use in this review, those with more conventional religious beliefs were considered to be less unconventional than the spiritual belief holders.

**Illness Perception:** This review found CAM users are significantly different to non-users in their perceptions of illness; the CAM user places greater importance on the role of psychological factors in the development of illness and maintenance of health. However the majority of the reviewed studies were conducted in cancer patients and may not be reflective of healthy CAM users (Bishop, et al., 2007).

**Control and Participation:** It has been suggested that CAM users prefer to have personal control over their health, although no significant relationship between locus of control and CAM use was found, a positive correlation between desire for participation in treatment and CAM use was found in this review; indicating that CAM users do have a preference for active participation in health care decision making. However Bishop et al. (2007) report that no conclusions can be formed about the association of health participation and CAM use in the general population, as the majority of these studies were conducted in chronically ill populations (HIV & cancer).
**Holism and natural treatments:** Perceptions of the holistic and nontoxic features of CAM have been identified in the relevant qualitative studies in this review and reinforced by 5 quantitative studies, however 4 studies found no association between CAM use and beliefs of holism (Bishop, et al., 2007).

Bishop et al. (2007) conclude that these pro-CAM beliefs are supported by the literature as predictors for the use of CAM. However the review highlights the limitations in the studies’ designs which prevent further assessment into whether these pro-CAM beliefs were held prior to using CAM or are a result of CAM use. The study also notes that differences may exist between CAM users of different modalities in addition to differences between those who utilise CAM as a primary treatment or in conjunction with CONV, suggesting further research into the differences between subsets of CAM users is required.

The use of CAM use is associated with different meanings, motivations and needs for individual users and these may change with time (Freidin & Timmermans, 2008). Studies have found differences between new and long term CAM users as well as between those who utilise CAM as a primary treatment i.e. an alternative to conventional medicine and those who use it as an adjuvant (Caspi, et al., 2004; Sirois, 2008). The experience of using CAM may also shift the motivations and patterns of use in the individual over time, as well as having further reaching effects on health and life philosophies (Paterson & Britten, 2003; Sirois & Gick, 2002).

**Summary**

Although CAM is growing in popularity worldwide, CAM users do not appear to be a homogenous group, sharing some characteristics but differing widely in others; indicating the importance of future studies to focus on the appeal of CAM in order to understand which needs CAM is fulfilling that CONV is not.
Children’s Use of Complementary and Alternative Medicine

Prevalence

The use of CAM in children’s health care is common worldwide, although the prevalence is poorly established in a NZ population, with only two published studies existing, it appears that NZ may have a higher use of CAM (70%) in the paediatric population (Wilson, et al., 2007) when compared to studies internationally 57% Germany (Gottschling, et al., 2011) 54% Canada (Jean & Cyr, 2007), 51% Australia and 41% Wales (Cincotta, et al., 2006). However variance between studies in the definitions of CAM and the inclusion or exclusion of CAM modalities makes direct comparisons of findings difficult.

Types and Purpose

Much of the research differs in the inclusion of types of CAM therapies, limiting a direct comparison of the literature between the predominance of types used for children. Parents predominantly report using therapies that are familiar to them (Leung & Verhoef, 2008), although one study reports a preference for practitioner based therapies over home remedies even when parents use these for themselves (McEvoy, et al., 2005), others report a lower number of parents seeking consultation with CAM therapists and the common use of self-administered home remedies, herbal therapies and supplements (Wilson, et al., 2007), especially when familiar to the parent (Pitetti, et al., 2001). Those studies with broad inclusion of therapy types have found herbal based therapy and manipulative therapies to be popular within the paediatric population (Jean & Cyr, 2007; Lim, Cranswick, Skull, & South, 2005; Pitetti, et al., 2001; Smith & Eckert, 2006). Manipulative therapy or manual therapy encompasses both osteopathy and chiropractic; international studies report the prevalence of these modalities in the paediatric population to be: 0.5-9% for osteopathy, (Cincotta, et al., 2006; Jean & Cyr, 2007; Spigelblatt, Laine-Ammara, Pless, & Guyver, 1994; Wadhera, Lemberg, Leach, & Day, 2011) and 1-12% for chiropractic (Cincotta, et al., 2006; Jean & Cyr, 2007; Smith & Eckert, 2006; Spigelblatt, et al., 1994).

The types of childhood ailments treated with CAM therapies by parents include; Ear nose and throat (38-45%) Dermatology (8-37%) Musculoskeletal (27-32%), Infant (8-27%) Respiratory (58-26%), Emotional/behavioural (24-25%), Infections (20%), Gastrointestinal
There is a reported use of CAM therapy with chronic conditions in children, including; asthma 50%, cancer 59%, epilepsy 61%, sickle cell disease 47% (Post-White, Fitzgerald, Hageness, & Sencer, 2009). However the literature shows that CAM is used by parents in treating both acute and chronic conditions as well as a preventative to illness (Pitetti, et al., 2001; Wilson, et al., 2007) and maintenance of health (Lim, et al., 2005; Smith & Eckert, 2006).

A New York study by Ang et al. (2005) differentiating between CAM use in well children and those with chronic health conditions, asthma and HIV; found that well children (n=46) were the highest users of CAM (38%), compared with 25% of asthma group (n=53) and 22% HIV group (n=53). Whilst these researchers expected to find higher use in the chronic health group, they found instead that the HIV sample, whilst being the lowest users of CAM (22%), were the most interested (91%) in having CAM as part of their children’s therapy. However, this group also had the lowest levels of education, highest rates of unemployment and lowest rates of health insurance, allowing the researchers to speculate that the low level of CAM use in the HIV group may be due to access limitations as a result of these socioeconomic barriers.

New Zealand Children

In comparison to the volume of international studies, very few studies have enquired into the use of CAM in a NZ population; only two studies have been published on the usage of CAM in NZ children.

The first, a study by Armishaw and Grant (1999), studied the use of CAM in children hospitalised with acute illness. Randomly selected families (n=251) were interviewed to determine the health-care and treatment used in the presenting illness. For this study CAM was defined as “a heterogeneous set of practices which are offered as an alternative or an addition to conventional medicine for the preservation of health and the diagnosis and treatment of health related problems” (p. 133); no inclusion or exclusion criteria of health practices considered to be CAM were reported. The findings showed that 18% of children
were being treated with CAM for their presenting illness, while 29% had used some form of CAM in their lifetime; a variation between ethnic groups in the type of CAM used was reported i.e. Pacific Island children were exclusively treated by Pacific healers with massage and herbs, this may be considered a type of traditional medicine. The study aimed to measure the impact of CAM use on clinical outcomes, with the expectations that CAM use may be disadvantaging hospitalised children, causing possible toxicity and a delay in obtaining necessary health care; however findings showed that CAM use had no significant effect on outcomes when compared with those who received conventional treatment only. Most of the children (77%) had been seen in primary care prior to hospitalisation, this figure was the same for both the children receiving CAM therapy and those not. The researchers stated that alternative health care was used in addition to conventional care as opposed to an alternative.

The second, more recent study, of New Zealand children by Wilson et al. (2007) indicates that over the last 8 years this figure has risen substantially, finding a prevalence of lifetime CAM use to be 70% of respondents. The purpose of this study was to inform prescribers about children’s use of CAM, with concerns about the potential toxic effects of CAM treatments and contraindications with concurrent CONV medication; therefore the inclusion of CAM was limited to oral and topical preparations and included un-prescribed vitamin use. The inclusion of vitamin use as CAM has resulted in the reporting of higher prevalence rates of CAM use in other studies (51%) (Lim, et al., 2005) in comparison to studies which exclude vitamin use within recommended daily intakes (18%) (Smith & Eckert, 2006) or exclude any self-prescribed remedies (1.8%) (Davis & Darden, 2003). The study compared 100 NZ children under specialist diabetic care with those under general practitioner care to assess the prevalence and patterns of CAM use between well children and those with a chronic health condition. As the literature has shown a high correlation of CAM use with chronic illness it was expected by the researchers that CAM use would be higher in the children with chronic illness; surprisingly the results showed no significant differences between the populations, the lifetime prevalence of CAM use was 70% for both groups.
Associated Factors

Wilson et al. (2007) identified possible predictors of paediatric CAM use as; parental CAM use; female parent accompanying child; higher household income; higher parental education; stronger beliefs about general harm of conventional medicine. These predictors are similar to findings in a classic Canadian study by Spigelblatt et al. (1994), who surveyed 1911 parents of children attending a general outpatients clinic, they also found significant differences between the children using alternative medicine (AM) and the non-users; with AM use being correlated with the increased age of the child, parental use of AM, and higher education of their mothers. The association of child and parental CAM use well established in the literature (Crawford, et al., 2006; Davis & Darden, 2003; Pitetti, et al., 2001; Spigelblatt, et al., 1994; Vlieger, van de Putte, & Hoeksma, 2006; Wilson, et al., 2007); in particular mothers are found to be influential in their child’s use of CAM (Nichol, Thompson, & Shaw, 2011; Wilson, et al., 2007), playing an important role in advocating CAM to their family (Nichol, et al., 2011). The association of other demographic variables such as parental age, income and education levels differ between studies (Crawford, et al., 2006; Gottschling, et al., 2011; Vlieger, et al., 2006).

Parents Motivations

Young children are dependent on their parent for their access to health care; the variety of health care options utilised will depend on the knowledge, beliefs, experiences and relationships the parent has within a health setting (Freidin & Timmermans, 2008). When making health care decisions, parents undertake to educate themselves and seek knowledge from friends, family and other social networks (Jean & Cyr, 2007; Wilson, et al., 2007), they also expect their doctor to be knowledgeable and open toward CAM (Shaw, et al., 2006b).

Freidin and Timmermans (2008) describe various pathways that may lead a parent to using CAM for their child. Following their qualitative study, involving interviews with 50 parents of children with asthma, they concluded that the utilisation of CAM in a child’s health care relates to several factors including; their experiences with conventional medical therapy; the health care provider’s response to their concerns; their own, and that of their social network, use, familiarity and understanding of CAM. They describe 3 main groups of
parental CAM users with distinctly different motivations; those who are satisfied with conventional medicine and supplement it with CAM; those dissatisfied with conventional medicine, unable to have their concerns addressed by the health care provider, who may then utilise CAM out of desperation to resolve their child’s illness following a lack of effective conventional treatment or as a primary preferred treatment, in accordance with their beliefs about health.

Many of the factors associated with choosing CAM for oneself continue to be relevant when making health care decisions for one’s child and in some cases these factors may even be more strongly significant; as an advocate for their child, parents may be more conscientious with their child’s health than their own (McEvoy, et al., 2005). Parents may spend more time gathering information on how best to treat their child, more cautious about exposing their child to the risks of CONV, and more strongly dissatisfied with experiences of CONV on behalf of their child (Nichol, et al., 2011; Shaw, Thompson, & Sharp, 2006a; Steinsbekk, Bentzen, & Brien, 2006).

In their review of the literature on the decision to use CAM, Lorenc, Ilan-Clarke, Robinson and Blair (2009) found that the socio-behavioural model provided a theoretical framework linking the factors associated with CAM use by grouping them into: predisposing factors i.e. demographics and beliefs/ values; enabling factors i.e. resources, access and availability; need factors, both evaluated need i.e. chronic illness and perceived need i.e. self-rated health; and health care experience i.e. dissatisfaction with conventional medicine and parental experience with CAM.

In the choice to use CAM for their child parents are motivated to provide their child with all the options (Leung & Verhoef, 2008) and a more complete treatment (Wapf & Busato, 2007). Parents have stated a preference for the holistic approach of CAM practitioners in their view of health and value the amount of time CAM practitioners spend with their clients in order to obtain a full picture, preferring the partnership role in working with CAM health care providers (Leung & Verhoef, 2008; Shaw, et al., 2006a). Familiarity, positive previous experience (Leung & Verhoef, 2008) and trust in a CAM health care provider (Wapf & Busato, 2007) contribute to parental reasons for using CAM in their child’s health care. Parental trust in a health care professional may be achieved through a long standing
relationship with the practitioner or where the health care professional had come recommended by a friend (Osman & Dunt, 1995).

**Safety of Complementary and Alternative Medicine for Children**

Insufficient knowledge and information about the risks and adverse effects of CAM therapies (Caspi, et al., 2004) and lack of GP enquiry leave CAM users vulnerable to the risks of CAM and unsupported in making informed choices. While CAM users expect GPs to be supportive of their right to use CAM and to provide advice on CAM options (Shaw, et al., 2006b), the paucity of available evidence on the risks and benefits of CAM, especially in the paediatric population, provides insufficient resources on which doctors can make recommendations (Fearon, 2005; Woolf & Gardiner, 2010). In addition to the issues of testing CAM therapies, lack of funding (Rogovik & Goldman, 2005) and methodological difficulties (Kemper, et al., 2008; Vincent & Furnham, 1999), further issues exist with the ethics of testing unproven therapies on children, despite a large proportion of the paediatric population utilising these untested therapies in part of their regular health care (Fearon, 2005; Kemper, et al., 2008).

The disclosure rates of child CAM use to medical professionals is low both in NZ 23% (Wilson, et al., 2007) and internationally 34 -44% (Crawford, et al., 2006; Jean & Cyr, 2007; Lim, et al., 2005; Vlieger, et al., 2006). Non-disclosure has been associated with deliberate omission due to fear of judgemental or dismissive responses from the doctor (Crawford, et al., 2006; Rayner, et al., 2009; Wilson, et al., 2007) and lack of awareness of the need to disclose (Wilson, et al., 2007); the misconception that CAM is “natural and therefore safe” is prevalent in the general public (Crawford, et al., 2006; Evans, et al., 2008; Jean & Cyr, 2007; Rogovik & Goldman, 2005).

While concerns exist that CAM use may lead to a delay in appropriate CONV care, several studies indicate that CAM use tends to occur concurrently with CONV care (Armishaw & Grant, 1999; Jean & Cyr, 2007; Ministry of Health, 2004), therefore lack of disclosure of concurrent CAM use and potential for interactions with CONV treatment may be more of an issue than delay in appropriate treatment. Although adverse effects are frequently mild and
self-limiting (Crawford, et al., 2006; Gottschling, et al., 2011), serious and fatal reactions have been reported (Ernst, 2003; Lim, et al., 2011).

Adverse effects are most common with herbal therapies (Lim, et al., 2011), however both mild and serious reactions have also been reported in the use of manual therapy (Alcantara, Ohm, & Kunz, 2009; Ernst, 2003; Humphreys, 2010; Vohra, Johnston, Cramer, & Humphreys, 2007). Furthermore, concerns exist regarding CAM practitioners compromising the health and safety of a vulnerable population by; making unsubstantiated claims about treating childhood illnesses (Holt, 2008); misdiagnosing the presenting complaint (Vohra, et al., 2007); dissuading parents from undertaking standard CONV treatments for illness (Lim, et al., 2011); and preventing the timely intervention of conventional medicine (Angell & Kassirer, 1998; Vohra, et al., 2007).

Apart from the few cases where CAM is provided by a medical doctor, concerns exist about whether CAM providers have sufficient knowledge and training in children’s health and development, to provide suitable care for this population (Lee, Highfield, Berde, & Kemper, 1999; Lee & Kemper, 2000; Lee, Li, & Kemper, 2000). Currently the majority of CAM providers are unregulated (Wardle, 2008); there are no common standards of training level or quality and safety of treatments provided (Kemper, et al., 2008).

Summary

Although CAM modalities appear to be popular with parents in the care of their child’s health there appears to insufficient knowledge about the safety and efficacy of CAM in the paediatric population. To ensure the wellbeing of this population, medical practitioners need to routinely enquire about child CAM use and be supported, by way of current research, to provide quality information to parents about health care options.
Osteopathy

Osteopathy, a manual medicine therapy, is a complete model of health care (Greenman, 2003) defined by a philosophy of facilitating balance within the body to support wellbeing and prevent illness; a philosophy that unifies the distinct therapies which are categorised as CAM (Pal, 2002). Osteopathy can either be utilised as an alternative or an adjuvant to CONV depending on the aims of the practitioner or consumer.

Osteopathy in New Zealand is described by medical anthropologists as a professionalised heterodox medical system existing in pluralism with the conventional biomedicine; the dominant medical system in industrialised societies like New Zealand (Baer, 2009; Baer, et al., 2003). Although osteopathy exists outside the orthodox model of health care, a perception of legitimisation may have been created by ACC subsidisation and HPCA regulation; a recent study found more than 40% of NZ general medical practitioners considered osteopathy to be conventional medicine, along with chiropractic and acupuncture (Poynton, et al., 2006).

The New Zealand osteopathic profession is regulated by the Osteopathic Council of New Zealand (OCNZ) in accordance with the HPCA Act to protect the title and scope of osteopathy, and certify that practicing osteopaths are registered and competent to practice; thereby protecting the health and safety of the consumer.

The prevalence of osteopathic use in the NZ population is not well researched; one study reports adult use as 28% (Evans, et al., 2008). No published studies exist on the prevalence of NZ children’s use of osteopathy. The international prevalence of osteopathy use is reported as adult: Australia 0.4-4.6% (MacLennan, Wilson, & Taylor, 2002; Zhang, 2006), Japan 7% (Yamashita, Tsukayama, & Sugishita, 2002), United Kingdom 12-13% (Emslie, Campbell, & Walker, 2002; Thomas, Nicholl, & Coleman, 2001), child: Australia 2-5% (Cincotta, et al., 2006; Wadhera, et al., 2011), Canada 1.3-9% (Jean & Cyr, 2007; Spigelblatt, et al., 1994), United Kingdom 0.5% (Cincotta, et al., 2006).

Little is known about the osteopathic user and whether they fit the same profile as the CAM user in terms of demographics, motivations and patterns of use. A recent study of osteopathy, chiropractic and acupuncture use in Australia by Xue et al. (2007) found the
prevalence of osteopathy use to be 4.6%, with a higher usage in women and those in a lower income group, other demographic features including age, education, employment status and health status were not found to be significant. Reasons for seeking treatment included improving health and well-being 40% and relief of symptoms 76%; predominantly for back-related issues (48%). Users were most commonly referred to try osteopathy by friends and family 38%; other CAM practitioners 21% or a medical doctor 16% were also referral sources.

A study by Sibbritt, Adams, and Young (2006) of middle aged Australian women found a prevalence of 16% for the usage of osteopathy or chiropractic. As the use of chiropractic is high in Australia (Xue, et al., 2007), this study is of limited value in determining the relevance of these findings to the use of osteopathy as no distinction between the two therapies is reported. A higher rate of osteopathy/chiropractic use was reported amongst women who had: a lower education; an employment status of “home duties only;” a major personal injury in the previous year; poorer health.

**Osteopathy for Children**

The literature indicates that children are treated with manual therapy, including osteopathy, for a wide range of complaints, including but not limited to musculoskeletal issues (Alcantara, et al., 2009; Gotlib & Rupert, 2005; Lund & Carreiro, 2010). Lund and Carreiro (2010) analysed data from 2 medical school-based osteopathic clinics in the United States (US) to determine the characteristics of paediatric patients seeking osteopathic treatment. The purpose of the study was to provide information that may be utilised in recognising the types of conditions osteopathic care may be sought for; highlighting areas for further research and informing osteopathic training programmes about the clinical realities of paediatric treatment, ensuring clinicians are suitably informed about conditions they will encounter in practice. They found that 43.5% of visits to the osteopath were for non-musculoskeletal issues including otitis media, feeding issues, behaviour and asthma. Although this study is based in the US where osteopaths are also medical doctors the treatment sought was osteopathic manipulative medicine and not standardised medical care.
There is a lack of research available on the safety and efficacy of osteopathic treatment for children. Several studies show that osteopathy may be of benefit to children in the treatment of; otitis media (Mills, Henley, Barnes, Carreiro, & Degenhardt, 2003), cerebral palsy (Duncan, Barton, Edmonds, & Blashill, 2004), asthma (Guiney, Chou, Vianna, & Lovenheim, 2005), infant colic (Hayden & Mullinger, 2006), postural asymmetry (Philippi, et al., 2006), dysfunctional voiding (Nemett, et al., 2008), cranial asymmetry (Lessard, Gagnon, & Trottier, 2011), and nipple feeding dysfunction (Lund, et al., 2011) and gastrointestinal function (Pizzolorusso, et al., 2011) in premature infants. One published study was located that showed OMT to be of no benefit in the treatment of recurrent otitis media (Wahl, Aldous, Worden, & Grant, 2008), this is in opposition to an earlier study which found it reduced episodes of otitis media (Mills, et al., 2003).

Variations between study designs are summarised below in Table 3. Of the 10 studies reviewed 7 were randomised controlled trials (RCT) (Duncan, et al., 2004; Guiney, et al., 2005; Hayden & Mullinger, 2006; Mills, et al., 2003; Nemett, et al., 2008; Philippi, et al., 2006; Wahl, et al., 2008). In addition one study was a case report (Lund, et al., 2011), another a pilot study (Lessard, et al., 2011) and one a longitudinal observational study (Pizzolorusso, et al., 2011).

Three of the RCT studies were unblinded (Duncan, et al., 2004; Hayden & Mullinger, 2006; Nemett, et al., 2008). Given the hands-on nature of osteopathy, practitioner blinding is not very feasible, however several studies utilised independent determiners of clinical course or assessors of outcome measures. Sham treatments were provided in 3 studies, all of which blinded parents and patients to their group allocation (Guiney, et al., 2005; Philippi, et al., 2006; Wahl, et al., 2008). Three studies blinded the evaluators of outcome measures (Mills, et al., 2003; Philippi, et al., 2006; Wahl, et al., 2008). Independent outcome measures were utilised by 6 of the 10 studies, with 1 study reporting parental recorded quantitative measures i.e. duration of crying (Hayden & Mullinger, 2006) and 1 study reporting only qualitative parental perceptions of improvements (Mills, et al., 2003).

While 9 of the 10 published studies indicate a potential benefit of osteopathic treatment for certain conditions; these studies have small sample sizes and to date have not been followed up with larger trials.
### Table C. Summary of Osteopathic Paediatric studies

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Condition</th>
<th>Design</th>
<th>Outcome Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duncan, et al.</td>
<td>2004</td>
<td>Cerebral palsy</td>
<td>RCT – no blinding</td>
<td>Parental perceptions</td>
</tr>
<tr>
<td>Guiney, et al.</td>
<td>2005</td>
<td>Asthma</td>
<td>RCT – single blinding</td>
<td>peak expiratory flow (PEF)</td>
</tr>
<tr>
<td>Hayden &amp; Mullinger</td>
<td>2006</td>
<td>Infant colic</td>
<td>RCT – no blinding</td>
<td>crying / sleeping time</td>
</tr>
<tr>
<td>Lund, et al.</td>
<td>2011</td>
<td>Nipple feeding dysfunction</td>
<td>Case study</td>
<td>number of feeds from the nipple</td>
</tr>
<tr>
<td>Mills, et al.</td>
<td>2003</td>
<td>Otitis media</td>
<td>RCT – single blinding</td>
<td>Clinical course &amp; tympanograms</td>
</tr>
<tr>
<td>Nemett, et al.</td>
<td>2008</td>
<td>Dysfunctional voiding</td>
<td>RCT – no blinding</td>
<td>Bladder Ultrasound, clinical outcomes</td>
</tr>
<tr>
<td>Philippi, et al.</td>
<td>2006</td>
<td>Infantile postural asymmetry</td>
<td>RCT –double blinded</td>
<td>symmetry as assessed by video assessment and physical examination</td>
</tr>
<tr>
<td>Pizzolorusso, et al.</td>
<td>2011</td>
<td>Gastrointestinal function</td>
<td>Longitudinal observational</td>
<td>length of hospital stay &amp; presence of gastrointestinal symptoms</td>
</tr>
<tr>
<td>Wahl, et al.</td>
<td>2008</td>
<td>Otitis media</td>
<td>RCT – double blinded</td>
<td>number of AOM episodes</td>
</tr>
</tbody>
</table>

Key:
- **RCT** – randomised controlled trial
- **AOM** – acute otitis media

Despite the difficulties, discussed previously, in performing research on children, Steele, Viola, Burns, and Carreiro (2010) have demonstrated the feasibility for clinical trials to be performed on the efficacy of osteopathic treatment by designing a prospective, randomised, blinded, controlled clinical trial on the efficacy of a standardised osteopathic treatment protocol for middle ear effusion with acute otitis media in the paediatric population.
Parents’ perspectives on utilising osteopathic treatment for their child are not well researched. An unpublished qualitative study by Gibbons (2008) explored the experiences of five NZ mother’s seeking osteopathic treatment for their unsettled, fussy, or irritable infants. Difficulties in accessing information about osteopathy were highlighted in this study; the decision to try osteopathy was influenced by testimonials of other parents with experiences of osteopathic treatment for their infants and an inability to cope any further with the stress of their situation. In the majority of these cases, the positive experiences of improvements in their child’s symptoms resulted in a commitment to using osteopathic care for their family. Although some of these mothers were happy to recommend this therapy to others they continued to feel uninformed about osteopathy and the cause of their child’s symptoms, and felt that the osteopath’s communication of this information was unsatisfactory.

Safety of manual therapy for children

Internationally it is recognised that manual therapy is a popular therapy for children (Lee, et al., 2000; Smith & Eckert, 2006; Spigelblatt, et al., 1994), not only in treating musculoskeletal conditions but also in the treatment of childhood ailments (Alcantara, et al., 2009; Gotlib & Rupert, 2005; Lund & Carreiro, 2010; Vallone, Miller, Larsdotter, & Barham-Floreani, 2010). Adverse effects from manual therapy, particularly in the use of spinal manipulations, have been reported in the adult population (Gouveia, Castanho, & Ferreira, 2009). While the incidence of these occurrences within the paediatric population are rare, serious events from spinal manipulation have been reported, along with indirect adverse events including misdiagnosis, resulting in the inappropriate provision of manual treatment and delays in appropriate care (Humphreys, 2010; Vohra, et al., 2007).

Spinal manipulation is a technique that belongs to the collective of osteopathic manipulative treatment (OMT) techniques, however in the treatment of children its use is generally avoided in favour of more gentle techniques (Bezilla, 2000; Dean, 2011; Huijbregts, 2006). Hayes and Bezilla (2006) concluded that osteopathic treatment was a safe treatment for children following a retrospective review of 346 paediatric patients medical records in the United States who had received OMT; a 9% rate of short-term treatment associated reactions was reported with no reports of serious treatment complications. However, as
osteopathic practitioners in the United States are also medical doctors, the issues of appropriate paediatric training and delayed CONV treatment are less pertinent.

While regulation of some CAM therapies exists no CAM modalities have specific paediatric scopes of practice or a requirement to meet any specific standards of knowledge in relation to child health and development. Both the medical profession and a number of CAM providers recognise the need for clinicians to have the appropriate training to meet the needs of children (Bezilla, 2000; Gilmour, Harrison, Asadi, Cohen, & Vohra, 2011a; Huijbregts, 2006; Vallone, et al., 2010; Vohra, et al., 2007).

Bezilla (2000) advocates that in addition to understanding the illnesses and issues specific to the paediatric patient, the osteopathic practitioner must also have knowledge of childhood development in order to consider how they differ from an adult, and treat appropriately, or refer where specific training is lacking. Vallone et al. (2010) make similar recommendations in the chiropractic management of paediatric patients, and state that the profession as a whole must take responsibility for the provision of safe and ethical care. While Gilmour et al. (2011a) recommend that the incorporation of formal paediatric training in chiropractic education may reduce the incidences of delays in referral to appropriate care as a result of misdiagnosis, and that CAM practitioners should undertake to ensure they have the necessary knowledge, skills and training to provide appropriate care. Vohra et al.(2007) believe that CAM practitioners lack sufficient training to safely treat children and recommend a standardized paediatric curriculum for all CAM providers, with guidelines for medical referral and integrative care between CAM and CONV providers. Leboeuf-Yde and Hestbaek (2010) assert that further research into safety and efficacy needs to be relevant, of high quality, and of suitable methodological design; the responsibility for implementing research findings rests with training providers and individual clinicians. Huijbregts (2006) asserts that while no clear evidence of harm exists in the use of manual therapy for children, the manual therapy professions need to substantiate their claim of safety and efficacy in the treatment of children before the evidence-based clinician can ethically recommend these therapies to parents in the treatment of children.
Paediatric Osteopathy

In 2010 the Osteopathic Council of New Zealand identified the potential need for specialised scopes of practice (Osteopathic Council of New Zealand, 2010). Further information about the treatment of children by osteopathic practitioners was sought through the commissioning of a report by Caroline Dean on the results of her unpublished thesis on the paediatric osteopathic capabilities of New Zealand osteopaths (Dean, 2011). This mixed methods study explored: the current literature relevant to the osteopathic treatment of children, including current paediatric education within osteopathic training programmes; expert opinions from 10 interviews on the knowledge, skills and attitudes required in the provision of paediatric osteopathic care; and current experiences of osteopaths in the treatment of children, collected via survey of the osteopaths registered with the OCNZ in 2010. Dean found that 81% of respondents treated children and that 83% of those treating children had some post graduate training in paediatrics. Osteopathic consultation for children under 5 years old was primarily sought for childhood illness issues (less than 1 year old, colic; 1-4 year olds, otitis media); while musculoskeletal issues were a popular reason for seeking osteopathic consultation in children over 5 years. The treatment of those in the under 5 year old group was distinctly different to those over 5 years of age; with gentle techniques used on the younger age groups and the more controversial spinal manipulation (high velocity thrust techniques) only used on children over the age of 5 years. The surveyed osteopathic profession felt that the knowledge, skills and attitudes appropriate to treating children were already predominantly represented in the Capabilities for Osteopathic Practice document (Osteopathic Council of New Zealand, 2009) and no mandatory requirements were needed in the treatment of children, however continuing professional development in the paediatric field would be appropriate. In determining the role of osteopathy in paediatric health care Dean (2011) concluded that:

“establishing capabilities for paediatric osteopathic practice would inform regulatory authorities, educational institutions and other stakeholders such as patients, parents and the wider healthcare community as to the relevant and possible placement of osteopathy in an integrated approach to paediatric healthcare in a New Zealand context. It would also serve to inform osteopaths as to the nature of the capabilities they should have attained
prior to establishing a paediatric practice, serve as a guide in their own personal professional development programmes, inform educational providers about the standards and curricula required for undergraduate and post-graduate curricula for osteopaths, and be informative to other future researchers exploring this subject.”(Dean, 2011, p. 29)

Summary

The use of manual therapy, including osteopathy, appears to be common in the paediatric population for both musculoskeletal and childhood complaints. While it is clear that a number of CAM therapies, including osteopathy, are used in treating children and that concerns exist about the paediatric capabilities of these practitioners, it is unclear what knowledge is necessary in the provision of appropriate health care for children.

Due to the lack of information available, no conclusions can be formed on the efficacy and safety of osteopathy and manual therapy for children. The prevalence of adverse events from manual therapy cannot be established, as the available literature is predominantly case reports and very few randomized controlled trials. While there are ethical difficulties in conducting research on this population, the risks and benefits of manual therapy, including osteopathy, needs to be established in order to safeguard the wellbeing of this population.
Conclusions

This review describes how the changes occurring in health care reflect the demand from consumers for a holistic partnership approach to health; illustrating how the present scope of NZ health care policy and the growing acceptance of CAM are sowing the seeds for a more integrative approach to health care, and the potential for a greater contribution by osteopaths to the health care of future generations. Although consumer demand for CAM has yet to create significant change in the New Zealand public health system; the current health statistics on CAM use, the inclusion of CAM in health legislation and vision documents, as well as support for CAM use from GPs, may herald a more integrated approach to health care in the near future.

The growing prevalence of individuals incorporating alternative therapies into their health care practices with or without the knowledge of conventional medical providers requires attention from the health care industry, in order to protect the health and wellbeing of consumers. It is clear that in the treatment of children special care is needed. For CAM practitioners, including osteopaths, to provide optimal health care for the paediatric population greater attention must be given towards establishing the needs of this group. Other areas of further interest include the appropriate regulation and education of CAM providers, and greater knowledge of the safety and efficacy of CAM modalities. By establishing both the risks and benefits of individual therapies, parents and medical professionals alike can be educated about the available options in providing optimal health care for children.
References


Osteopathic Council of New Zealand (2010). New Zealand Osteopathic Scope of Practice Reform


Manuscript

Note: This manuscript has been prepared in accordance with the instructions for authors given by the International Journal of Osteopathic Medicine (Appendix E)
Osteopathy use in Families of the Auckland Playcentre Association of New Zealand: prevalence and associated factors
Osteopathy use in Families of the Auckland Playcentre Association of New Zealand: prevalence and associated factors

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ABSTRACT

Objectives: To determine the prevalence of osteopathy use in New Zealand (NZ) preschool children and their parents and establish whether factors associated with Complementary and Alternative Medicine (CAM) use are relevant to the use of osteopathy; providing information about health care practices and preferences to health care professionals, in particular osteopaths, that can be utilised towards meeting the current health, safety and education needs of NZ families.

Methods: Approximately 300 families of the Auckland Playcentre Association of New Zealand, a parent-run preschool education, were surveyed in 2009; questionnaires were self administered by volunteers from 16 Playcentres. The questionnaire incorporated 3 measures to assess the association of osteopathy and CAM use with; conventional medicine dissatisfaction; health provider role preference; and beliefs about CAM validity and holistic health.

Results: From 114 analysable responses the reported prevalence was; osteopathy: adults 54%, children 38%; CAM: adults 81%, children 69%. Child CAM and osteopathy use was positively associated with parental use (p<0.00001). Significant demographics associated with CAM and osteopathy use include; age (p<0.01) and gender (p<0.001); no demographic differences were found between osteopathy and other CAM users. Beliefs about the validity of CAM were significant for osteopathy (p=0.036) and CAM use (p<0.0001). Preference for an egalitarian health provider was significant for osteopathy (p=0.018) and child CAM use (p=0.033).
**Conclusions**: Osteopathy and CAM are popular health care practices for both adults and children in this sample. The high prevalence of children’s use in this sample reinforces the need to ensure children are receiving safe and effective care, and supports further investigation into the osteopathic paediatric scope of practice. Further research into the safety, efficacy and usage of osteopathy is needed in establishing osteopathy as a legitimate and safe health care option for children.

**Keywords**: children; complementary and alternative medicine; osteopathy; paediatric; parents
Defining complementary and alternative medicine

The classification of a health practice as Complementary and Alternative Medicine (CAM) can alter between populations and is basically defined by two main points. Firstly, it is not conventional medicine (CONV); this definition differs between populations, a CAM modality in one country may be integrated into the publicly funded health system of another.¹ Secondly, it promotes wellbeing; CAM therapies, while vastly different to each other in mechanism, are united by an underlying philosophy of facilitating self-healing within the body, enabling treatment to support wellbeing and thereby prevent illness;²,³ differing from conventional biomedicine, which focuses on cure rather than prevention of illness.⁴

The Medical Council of New Zealand utilises a definition of CAM⁵ which accommodates the potential of CAM therapies to integrate into the dominant health system:

“Complementary and alternative medicine (CAM) is a broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period. CAM includes all such practices and ideas self-defined by their users as preventing or treating illness or promoting health and well-being. Boundaries within CAM and between the CAM domain and that of the dominant system are not always sharp or fixed.”

While the contribution of CAM to health care is growing worldwide,⁶⁻⁹ the reported prevalence of CAM use depends greatly on the characteristics of the population surveyed;
diverse health states, ages, cultural and ethnic associations cause variations between
cpopulations,\textsuperscript{10-13} as well as the definition of CAM and inclusion of modalities used.\textsuperscript{10, 11, 14}

Differences may also exist between users of different CAM modalities as well as those who
use CAM in place of CONV or as an adjunct.\textsuperscript{11, 15, 16}

Very few studies have been conducted on the prevalence of CAM in New Zealand (NZ),
recent findings show NZs’ usage of CAM to range from 23-91\% in adults\textsuperscript{12, 17-20} and 29-70\% in
children;\textsuperscript{8, 13} these figures compare with findings internationally, 34-68\% adults\textsuperscript{21-26} and
41-57\% children.\textsuperscript{27-29}

The prevalence of osteopathic use in the NZ population is not well researched; one study\textsuperscript{19}
reports adult use as 28\%. No published studies exist on the prevalence of NZ children’s use
of osteopathy. International prevalence of osteopathy use is reported as 0.4-13\% in adults\textsuperscript{21,}
30-34 and 0.5-9\% in children.\textsuperscript{28, 29, 35, 36} Little is known about the osteopathic user and how
they compare to the CAM user. A recent Australian study by Xue et al.\textsuperscript{21} found the
prevalence of osteopathy use to be 4.6\%, with a higher usage in women and those in a
lower income group, other demographic features including age, education, employment
status and health status were not found to be significant.

\textbf{Purpose of this study}

The aim of this study was to determine the prevalence of osteopathy use in health care
practices of NZ preschool families, and establish whether factors associated with CAM use in
the literature are relevant to the use of osteopathy. The purpose of this study was to
provide information about health care practices and preferences to health care
professionals, in particular osteopaths, and policy makers that could be utilised towards meeting the current health, safety and education needs of NZ families.

Complementary and alternative medicine in New Zealand

In this study CAM was defined as a range of modalities that promote health and wellbeing and/or treat illness, and are outside the orthodox biomedical model of health care offered as part of the government funded health system. The NZ government provides the health care system with full funding for hospitals, maternal and mental health services, and partial subsidisation for primary health care services. Although the NZ Primary Health Care Strategy recognises CAM practitioners as primary health care providers, no funding is currently provided for any CAM modalities. The exception to this status is the subsidisation, through the Accident Compensation Corporation (ACC), of treatment with registered osteopaths, acupuncturists and chiropractors for injuries occurring in NZ; this crown-owned organisation essentially acts as a “no fault” insurance company.

The majority of NZ CAM practitioners are not required to be regulated by a professional body. However since 2003, the Health Practitioners Competence Assurance Act (HPCAA) has defined the scope of practice of health service therapies where a risk of harm exists to the public, including osteopathy and chiropractic, and requires practitioners to be registered with a professional governing body, ensuring they are competent to practice. The HPCAA includes a provision for further modalities to be added in the future, and will soon regulate acupuncture and medical herbalism.

The Osteopathic Council of New Zealand (OCNZ) acts on behalf of the Ministry of Health certifying that registered osteopaths are competent and fit to practice; protecting the
health and safety of the consumer. Osteopathy is a complete model of health care\textsuperscript{42} defined by a philosophy of facilitating balance within the body to support wellbeing and prevent illness; a philosophy that unifies the distinct therapies which are categorised as CAM.\textsuperscript{3} Although osteopathy exists outside the orthodox model of health care, a perception of legitimisation may have been created by ACC subsidisation and HPCAA regulation; a recent study found more than 40\% of NZ general medical practitioners (GPs) considered osteopathy to be CONV, along with chiropractic and acupuncture.\textsuperscript{43}

Choosing Complementary and Alternative Medicine

Factors associated with choosing CAM for oneself continue to be relevant when making health care decisions for one’s child. Many different factors are associated with the use of CAM and may not apply to every individual as CAM users are not a homogeneous group; resulting in variances between reported findings.

- Demographics commonly associated with CAM include: female, middle-aged, European descent, well educated, above-average income, poor health status.\textsuperscript{44, 45}

- Dissatisfaction with CONV has been associated with CAM use due to; experiences of brief, disempowering medical encounters; failure of CONV to resolve health issues; and concerns about treatment side effects.\textsuperscript{46, 47}

- Concepts associated with CAM use include: general unconventional life philosophies,\textsuperscript{48} beliefs in the role of psychological factors in health & disease; desire for participation in health care; a preference for holistic and natural treatment,\textsuperscript{15} an openness to trying new experiences and a higher health awareness.\textsuperscript{49} Users of CAM believe in the validity of CAM therapies despite the lack of scientific basis and find
CAM to be more congruent with their own values, they wish to be actively involved in their health and prefer an egalitarian health care provider who supports personal responsibility, empowerment and self determination in health care.

As an advocate for their child, parents may be more conscientious with their child’s health than their own. They may spend more time gathering information on how best to treat their child, more cautious about exposing their child to the risks of CONV, and more strongly dissatisfied with experiences of CONV on behalf of their child. Child CAM use is positively associated with parental CAM use; in particular mothers are found to influence their child’s use of CAM and act as advocates of CAM to their family. When making health care decisions, parents use self education and advice from friends and family, they also expect their doctor to be knowledgeable and open toward CAM. However, the limited evidence on the use of CAM, especially in the paediatric population, provides insufficient resources on which doctors can make recommendations.

Complementary and alternative medicine use for children

The use of CAM in children’s health care is common worldwide, NZ child use of CAM (70%) compares with studies in Germany (57%), Canada (54%) and Australia (51%) and Wales (41%). The variance between studies in the definitions of CAM and inclusions of CAM modalities makes direct comparisons of findings difficult. Studies report herbal based therapy i.e. naturopathy, and manipulative therapies to be popular within the paediatric population.

Manipulative manual therapies incorporate both osteopathy and chiropractic; international studies report the prevalence of these modalities in the paediatric population to be:
osteopathy 0.5-9% and chiropractic 1-12%. The literature indicates that children are treated with manual therapy, including osteopathy, for a wide range of childhood complaints, including but not limited to musculoskeletal issues.

There is a lack of research available on the safety and efficacy of osteopathic treatment for children; 9 of the 10 published studies indicate that osteopathy may benefit children in the treatment of specific conditions and 1 study finding no benefit. These 10 studies vary greatly in design, 7 were randomised controlled trials, 2 were double-blinded and 2 were single-blinded. 6 of the 10 utilised objective outcome measures. While promising, these studies are predominantly limited by their small sample sizes and require larger follow up studies to confirm these findings.

Lund and Carreiro analysed data from 2 medical school-based osteopathic clinics in the United States (US) to determine the characteristics of paediatric patients seeking osteopathic treatment. Visits to the osteopath were for non-musculoskeletal issues in 43.5% of cases including otitis media, feeding issues, behaviour and asthma. Although this study is based in the US where osteopaths are also medical doctors the treatment sought was osteopathic manipulative medicine and not standardised medical care. The study aimed to provide information about the clinical realities of paediatric treatment, for the purpose of ensuring that clinicians are suitably informed about conditions they will encounter in practice.

Although osteopathy and chiropractic are regulated professions in NZ, like other CAM therapies, neither have specific paediatric scopes of practice or a requirement to meet any specific standards of knowledge in relation to child health and development. The OCNZ have identified the potential need for a specialised paediatric scope of practice,
sought information about the treatment of children by NZ osteopathic practitioners by commissioning a report by Dean on the paediatric osteopathic capabilities of NZ osteopaths. Osteopaths registered with the OCNZ in 2010 were surveyed, revealing that 81% of respondents treated children and that 83% of those had some additional training in paediatrics. Osteopathic consultation for children under 5 years old was primarily sought for childhood illness issues; while children over 5 years were frequently seen for musculoskeletal issues. The treatment of children under 5 years of age was distinctly different to those over 5 years of age; with gentle techniques used on the younger age groups and the more controversial spinal manipulation (high velocity thrust techniques) only used on children over the age of 5 years. In determining the role of osteopathy in paediatric health care Dean concluded that defining the necessary knowledge skills and attitudes of paediatric osteopaths would help to inform both parents and the medical profession about the potential value of osteopathic care and the role of osteopathy in NZ children’s health care.
METHODS

Recruitment and participants

A questionnaire based survey of the approximately 300 families of the Auckland Playcentre Association of New Zealand, a parent run preschool education,\textsuperscript{78} was conducted over an 8 week period in 2009. Ethics approval was obtained from the Unitec Research Ethics Committee prior to the commencement of this study.

Questionnaires were available at the 16 Playcentres in the Auckland Association for interested parents to voluntarily self administer. The questionnaire was developed using recent published research to collect data on: demographics; beliefs about CAM; the use of CAM - prevalence, patterns, purpose and types; the use of osteopathy - frequency, purpose and satisfaction; and incorporated, with permission from authors, the following 3 measures:

*Holistic Complementary and Alternative Medicine Questionnaire* (HCAMQ) an 11 item scale developed by Hyland, Lewith and Westoby\textsuperscript{47} with a reported high test re-test reliability of $r=0.86$ and internal consistency of $\alpha=0.8$; subscales measure: beliefs about CAM, its safety, effectiveness and scientific validity; and beliefs about holistic health (HH), the effect of lifestyle and psychological factors on health status. Using a 6 point response format (strongly disagree-strongly agree) with 4 items reversed scored; lower scores reflected a more positive attitude towards CAM and HH.

*Patient Satisfaction Questionnaire Short-Form (PSQ18)*\textsuperscript{79} is an 18 item validated measure with good internal reliability,\textsuperscript{80} to assesses patient satisfaction with conventional medical experiences. Using a 5 point response format (strongly agree-strongly disagree) with 9 items reversed scored; higher scores reflected greater satisfaction with conventional medicine.
Beliefs About Health Care Professionals Scale (BAHPS) is a 14 item scale adapted by Sirois and Purc-Stephenson from a measure of beliefs about preferred health provider relational style to determine preferences in health care professional roles. Using a 6 point response format (strongly disagree-strongly agree) with 5 items reversed scored; higher scores indicated a preference for an authoritarian health provider style, whereas lower scores reflected a preference for a more egalitarian style.

With permission from authors, Sirois and Purc-Stephenson, statements about CAM were used to assess attitudes of non-users towards CAM and reasons for using CAM. Responses were converted to a dichotomous disagree/agree rating scale to determine the overall rate of agreement with each item.

Following the collection of questionnaires a link to the electronic version of the questionnaire was distributed via email. Data was entered into an online survey provider for storage, basic statistical comparisons and table generation. Statistical tests were performed using the software R to determine the association of the variables included in the questionnaire with CAM and/or osteopathy use for personal or child health. Fisher’s Exact Test was used in determining differences in demographic variables between non-users and adult or child users of CAM or osteopathy. Pearson’s Chi-squared test with Yates' continuity correction was used to test the association of parental gender and CAM/osteopathy use with child CAM/osteopathy use. An ANOVA test was used to compare scores from the belief measures to calculate the p-Values and determine the significance of these beliefs in their association with CAM use. Hopkins magnitudes of effect descriptors were used to illustrate the significance of the results.
RESULTS

Of the 120 responses received, 6 were excluded due to incomplete data and 114 were analysed. Ten respondents failed to initially identify themselves as CAM users until reaching a list of CAM modalities; these respondents were then reallocated to the CAM user group for the purpose of data analysis. All respondents had a child under the age of 6 years and the majority were female, aged between 31-40 years and of a NZ European ethnicity (Table 1).

Prevalence, demographics and measures

The use of CAM was reported as respondent 81%, partner 51%, child 69%; the use of osteopathy was reported as respondent 44%, partner 26%, child 38% (Table 2). Demographic factors found to be significant in CAM use were: age (p<0.01), gender (p<0.001), ethnicity (p<0.01), and the Playcentre attended (p<0.05); no significant associations were found for chronic illness (p=0.23), education (p=0.74), or income (p=0.0565) (Table 1). Due to a low number of male respondents (n=5) gender was tested for by including the partners’ CAM and/or osteopathy use and gender, as reported by the respondents. Users of CAM for children and users of osteopathy for either personal or child health were not found to be significantly different to CAM users in terms of demographic variables (Table 3).

Beliefs about the validity of CAM health care were significantly positively associated with CAM use for personal (p<0.0001) (Table 4a). Comparisons of CAM subscale scores indicated a difference between “other CAM” users and users of CAM for child health (p=0.015), osteopathy for personal (p=0.036) and child use (p=0.034); with osteopathy users being
more positive towards CAM than the “other CAM” group (Table 4b-d). The user of CAM and/or osteopathy for personal or child health care is no different to the non-user in their holistic health beliefs (p=0.065) and satisfaction with CONV (p=0.095). No significant differences were found between parents using osteopathy or “other CAM” for their child (Table 4e). Preference for health care provider role was not significant for CAM users (p=0.206) in comparison to non-users, however this was a significant factor for the sub groups of respondent osteopathy use (p=0.018), child CAM (p=0.033) and child osteopathy use (p=0.020). These sub groups all had lower scores on the BAHPS than the personal CAM use group, reflecting a preference for an egalitarian health provider role.

Osteopathy

Users of osteopathy share the same demographic features as CAM users; beliefs about the validity of CAM were significant for both osteopathy and CAM use, however osteopathy user’s scores were significantly more positive for this factor (p=0.036). In addition, in their preference for an egalitarian health provider osteopathy users were significantly different to “other CAM” users (p=0.018), indicating a greater desire for autonomy and self determination in health care.

Beliefs and motivations

Many non-users (80%) feel uncertain about the scientific validity and effectiveness of CAM modalities, but would try a CAM modality if: CONV options had failed to resolve their health issue (100%); they knew more about how CAM worked (90%); they were recommended to try it by someone they trusted (87%) or they were referred by their doctor (100%) (Table 5).
Purpose and patterns of use

Reasons for using CAM are based around its holistic nature and participation of the recipient in their health care (Table 6). A reported 78% have used CAM for 3 or more years with 43% reporting monthly use, accounting for up to 25% of total health care in 40% of users (Table 6). Frequently CAM is used to treat non-serious health problems (78%) or maintain wellness (62%), and often alongside CONV (56%). Only 29% received advice from a medical doctor on their CAM use, 56% report friends and family as their main source of information on CAM.

Children

The prevalence of children using CAM was 69%, whole family CAM use was reported by 62%, and 3.5% reported “child only” CAM use, no “partner and child only” CAM use was reported (Table 8). Regular use of CAM was common, and both practitioner based therapies, homeopathy (25%) osteopathy (15%), and self administered remedies (13%) were popular. A reported 58% had informed their doctor about their child’s CAM use; which commonly occurs concurrently with CONV (56%). No differences were apparent between CAM users and non-users in seeking and following medical advice for their child (Table 9).

Parental CAM and osteopathy use were positively associated with child use (Table 10 & 11); however 32% of parents using osteopathy for their child had not used osteopathy themselves, 98% had however used some form of CAM. The use of osteopathy by children accounted for 54% of child CAM use and was predominantly for newborn babies (65%) and under 2 year olds (24%) in the treatment of infant conditions i.e. colic (38%) or musculoskeletal issues (20%). Parents reported finding the treatment helpful (74%) and being satisfied (91%)(Table 12).
DISCUSSION

The main objective of this study was to determine the prevalence of osteopathic treatment in NZ preschool families and determine whether the factors associated with CAM users were the same for users of osteopathy.

Prevalence

The prevalence of CAM use was found to be high in this study, adults 81% and children 69%; compared to international figures, adults 34-68%\textsuperscript{21-26} and children 41-57%,\textsuperscript{27-29} but congruent with other NZ research, adults 23-91%\textsuperscript{12,17-20} and children 29-70%.\textsuperscript{8,13} The prevalence of osteopathy use was reported as adults 54% and children 38%; these figures are higher than findings internationally and although they indicate the popularity of osteopathy in this sample, no other NZ studies are available for comparison and further comment. Differences in research design and populations sampled makes comparisons between studies difficult and accounts for the large spread of results. In particular sample size, demographic variables and CAM definitions influence the reported prevalence greatly. The studies cited include both large population based surveys that generally report a lower usage of CAM and small specific samples which frequently report a higher usage. Studies with very broad definitions of CAM report a high usage, for example one population-based study\textsuperscript{26} reported the prevalence of CAM use as 62% when prayer was included as a CAM modality and 36% when it was not.

It was anticipated that a higher prevalence of CAM use may be reported by Playcentre parents due to their proactive participation in both, their own and their child’s education, indicating the attribute of being “open to new ideas” which has been associated with CAM
However, it may also be that CAM use increases with parenthood generally; parental advocacy of a child’s health may also indicate an openness to new ideas. As CAM use is reported for fertility and pregnancy, future research could enquire into CAM use prior to the stage of actively seeking to start a family.

In addition, during the recruitment phase of this study, posters were displayed in Playcentres asking for participants into a study on “Complementary and Alternative Medicine use in NZ Families” and is likely to have attracted participants with an interest in CAM and resulted in an over representation of this sample. Furthermore the parents attending the Playcentres are predominantly female, a gender associated with CAM use, and a higher proportion of CAM use would be expected than a study sampling males only.

**Demographics**

Due to variations between studies the significant demographic factors associated with CAM use are both in agreement with and in contrast to previous findings. It is unclear from the data why a difference in CAM use exists between Playcentres. Although income was not positively associated with CAM use, this difference may be explained by the socio-economic location of the Playcentre. Another factor may be the unique social dynamic within each Playcentre, CAM users may advocate and encourage CAM use in other parents; recommendation by friends and family plays a significant role in the decision to use CAM.

In this study females report a higher CAM use (62%) than males (38%), a finding frequently reported. Parental CAM and osteopathy use was found to be positively associated with child use; studies have reported on the association of parental gender and CAM use to child CAM use. Mothers’ CAM use was more strongly associated with child CAM use.
Beliefs

The perceived lack of scientific validity of CAM modalities was found to be the most significant factor in not using CAM \( p < 0.0001 \). However, non-users would be willing to try CAM if they understood it better, if CONV failed to resolve health issues (100%) or if they were recommended it by a trusted source (87%) or doctor (100%). These results suggest that for some individuals the initial decision to try CAM may be preceded by suffering from poor health; confidence in CAM may then develop over time, despite the lack of scientific proof, with positive experience of use. The beliefs of the long term CAM user may then differ from the new CAM user; the CAM users in this study were predominantly long term users (78%) and no association between chronic illness and CAM use was found \( p = 0.23 \). Long term CAM users have been found to replace CONV with CAM\(^1\) and are less interested in the scientific basis of CAM modalities.\(^1\) While it appears that CAM users are more confident in using health care alternatives that are yet to be scientifically validated, the reasons for this are not apparent; future research could explore these reasons further.

The broad definition of CAM used in this study allowed respondents to determine which health care practices they classified as CAM and created discrepancies in responses; 10 CAM users failed to identify their health practices as CAM until reaching a list of CAM modalities. These health practices ranged from naturopathy and homeopathy to osteopathy, chiropractic and acupuncture; these latter 3 are partially integrated into the health system through inclusions in health policy, funding through ACC and are referred to by an increasing number of GP’s; 40% of doctors consider these 3 therapies to be mainstream.\(^4\) This finding
may indicate a shift in the perception of orthodox medicine definition, towards the incorporation of CAM modalities.

**Comparison of groups**

In this sample significant differences exist between users and non-users of CAM; being a NZ European female over 30 years old and holding beliefs about the scientific validity of CAM, are factors associated with CAM use. In this sample both users and non-users of CAM are generally satisfied with CONV and prefer an egalitarian health provider role; while in contrast to overseas findings, these results may be unique to the population surveyed, due to the nature of Playcentre parents, as outlined previously, or may even be reflective of the general population of NZ; future research could explore these factors further.

The subgroups of osteopathy use, child CAM use and child osteopathy use showed no demographic differences to the adult CAM group, however they showed significant differences in the beliefs measures. These subgroups are more positive about the scientific validity of CAM, the reason for this cannot be known from the results of this study, but could be an area of further research interest. All subgroups also showed a stronger preference for an egalitarian health provider role; this is perhaps reflective of the parental role in determining health care for their child, particularly given the characteristics of Playcentre parents, however the reason for the association of this preference with users of osteopathy is unknown and another area for future research.

**Safety of Complementary and Alternative Medicine**

Insufficient regulation and the uncertain safety of CAM therapies are considerable barriers to acceptance by the medical profession. Negative attitudes about CAM therapies
and practitioners are contributed to by reports of; adverse reactions due to CONV / CAM
interactions,89 CAM practitioners making unsubstantiated claims about curing health
issues,90 and delays in timely medical care;88 resulting in compromised health of
consumers.91 The concurrent use of CONV (56%) commonly reported in this study reinforces
the need for primary health care providers to routinely enquire about CAM use. Disclosure
rates of CAM use to GPs in this study were lower for adults (29%) and higher for children
(58%) in comparison to previous NZ studies; adults (37%)12 and child (23%).8 Health
consumers need access to information about the safety and efficacy of CAM; facilitating
informed decisions on the best treatment available, which may include a CAM therapy.92, 93

As few parents are receiving information from their doctor on CAM (28%) they are actively
seeking to inform themselves about the best options to meet the health needs of their child.
The use of CAM for children was associated with a preference for an egalitarian health
provider (p=0.033); reflecting the role of the parent as an advocate for their child’s health.
The literature indicates that parents may differ in their desire for direction in using CAM
therapies for their child.94 Unlike parents who predominantly use CONV, those who
frequently use CAM prefer to be more self determining in choosing appropriate care for
their child; preferring an integrative model of health care where CAM and CONV
practitioners have more open communication but their child’s CAM use is not managed by a
CONV doctor.94

Implications of this study for osteopaths

Osteopathy appears to be a popular health choice for both NZ adults (54%) and children
(38%) in this sample. Although users of osteopathy are not distinctly different to CAM users
in terms of demographics, they appear to differ strongly in their preference for self
determination in health care; supporting the idea that CAM users of different modalities may have distinctly different motivations in their use of CAM.\textsuperscript{15, 16} This study reinforces the influence of mothers on CAM use in families\textsuperscript{8, 51, 53, 56} and the value placed by consumers in recommendations from trusted sources,\textsuperscript{8, 28, 81} highlighting the need for osteopaths to educate both health consumers and professionals about the benefits of osteopathy and to provide high quality health services in order to promote the osteopathic profession.

In this study osteopaths are reported to be one of the most commonly seen CAM providers for children, particularly in treating babies (89\%) for non-musculoskeletal issues (80\%). Although osteopathy is a manipulative therapy with a focus on the musculoskeletal system, treatment for non-musculoskeletal childhood complaints, for example colic, is common.\textsuperscript{65, 77} While the principles and philosophy of osteopathy provide a basis for treatment of non-musculoskeletal issues, children are a special population; they have specific childhood developmental needs and unique issues. While several studies have indicated the potential value of osteopathy in the treatment of childhood issues\textsuperscript{66-74} concerns exist around the safety and efficacy of manual therapy for children\textsuperscript{95-98} and suitable paediatric training of practitioners.\textsuperscript{61, 64, 95, 97, 99, 100} While the literature indicates that in the osteopathic treatment of children more gentle techniques are favoured\textsuperscript{77, 97, 99} and serious adverse events have not been found,\textsuperscript{101} it has been recommended that the safety and efficacy of manual therapy for children should be established and incorporated into training and clinical practice\textsuperscript{96} before the evidence-based clinician can ethically recommend these therapies to parents in the treatment of children.\textsuperscript{97}

Given the vulnerability of this population, the high prevalence of osteopathic treatment for children found in this study justifies further investigation into the potential need for
osteopaths to obtain specific paediatric knowledge, and the possible establishment of paediatric osteopathy as a specialist scope of practice. A paediatric scope of practice will require osteopaths to establish they are equipped to treat children and can demonstrate appropriate knowledge about paediatric health and development in order to provide suitable care. A recent study, conducted in conjunction with the OCNZ, surveyed NZ osteopaths (n=384) and reported on the paediatric capabilities of NZ osteopaths treating children. The response rate was 22% and although a large percentage (81%) of the respondents treated children (n=66) this is not representative of the entire population of surveyed osteopaths. Of the 66 respondents treating children 55 had obtained some post graduate training, either formal or informal. The degree of child health knowledge will vary between practitioners. While formal post graduate training in paediatric osteopathy can be obtained in Britain, no comparable qualifications are currently offered in New Zealand or Australia; informal paediatric courses currently available are predominantly weekend courses with no measures for proof of learning. Further investigation is needed to establish the appropriate level of paediatric knowledge required to safely treat children; informing the development of a suitable training programme.

The keys to establishing osteopathy as a legitimate health care modality for children lie in ensuring practitioners are suitably educated to provide optimal care, growing the scientific literature base on which the education of health consumers and providers can occur and upholding the reputation of the osteopathic profession for providing safe, effective and appropriate care within the defines of its scope of practice with suitable communication and timely referral to relevant health professionals.
Osteopathy, along with chiropractic and acupuncture, appears to be at the threshold of acceptance into the NZ conventional medical domain. By facilitating confidence in osteopathy as a valid modality through positive experiences for both health consumers and health professionals, reinforced by robust scientific studies, osteopathy can be acknowledged for its contribution to health care and continue to provide for the needs of future generations.

Future Research

Studies of this kind provide valuable information on the health practices and preferences of consumers. Education of parents and medical professionals about the use of osteopathy for children would be supported by further research into safety and efficacy of osteopathic treatment for childhood issues. Research is needed to establish the need for paediatric training and inform the development of a suitable paediatric education programme for osteopaths. Further enquiries into the profile and needs of the osteopathic user, as well as the requirements of the medical profession, will support the osteopathic profession to grow and evolve with the changing needs of the NZ population. A variety of studies are needed to further explore the possibility of CAM integration into the health care system, informing future developments in this area.

Limitations of this study

This study was a preliminary exploration into the health practices of NZ families. The findings are prevented from being generalised to the wider population due to a small sample size and the characteristics of the sample population. A selection bias may also have occurred as the recruitment information sought volunteers for a study into “Complementary
and Alternative Medicine use in NZ Families” potentially attracting participants with an interest in CAM. The questionnaire was intentionally very broad, in order to capture as many factors as possible, however this approach missed the finer details on parents’ decision making; follow up studies into the relevant factors would give more meaning to these findings.

Conclusions

The prevalence of osteopathy and CAM use in children’s health care indicates the need to establish the appropriate level of paediatric health and development knowledge for CAM practitioners to provide suitable care for children. Further research into the safety and efficacy of CAM and osteopathy, especially in the treatment of children is essential; providing resources for the education of health professionals and consumers, and legitimising the contribution of CAM and osteopathy to health care.

Conflict of interest

No conflict of interest was identified.
REFERENCES


76 Osteopathic Council of New Zealand. New Zealand Osteopathic Scope of Practice Reform 2010
77 Dean C. Paediatric Osteopathic Capabilities – an exploratory study and development of possible curricula and assessment concepts. volume Master of Clinical Education. Auckland: The University of Auckland, 2011


102 The Foundation for Paediatric Osteopathy. *Diploma in Paediatric Osteopathy (DPO)*, 2012
Appendices for Manuscript
## Appendix 1

### Tables of Results

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<th>Table</th>
<th>Description</th>
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<td>Demographic summary of respondent and CAM users</td>
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<td>Prevalence of CAM and osteopathy use for adult and child</td>
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<td>3</td>
<td>Demographic comparison of adult and child CAM and osteopathy use</td>
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<td>Comparison of measures of beliefs for CAM and osteopathy users</td>
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<td>Non-users –beliefs about CAM</td>
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<td>CAM use: Parent vs. Child</td>
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<td>12</td>
<td>Osteopathy use in children’s health care</td>
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<tr>
<td>Demographic Variables</td>
<td>Respondents</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Number</td>
<td>114</td>
</tr>
<tr>
<td>Playcentre attended</td>
<td>11% (13)</td>
</tr>
<tr>
<td>Age (&gt; 30 years)</td>
<td>69% (79)</td>
</tr>
<tr>
<td>Gender (female)</td>
<td>95% (109)</td>
</tr>
<tr>
<td>Ethnicity (NZ European)</td>
<td>75% (86)</td>
</tr>
<tr>
<td>Income (&gt; $91,000 p/a)</td>
<td>35% (40)</td>
</tr>
<tr>
<td>Education (≥ bachelor degree)</td>
<td>60% (69)</td>
</tr>
<tr>
<td>Chronic illness in family</td>
<td>45% (51)</td>
</tr>
</tbody>
</table>

Notes:
* includes both the respondents’ and the respondents’ partner gender and CAM use (Total 150 CAM users F=93 M=57 from 226 responses F= 115 M=111)
**The p-Value represents the statistical difference between CAM users and non-users for the relevant demographic variables.
Table 2  Prevalence of CAM and osteopathy use for adult and child

<table>
<thead>
<tr>
<th>Prevalence</th>
<th>CAM use (Response (Count))</th>
<th>Osteopathy use (Response (Count))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent</td>
<td>81% (93)</td>
<td>44% (50)</td>
</tr>
<tr>
<td>Partner</td>
<td>51% (59)</td>
<td>26% (34)</td>
</tr>
<tr>
<td>Child</td>
<td>69% (79)</td>
<td>38% (43)</td>
</tr>
</tbody>
</table>
### Table 3  Comparison of adult CAM user demographics vs. child CAM and osteopathy use for adult and child

<table>
<thead>
<tr>
<th>CAM use</th>
<th>Osteopathy use</th>
<th>Osteopathy use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child</td>
<td>Respondent</td>
</tr>
<tr>
<td>Response (Count)</td>
<td>p-Value</td>
<td>Response (Count)</td>
</tr>
<tr>
<td><strong>Prevalence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70% (79)</td>
<td>0.195</td>
<td>44% (50)</td>
</tr>
<tr>
<td><strong>Demographic Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Playcentre attended</td>
<td>10% (8)</td>
<td>0.195</td>
</tr>
<tr>
<td>Age (&gt; 30 years)</td>
<td>93% (75)</td>
<td>1.000</td>
</tr>
<tr>
<td>Gender (female)</td>
<td>93% (75)</td>
<td>0.955</td>
</tr>
<tr>
<td>Ethnicity (NZ European)</td>
<td>80% (63)</td>
<td>0.730</td>
</tr>
<tr>
<td>Income (&gt; $91,000 p/a)</td>
<td>39% (31)</td>
<td>0.319</td>
</tr>
<tr>
<td>Education (≥ bachelor degree)</td>
<td>62% (49)</td>
<td>0.332</td>
</tr>
<tr>
<td>Chronic illness in family</td>
<td>47% (37)</td>
<td>0.566</td>
</tr>
</tbody>
</table>

**Notes:**
1. The p-Value represents the statistical difference between personal CAM uses and child CAM use for the relevant demographic variables.
2. The p-Value represents the statistical difference between personal CAM use and personal osteopathy use for the relevant demographic variables.
3. The p-Value represents the statistical difference between personal CAM use and child osteopathy use for the relevant demographic variables.
<table>
<thead>
<tr>
<th>Measure (Possible score range: min – max)</th>
<th>Non-user</th>
<th>CAM user</th>
<th>p-Value</th>
<th>Effect size</th>
<th>Effect size Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCAMQ (11-66)</td>
<td>33.55 ± 4.7</td>
<td>27.21 ± 6.26</td>
<td>&lt;0.001</td>
<td>1.15</td>
<td>Nearly Perfect</td>
</tr>
<tr>
<td>CAM subscale (6-36)</td>
<td>22.80 ± 4.19</td>
<td>17.82 ± 4.77</td>
<td>&lt;0.0001</td>
<td>1.11</td>
<td>Nearly Perfect</td>
</tr>
<tr>
<td>HH subscale (5-30)</td>
<td>10.75 ± 2.51</td>
<td>9.39 ± 3.45</td>
<td>0.065</td>
<td>0.45</td>
<td>Moderate</td>
</tr>
<tr>
<td>PSQ18 (18-90)</td>
<td>52.80 ± 4.1</td>
<td>54.59 ± 4.3</td>
<td>0.095</td>
<td>0.42</td>
<td>Moderate</td>
</tr>
<tr>
<td>BAHPS (14-84)</td>
<td>46.65 ± 4.5</td>
<td>44.86 ± 5.9</td>
<td>0.206</td>
<td>0.34</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Notes:
1. Values are shown as: mean± SD
2. Hopkins' magnitude of effect descriptors are based on Hopkins (2002)
3. The p-Value represents the statistical difference between CAM users and non-users.
4. HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire; subscales CAM = Complementary and Alternative Medicine, HH = Holistic Health – lower scores reflect a more positive attitude towards CAM and HH; PSQ18: Patient Satisfaction Questionnaire Short-Form - higher scores reflect a greater satisfaction with conventional medicine; BAHPS: Beliefs about Health Care Professional Scale – higher scores reflect a preference for an authoritarian health provider role and lower scores an egalitarian health provider role
Table 4b  Comparison of personal CAM use only vs. child CAM use for measures of beliefs

<table>
<thead>
<tr>
<th>Measure (Possible score range: min – max)</th>
<th>CAM use</th>
<th>CAM use</th>
<th>p-Value&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Effect size</th>
<th>Effect size Descriptor&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personal</td>
<td>Child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCAMQ (11-66)</td>
<td>30.29 ± 4.5</td>
<td>26.49 ± 6.42</td>
<td>0.023</td>
<td>0.69</td>
<td>Very Large</td>
</tr>
<tr>
<td>CAM subscale (6-36)</td>
<td>20.29 ± 3.1</td>
<td>17.17 ± 4.9</td>
<td>0.015</td>
<td>0.77</td>
<td>Very Large</td>
</tr>
<tr>
<td>HH subscale (5-30)</td>
<td>10.00 ± 3.4</td>
<td>9.32 ± 2.9</td>
<td>0.411</td>
<td>0.21</td>
<td>Small</td>
</tr>
<tr>
<td>PSQ18 (18-90)</td>
<td>54.58 ± 3.9</td>
<td>54.29 ± 4.5</td>
<td>0.802</td>
<td>0.07</td>
<td>Trivial</td>
</tr>
<tr>
<td>BAHPS (14-84)</td>
<td>47.52 ± 4.7</td>
<td>44.10 ± 6.1</td>
<td>0.033</td>
<td>0.62</td>
<td>Large</td>
</tr>
</tbody>
</table>

Notes:
1. Values are shown as: mean± SD
2. Hopkins’ magnitude of effect descriptors are based on Hopkins (2002)
3. The p-Value represents the statistical difference between personal CAM users and child CAM users.
4. HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire; subscales CAM = Complementary and Alternative Medicine, HH = Holistic Health – lower scores reflect a more positive attitude towards CAM and HH; PSQ18: Patient Satisfaction Questionnaire Short-Form - higher scores reflect a greater satisfaction with conventional medicine; BAHPS: Beliefs about Health Care Professional Scale – higher scores reflect a preference for an authoritarian health provider role and lower scores an egalitarian health provider role
<table>
<thead>
<tr>
<th>Measure (Possible score range: min – max)</th>
<th>other CAM</th>
<th>Osteopathy</th>
<th>p-Value</th>
<th>Effect size</th>
<th>Effect size Descriptor²</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCAMQ (11-66)</td>
<td>28.30 ± 5.43</td>
<td>26.16 ± 6.85</td>
<td>0.098</td>
<td>0.34</td>
<td>Moderate</td>
</tr>
<tr>
<td>CAM subscale (6-36)</td>
<td>18.86 ± 4.4</td>
<td>16.81 ± 4.8</td>
<td>0.036</td>
<td>0.43</td>
<td>Moderate</td>
</tr>
<tr>
<td>HH subscale (5-30)</td>
<td>9.43 ± 2.6</td>
<td>9.35 ± 3.4</td>
<td>0.898</td>
<td>0.02</td>
<td>Trivial</td>
</tr>
<tr>
<td>PSQ18 (18-90)</td>
<td>54.32 ± 5.1</td>
<td>54.85 ± 3.6</td>
<td>0.562</td>
<td>0.12</td>
<td>Small</td>
</tr>
<tr>
<td>BAHPS (14-84)</td>
<td>46.32 ± 5.1</td>
<td>43.45 ± 6.3</td>
<td>0.018</td>
<td>0.49</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Notes:
1. Values are shown as: mean ± SD
2. Hopkins' magnitude of effect descriptors are based on Hopkins (2002)
3. The p-Value represents the statistical difference between osteopathy users and “other CAM” users
4. HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire; subscales CAM = Complementary and Alternative Medicine, HH = Holistic Health – lower scores reflect a more positive attitude towards CAM and HH; PSQ18: Patient Satisfaction Questionnaire Short-Form - higher scores reflect a greater satisfaction with conventional medicine; BAHPS: Beliefs about Health Care Professional Scale – higher scores reflect a preference for an authoritarian health provider role and lower scores an egalitarian health provider role
<table>
<thead>
<tr>
<th>Measure (Possible score range: min – max)</th>
<th>CAM use</th>
<th>Osteopathy use</th>
<th>p-Value</th>
<th>Effect size</th>
<th>Effect size Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HCAMQ (11-66)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAM subscale (6-36)</td>
<td>28.36 ± 6.1</td>
<td>25.81 ± 6.2</td>
<td>0.051</td>
<td>0.41</td>
<td>Moderate</td>
</tr>
<tr>
<td>HH subscale (5-30)</td>
<td>18.72 ± 4.5</td>
<td>16.59 ± 4.9</td>
<td>0.034</td>
<td>0.44</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>PSQ18 (18-90)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BAHPS (14-84)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Values are shown as: mean± SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Hopkins’ magnitude of effect descriptors are based on Hopkins (2002)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. The p-Value represents the statistical difference between personal CAM users and child osteopathy users</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire; subscales CAM = Complementary and Alternative Medicine, HH = Holistic Health – lower scores reflect a more positive attitude towards CAM and HH; PSQ18: Patient Satisfaction Questionnaire Short-Form - higher scores reflect a greater satisfaction with conventional medicine; BAHPS: Beliefs about Health Care Professional Scale – higher scores reflect a preference for an authoritarian health provider role and lower scores an egalitarian health provider role</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4e  Comparison of child “other CAM” user vs. child osteopathy user for measures of beliefs

<table>
<thead>
<tr>
<th>Measure (Possible score range: min –max)</th>
<th>CAM use Child</th>
<th>Osteopathy use Child</th>
<th>p-Value</th>
<th>Effect size</th>
<th>Effect size Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM use</td>
<td>27.25 ± 6.4</td>
<td>25.95 ± 6.2</td>
<td>0.369</td>
<td>0.20</td>
<td>Small</td>
</tr>
<tr>
<td>CAM subscale (6-36)</td>
<td>17.91 ± 4.8</td>
<td>16.72 ± 4.9</td>
<td>0.283</td>
<td>0.24</td>
<td>Small</td>
</tr>
<tr>
<td>HH subscale (5-30)</td>
<td>9.33 ± 2.9</td>
<td>9.23 ± 2.9</td>
<td>0.880</td>
<td>0.03</td>
<td>Trivial</td>
</tr>
<tr>
<td>PSQ18 (18-90)</td>
<td>54.13 ± 4.5</td>
<td>54.86 ± 4.5</td>
<td>0.485</td>
<td>0.15</td>
<td>Small</td>
</tr>
<tr>
<td>BAHPS (14-84)</td>
<td>45.50 ± 6.4</td>
<td>43.27 ± 5.5</td>
<td>0.103</td>
<td>0.37</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Notes:
1. Values are shown as: mean± SD
2. Hopkins’ magnitude of effect descriptors are based on Hopkins (2002)
3. The p-Value represents the statistical difference between users of “other CAM” for children and users of osteopathy for children
4. HCAMQ: Holistic Complementary and Alternative Medicine Questionnaire; subscales CAM = Complementary and Alternative Medicine, HH = Holistic Health – lower scores reflect a more positive attitude towards CAM and HH; PSQ18: Patient Satisfaction Questionnaire Short-Form - higher scores reflect a greater satisfaction with conventional medicine; BAHPS: Beliefs about Health Care Professional Scale – higher scores reflect a preference for an authoritarian health provider role and lower scores an egalitarian health provider role
<table>
<thead>
<tr>
<th>Belief</th>
<th>Agree (%)</th>
<th>Disagree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would try using one or more of them if my doctor recommended that I try them</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>I would try using one or more of them if conventional medicine failed to give me relief for a health problem.</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>I would try using one or more of them if I knew they were effective for treating my health problem(s).</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>I would try using one or more of them if I had more information about the different complementary/alternative therapies and how they work.</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>I would try using a complementary/alternative therapy if someone I trusted recommended it to me</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td>I would try using one or more of them if there were no additional costs involved.</td>
<td>87%</td>
<td>13%</td>
</tr>
<tr>
<td>Complementary/alternative medicine should only be used when there have been more scientific research showing that they are effective.</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>I would try using one or more of them if they were more accessible to me (that is, if I didn’t have to travel so far to get them).</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>Complementary/alternative medicine should only be used for minor ailments and not for the treatment of more serious illness.</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>Complementary/alternative medicine can be dangerous because it might prevent people from getting proper treatment.</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>Complementary/alternative medicine should only be used as a last resort when conventional medicine has nothing to offer.</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>I’m not interested in trying any of the complementary/alternative therapies for my health problems</td>
<td>30%</td>
<td>70%</td>
</tr>
</tbody>
</table>
Table 6  CAM users reasons for using CAM

<table>
<thead>
<tr>
<th>Reason</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I value the emphasis that complementary/alternative medicine places on treating the whole person.</td>
<td>93%</td>
<td>7%</td>
</tr>
<tr>
<td>I believe that complementary/alternative medicine allows me to take a more active role in maintaining my health.</td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td>I value the way that complementary/alternative medicine practitioners treat me as an equal partner in managing my health.</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Friends or family members recommended I try complementary/alternative medicine.</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Conventional medicine was not effective for my health problem.</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>I am desperate to solve my health problem and will try anything.</td>
<td>33%</td>
<td>67%</td>
</tr>
<tr>
<td>The conventional medicine treatment I received had unpleasant side effects.</td>
<td>27%</td>
<td>63%</td>
</tr>
<tr>
<td>I had difficulty communicating with my medical doctor (for example, he/she didn't understand my problem, didn't listen etc.).</td>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>Medical doctors did not let me have a say in my health treatment decisions.</td>
<td>15%</td>
<td>85%</td>
</tr>
<tr>
<td>I had difficulty getting in to see a GP when I needed to.</td>
<td>12%</td>
<td>88%</td>
</tr>
</tbody>
</table>
Table 7  The CAM user

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration of CAM use</strong></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>11%</td>
</tr>
<tr>
<td>1 to 3 years</td>
<td>10%</td>
</tr>
<tr>
<td>More than 3 years</td>
<td>78%</td>
</tr>
<tr>
<td><strong>Frequency of use</strong></td>
<td></td>
</tr>
<tr>
<td>more than monthly</td>
<td>43%</td>
</tr>
<tr>
<td>3 monthly</td>
<td>18%</td>
</tr>
<tr>
<td>yearly</td>
<td>25%</td>
</tr>
<tr>
<td>less than yearly</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Contribution of CAM to total health care</strong></td>
<td></td>
</tr>
<tr>
<td>1-25%</td>
<td>40%</td>
</tr>
<tr>
<td>26-50%</td>
<td>19%</td>
</tr>
<tr>
<td>51-75%</td>
<td>7%</td>
</tr>
<tr>
<td>76-100%</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Doctor advises on CAM</strong></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>29%</td>
</tr>
<tr>
<td><strong>CAM tried /used</strong></td>
<td></td>
</tr>
<tr>
<td>Self administered remedy</td>
<td>66%</td>
</tr>
<tr>
<td>Massage</td>
<td>65%</td>
</tr>
<tr>
<td>Osteopathy</td>
<td>54%</td>
</tr>
<tr>
<td>Homeopathy</td>
<td>50%</td>
</tr>
<tr>
<td>Naturopathy</td>
<td>49%</td>
</tr>
</tbody>
</table>
### Conditions treated with CAM

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musculoskeletal</td>
<td>19%</td>
</tr>
<tr>
<td>Pregnancy Care</td>
<td>19%</td>
</tr>
<tr>
<td>Digestive conditions / complaints</td>
<td>9%</td>
</tr>
<tr>
<td>Illness prevention / Wellness maintenance</td>
<td>9%</td>
</tr>
<tr>
<td>Skin conditions</td>
<td>7%</td>
</tr>
<tr>
<td>Sleeping</td>
<td>7%</td>
</tr>
<tr>
<td>Ear/Nose/Throat</td>
<td>6%</td>
</tr>
<tr>
<td>Allergies</td>
<td>6%</td>
</tr>
<tr>
<td>Headaches / migranes</td>
<td>6%</td>
</tr>
<tr>
<td>Breathing conditions / complaints</td>
<td>4%</td>
</tr>
<tr>
<td>Behaviour</td>
<td>3%</td>
</tr>
<tr>
<td>Urinary problems</td>
<td>3%</td>
</tr>
<tr>
<td>Preconception</td>
<td>2%</td>
</tr>
</tbody>
</table>

### Purpose of CAM use

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>to treat chronic illness</td>
<td>37%</td>
</tr>
<tr>
<td>to prevent illness</td>
<td>37%</td>
</tr>
<tr>
<td>to maintain wellness</td>
<td>62%</td>
</tr>
<tr>
<td>to treat non serious health problems</td>
<td>78%</td>
</tr>
</tbody>
</table>

### for non-serious illness

- BEFORE receiving a medical doctors diagnosis 45%
<table>
<thead>
<tr>
<th>Event in Treatment Timeline</th>
<th>Alternatives Considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFTER gaining a medical doctor's diagnosis but BEFORE trying conventional options</td>
<td>16%</td>
</tr>
<tr>
<td>ALONGSIDE conventional medical options</td>
<td>56%</td>
</tr>
<tr>
<td>AFTER trying conventional medical options</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Use of CAM for Illness Type</th>
<th>Alternatives Considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>for long term illness</td>
<td>ALONGSIDE conventional medical options</td>
</tr>
<tr>
<td></td>
<td>AFTER trying conventional medical options</td>
</tr>
<tr>
<td></td>
<td>Not used for chronic illness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenditure on CAM</th>
<th>Alternatives Considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-$20 per month</td>
<td>48%</td>
</tr>
<tr>
<td>$21-$40 per month</td>
<td>23%</td>
</tr>
<tr>
<td>$41-$100</td>
<td>20%</td>
</tr>
<tr>
<td>more than $100</td>
<td>8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Information on CAM</th>
<th>Alternatives Considered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friends/Family</td>
<td>56%</td>
</tr>
<tr>
<td>CAM health professional i.e. osteopath</td>
<td>41%</td>
</tr>
<tr>
<td>Doctor/GP</td>
<td>28%</td>
</tr>
<tr>
<td>Health food store staff</td>
<td>19%</td>
</tr>
<tr>
<td>Internet</td>
<td>18%</td>
</tr>
<tr>
<td>Book/magazine</td>
<td>15%</td>
</tr>
<tr>
<td>Other health professional i.e. Nurse</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>Answer options</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Prevalence</strong></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td><strong>Child chronic illness</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Doctor informed of CAM use</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Family CAM use</strong></td>
<td>child only</td>
</tr>
<tr>
<td></td>
<td>child &amp; respondent</td>
</tr>
<tr>
<td></td>
<td>child &amp; partner</td>
</tr>
<tr>
<td></td>
<td>whole family</td>
</tr>
<tr>
<td><strong>Frequency of use</strong></td>
<td>more than monthly</td>
</tr>
<tr>
<td></td>
<td>3 monthly</td>
</tr>
<tr>
<td></td>
<td>yearly</td>
</tr>
<tr>
<td></td>
<td>less than yearly</td>
</tr>
<tr>
<td><strong>CAM tried /used</strong></td>
<td>Homeopathy</td>
</tr>
<tr>
<td></td>
<td>Osteopathy</td>
</tr>
<tr>
<td></td>
<td>Self administered</td>
</tr>
<tr>
<td></td>
<td>Herbalism</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>Naturopathy</td>
</tr>
<tr>
<td></td>
<td>Vitamins &amp; minerals</td>
</tr>
<tr>
<td><strong>Conditions treated with CAM</strong></td>
<td>Infant conditions</td>
</tr>
<tr>
<td></td>
<td>Ear/Nose/Throat</td>
</tr>
<tr>
<td></td>
<td>Skin</td>
</tr>
<tr>
<td></td>
<td>Digestive</td>
</tr>
<tr>
<td></td>
<td>Allergies</td>
</tr>
<tr>
<td></td>
<td>Behaviour</td>
</tr>
<tr>
<td></td>
<td>Musculoskeletal</td>
</tr>
<tr>
<td></td>
<td>Illness prevention / health maintenance</td>
</tr>
<tr>
<td></td>
<td>Breathing</td>
</tr>
<tr>
<td></td>
<td>Sleeping</td>
</tr>
<tr>
<td><strong>Expenditure on CAM</strong></td>
<td>$0-$20</td>
</tr>
<tr>
<td></td>
<td>$21-$40</td>
</tr>
<tr>
<td></td>
<td>$41-$100</td>
</tr>
<tr>
<td></td>
<td>More than $100 (please state)</td>
</tr>
</tbody>
</table>
Table 9  Parental healthcare decisions

<table>
<thead>
<tr>
<th>When it comes to my child’s health needs I mostly.....</th>
<th>% of total (n 114)</th>
<th>(% of 79)</th>
<th>(% of 36)</th>
<th>(% of 43)</th>
</tr>
</thead>
<tbody>
<tr>
<td>decide what my child needs and whether to seek a medical opinion</td>
<td>55%</td>
<td>56%</td>
<td>52%</td>
<td>51%</td>
</tr>
<tr>
<td>seek a medical diagnosis and follow the doctor’s advice even if I am unsure about it</td>
<td>15%</td>
<td>5%</td>
<td>4%</td>
<td>0%</td>
</tr>
<tr>
<td>decide what my child needs and try an alternative approach before getting a medical diagnosis</td>
<td>5%</td>
<td>12%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>seek a medical diagnosis but I only follow the doctor's advice if it fits what feels right to me</td>
<td>25%</td>
<td>27%</td>
<td>29%</td>
<td>33%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Who makes health care decisions for your children?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent</td>
</tr>
<tr>
<td>Joint / equal</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>
### Table 10  CAM use: Parent vs. Child

<table>
<thead>
<tr>
<th></th>
<th>Parent (count)</th>
<th>Child CAM user Response (count)</th>
<th>Child Non-user Response (count)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mum (93)</td>
<td></td>
<td>80% (75)</td>
<td>20% (18)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Dad (58)</td>
<td></td>
<td>86% (50)</td>
<td>14% (8)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>CAM non-use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mum (21)</td>
<td></td>
<td>20% (4)</td>
<td>80% (17)</td>
<td>&gt; 0.05</td>
</tr>
<tr>
<td>Dad (56)</td>
<td></td>
<td>52% (29)</td>
<td>48% (27)</td>
<td>&gt; 0.05</td>
</tr>
</tbody>
</table>
Table 11  Osteopathy use: Parent vs. Child

<table>
<thead>
<tr>
<th></th>
<th>Parent (count)</th>
<th>Child Osteopathy user</th>
<th>Child Osteopathy non-user</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Response (count)</td>
<td>Response (count)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osteopathy use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mum (50)</td>
<td>56% (28)</td>
<td>44% (22)</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Dad (33)</td>
<td>63% (21)</td>
<td>36% (12)</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Osteopathy non-use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mum (61)</td>
<td>21% (13)</td>
<td>78% (48)</td>
<td>&gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Dad (78)</td>
<td>35% (20)</td>
<td>(58)</td>
<td>&gt; 0.05</td>
<td></td>
</tr>
<tr>
<td>Table 12  Osteopathy use in children’s health care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Answer options</strong></td>
<td><strong>Response</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prevalence of child osteopathy use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in total sample (n 114)</td>
<td>38%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in Child CAM users (n 79)</td>
<td>54%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>when parent has used osteopathy</td>
<td>68%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>when parent has used CAM</td>
<td>98%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family CAM use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>child only</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>child &amp; respondent</td>
<td>26%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>child &amp; partner</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>whole family</td>
<td>44%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of use</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in the past year</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>more than 1 year ago</td>
<td>60%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Childs age at time of treatment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>newborn</td>
<td>65%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 2</td>
<td>24%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>preschool</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-10yrs</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-18yrs</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conditions treated with Osteopathy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant conditions i.e. colic / teething</td>
<td>38%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Conditions / Complaints</td>
<td>Percentage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digestive conditions / complaints</td>
<td>9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ear/Nose/Throat</td>
<td>7%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breathing conditions / complaints</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behaviour</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illness prevention / health maintenance</td>
<td>4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary problems</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headaches / migraines</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin conditions</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Helpfulness of treatment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very helpful</td>
<td>74%</td>
</tr>
<tr>
<td>Unsure</td>
<td>19%</td>
</tr>
<tr>
<td>Unhelpful</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Satisfaction with treatment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>59%</td>
</tr>
<tr>
<td>Moderately satisfied</td>
<td>32%</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>9%</td>
</tr>
</tbody>
</table>
Appendix 2

Survey Tool - Questionnaire

About this questionnaire
This questionnaire is looking at the use or non-use of alternative healthcare by families of pre-school children. Complementary and Alternative Medicine or Therapy is a broad term for a wide range of health-care practices that do not fall under conventional/orthodox medical practices and are not currently offered as part of the government funded health system.

The questionnaire should take between 20-30 minutes to complete. Please carefully consider and answer all questions, and answer both sides of the page. There are no right or wrong answers. We interested in your healthcare choices and viewpoints.

Section A. Please answer the questions below for yourself and your partner/spouse (if applicable).

1. Please indicate your age group
   - Under 20 years
   - 21-30 years
   - 31-40 years
   - +40 years

2. Please indicate your partner’s age group
   - Under 20 years
   - 21-30 years
   - 31-40 years
   - +40 years

3. Please indicate your gender and that of your spouse/partner
   - You
     - Male
     - Female
   - Spouse/partner
     - Male
     - Female

4. Please indicate your main ethnic group (select up to 2 options)
   - New Zealand European
   - Maori
   - Pacific Islander
   - Other Asian
   - Other European
   - Indian
   - Chinese
   - Other- please state

5. Please indicate your partner’s main ethnic group (select up to 2 options)
   - New Zealand European
   - Maori
   - Pacific Islander
   - Other Asian
   - Other European
   - Indian
   - Chinese
   - Other- please state

6. Please indicate your religious or spiritual practice
   - Christianity
   - Islam
   - Hinduism
   - do not wish to disclose
   - Buddhism
   - Other (please state)

7. Please indicate your partner’s religious or spiritual practice
   - Christianity
   - Islam
   - Hinduism
   - do not wish to disclose
   - Buddhism
   - Other (please state)

8. Please indicate your family’s annual income
   - $20,000 or less
   - $20,001 - $30,000
   - $30,001 - $50,000
   - $50,001 - $70,000
   - $71,000 - $90,000
   - $91,000 or more

9. Which best describes your employment situation currently?
   - Full time
   - Part time
   - self employed
   - not in paid employment
10. Is your partner/spouse in full or part time paid employment?
☐ Full time ☐ Part time ☐ self employed ☐ not in paid employment

11. What is your highest qualification and that of your partner/spouse?

<table>
<thead>
<tr>
<th>Highest Qualification</th>
<th>You</th>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School qualification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post school certificate/ trade certificate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honours Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters Degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctorate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Please indicate which best describes your family’s structure?
☐ 1 parent household ☐ 2 parent household ☐ 2 parents (separated), 2 households
☐ Blended family – 2 parent household and 2 households

13. Please indicate the number of each age group of children in your family

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>+5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preschool age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 – 10 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 – 18 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. Who is the primary caregiver for your children?
☐ You ☐ Partner/spouse ☐ joint / equal

15. Who makes most of the health care decisions for the children in your family?
☐ You ☐ Partner/spouse ☐ joint / equal

16. Do you or anyone in your family currently suffer from a long-term health condition? Or have done in the past?
☐ No ☐ Yes - please state what the condition is, whether it is current or in the past, how severe i.e. mild, moderate or severe and who in the family suffers from it.

i.e. asthma, current, mild, - 2nd child:

........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
........................................................................................................................................................
Section B - Listed below are a number of statements concerning your health and complementary/alternative medicine. For each question you should circle the number that corresponds most closely to your own view. There are no right or wrong answers.

17. How strongly do you AGREE or DISAGREE with each of the following statements?

Please circle one number on each line and please do not leave out any statements.

<table>
<thead>
<tr>
<th></th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>MILDLY AGREE</th>
<th>MILDLY DISAGREE</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section C - These questions are about GPs/Doctors; NOT alternative medical providers.

The following questions are some things people say about conventional medical care. Please read each one carefully keeping in mind the medical care you are currently receiving. (If you have not received care recently, think about what you would expect if you needed care to today.) We are interested in your feelings, good and bad, about the medical care you have received.

18. How strongly do you AGREE or DISAGREE with each of the following statements?
   (Please circle one number on each line and please do not leave out any statements).

<table>
<thead>
<tr>
<th></th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>UNCERTAIN</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doctors are good about explaining the reason for medical tests</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I think my doctors office has everything needed to provide complete medical care</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The medical care I have been receiving is just about perfect</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sometimes doctors make me wonder if their diagnosis is correct</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I am confident I can get the medical care I need without being set back financially</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>When I go for medical care they are careful to check everything when examining and treating me</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I have to pay for more than my medical care than I can afford</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I have easy access to the medical specialists I need</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Where I get medical care people have to wait too long for emergency treatment</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Doctors act too businesslike and impersonal towards me</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>My doctors treat me in a very friendly and courteous manner</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Those who provide my medical care sometime hurry too much when they treat me</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The doctors sometimes ignore what I tell them</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I have some doubts about the ability of the doctors who treat me</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Doctors usually spend plenty of time with me</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I find it hard to get an appointment for medical care right away</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>I am dissatisfied with some things about the medical care I receive</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>I am able to get medical care whenever I need it</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Section D** – The following statements concern the different ideas that people have about health-care professionals. The term "health-care professional" refers to registered health professionals such as general physicians (GPs) and doctors, as well as practitioners of non-conventional medicine such as osteopaths and chiropractors.

19. How strongly do you AGREE or DISAGREE with each of the following statements? (Please circle one number on each line and please do not leave out any statements).

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STRONGLY AGREE</strong></td>
<td><strong>AGREE</strong></td>
<td><strong>MILDLY AGREE</strong></td>
<td><strong>MILDLY DISAGREE</strong></td>
<td><strong>DISAGREE</strong></td>
<td><strong>STRONGLY DISAGREE</strong></td>
</tr>
<tr>
<td>1. The advice given by health-care professionals should be “taken with a grain of salt” i.e. with consideration to your own views.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Health-care professionals have high status.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Health-care professionals have a higher IQ than most people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The education and experience health-care professionals have give them the authority to tell their patients what they should do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. A health-care professional’s role is to provide patients with options.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. A health-care professional’s role is to provide patients with answers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. When I go to the health-care professional, she or he should provide me with options and tell me the form of treatment I have to follow.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. In general, health-care professionals should provide me with a single clearly defined plan of treatment to follow.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. People should defer to a health-care professional’s experience when deciding whether or not to follow the recommended treatment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. In general, patients should be partners with health-care professionals in deciding the appropriate form of treatment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. When I go to a health-care professional, she or he should provide me with the options but let me choose the form of treatment I will follow.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. In general, patients should follow their health-care professional’s advice unquestioningly.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Health-care professionals should allow patients to participate in treatment decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Health-care professionals should be responsible for making treatment decisions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

20. Have you used complementary or alternative medicine (CAM) for yourself or your family? Please circle the answer below and follow the instructions carefully.

**No** – please answer the next question (Q. 21) then go to Section E (page 8)

**Yes** – please SKIP the next question (Q. 21) and GO ON to answer Q. 22 (page 7)
IF you have NOT used or tried any complementary/alternative therapies before please respond to the following questions. These are statements about some of the thoughts people may have regarding the use of complementary/alternative therapies.

21. How strongly do you AGREE or DISAGREE with each of the following statements? (Please circle one number on each line and please do not leave out any statements).

<table>
<thead>
<tr>
<th>1. STRONGLY AGREE</th>
<th>2. AGREE</th>
<th>3. MILDLY AGREE</th>
<th>4. MILDLY DISAGREE</th>
<th>5. DISAGREE</th>
<th>6. STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not interested in trying any of the complementary/alternative therapies for my health problems.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would try using a complementary/alternative therapy if someone I trusted recommended it to me.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would try using one or more of them if there were no additional costs involved.</td>
<td>1 2 3 4 5 6</td>
<td></td>
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</tr>
<tr>
<td>I would try using one or more of them if they were more accessible to me (that is, if I didn't have to travel so far to get to them).</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would try using one or more of them if my doctor recommended that I try them.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would try using one or more of them if I had more information about the different complementary/alternative therapies and how they work.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would try using one or more of them if I knew they were effective for treating my health problem(s).</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I would try using one or more of them if conventional medicine failed to give me relief for a health problem.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Complementary/alternative medicine can be dangerous because it might prevent people from getting proper treatment.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complementary/alternative medicine should only be used as a last resort when conventional medicine has nothing to offer.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complementary/alternative medicine should only be used for minor ailments and not for the treatment of more serious illness.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complementary/alternative medicine should only be used when there have been more scientific research showing that they are effective.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
IF you USE complementary/alternative therapies for yourself or your children please answer the following questions. IF NOT, please go to the next section of the questionnaire.

22. I use complementary/alternative medicine/therapies because......

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>1 STRONGLY AGREE</th>
<th>2 AGREE</th>
<th>3 MILDLY AGREE</th>
<th>4 MILDLY DISAGREE</th>
<th>5 DISAGREE</th>
<th>6 STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conventional medicine was not effective for my health problem.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
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<tr>
<td>2</td>
<td>I believe that complementary/alternative medicine allows me to take a more active role in maintaining my health.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>The conventional medicine treatment I received had unpleasant side effects.</td>
<td>1 2 3 4 5 6</td>
<td></td>
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<tr>
<td>4</td>
<td>I value the emphasis that complementary/alternative medicine places on treating the whole person.</td>
<td>1 2 3 4 5 6</td>
<td></td>
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<tr>
<td>5</td>
<td>I had difficulty communicating with my medical doctor (for example, he/she didn't understand my problem, didn't listen, etc.).</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>I have had difficulty getting in to see a general physician when I needed to.</td>
<td>1 2 3 4 5 6</td>
<td></td>
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<tr>
<td>7</td>
<td>I am desperate to solve my health problem and I will try anything.</td>
<td>1 2 3 4 5 6</td>
<td></td>
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<tr>
<td>8</td>
<td>Friends or family members recommended I try complementary/alternative medicine.</td>
<td>1 2 3 4 5 6</td>
<td></td>
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<tr>
<td>9</td>
<td>I value the way that complementary/alternative medicine practitioners treat me as an equal partner in managing my health.</td>
<td>1 2 3 4 5 6</td>
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<tr>
<td>10</td>
<td>Medical doctors did not let me have a say in my health treatment decisions.</td>
<td>1 2 3 4 5 6</td>
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</tbody>
</table>

Q.22a Mostly, I use complementary/alternative medicine/therapy..... (tick as many as may apply to you)
- [ ] to treat chronic health problems
- [ ] to maintain wellness
- [ ] to prevent illness
- [ ] to treat non-serious health problems

Q. 22b Mostly, I use complementary/alternative medicine/therapy to treat non-serious ailments...........
- [ ] BEFORE seeking a medical doctors diagnosis
- [ ] AFTER gaining a medical doctors diagnosis but BEFORE trying conventional options
- [ ] ALONGSIDE conventional medical options
- [ ] AFTER trying conventional medical options

Q. 22c I have used complementary/alternative medicine/therapy in the treatment of chronic health conditions...........
- [ ] BEFORE seeking a medical doctors diagnosis
- [ ] AFTER gaining a medical doctors diagnosis but BEFORE trying conventional options
- [ ] ALONGSIDE conventional options
- [ ] AFTER trying conventional medical options

Q. 22d About how long have you been using complementary/alternative therapies?
- [ ] Less than 6 months
- [ ] 6 months to 1 year
- [ ] 1 to 2 years
- [ ] 3 to 5 years
- [ ] more than 5 years
Section E – if you need more room to answer please use the back page, ensure you note the number of the question you are referring to.

23. Have you heard of these therapies? What is your perception of these therapies? Have you tried them?
(Please answer for each therapy even if you have never tried it, if you haven’t heard of it then leave that box blank.)

<table>
<thead>
<tr>
<th>Therapy /Medicine</th>
<th>Have Used</th>
<th>Heard of</th>
<th>very good</th>
<th>good</th>
<th>useful</th>
<th>no opinion</th>
<th>not good</th>
<th>unsafe</th>
<th>Other (please state)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteopathy</td>
<td></td>
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<tr>
<td>Homeopathy</td>
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<td>Acupuncture</td>
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<tr>
<td>Maori healer</td>
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<tr>
<td>Herbalist</td>
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<td>Meditation</td>
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<tr>
<td>Traditional Chinese medicine</td>
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<td>Reflexology</td>
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<tr>
<td>Special diet</td>
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<tr>
<td>Spiritual healing</td>
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<tr>
<td>Aromatherapy</td>
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<tr>
<td>Pacific healer</td>
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<td>Massage</td>
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<td>Mega dose vitamins</td>
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<tr>
<td>Self administered remedies i.e. Echinacea or arnica</td>
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<tr>
<td>Other (please state)</td>
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</tr>
</tbody>
</table>

24. Who is the primary health care provider for you and your child/ren?

<table>
<thead>
<tr>
<th>Primary healthcare provider</th>
<th>You</th>
<th>Partner</th>
<th>Child/ren</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical doctor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternative medical doctor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other therapist (please state) i.e. osteopath</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Self determined care</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other (please state)</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
25. Which of these statements best describes your approach to healthcare?
   When it comes to my child/ren’s health needs I mostly..............
   □ decide what my child/ren need and whether to seek a medical opinion
   □ seek a medical diagnosis and follow the doctor’s advice even if I am unsure about it
   □ decide what my child/ren need and whether to try an alternative approach
   □ seek a medical diagnosis but I only follow the doctor’s advice if it fits what feels right to me

26. Do you or your partner use complementary and alternative medicine/therapy?
   You □ yes □ no
   Your partner/spouse □ yes □ no

27. Do you use complementary and alternative medicine/therapy for your children?
   □ yes □ no

IF you answered NO to both questions 26 & 27 please go to the last page.

IF you answered YES to question 26 or 27 please continue answering the next few questions.

28. What percentage of your family’s healthcare is complementary/ alternative medicine?
   □ % complementary/ alternative healthcare
   □ % conventional healthcare

29. Where do you obtain MOST of your information about complementary and alternative medicine/therapy? (indicate as many as needed)
   □ Doctor/GP □ Other health professional i.e. nurse
   □ Health food store staff □ Book/Magazine
   □ Friends / Family □ Internet
   □ Comp/alternative health professional i.e. Osteopath
   □ Other (please state)..................................

30. How frequently do you use some type of complementary/ alternative healthcare?
   You/ partner □ Weekly □ fortnightly □ monthly □ 3 monthly □ yearly
   Partner/spouse □ Weekly □ fortnightly □ monthly □ 3 monthly □ yearly
   Your children □ Weekly □ fortnightly □ monthly □ 3 monthly □ yearly

31. Does your doctor advise you on complementary/alternative medicine/therapy?
   □ Yes □ No

32. Have you informed your doctor of your child’s complementary/alternative medicine/therapy use?
   □ Yes □ No
33. Please indicate **conditions** that you have used complementary and alternative therapies for and please write in what **type of therapy you used**.

<table>
<thead>
<tr>
<th>Reason for use</th>
<th>Parent Therapy used</th>
<th>Child Therapy used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.e. colic /teething</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musculoskeletal conditions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.e. muscle strain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digestive conditions / complaints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breathing conditions / complaints</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ear/ Nose/Throat</td>
<td></td>
<td></td>
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<tr>
<td>Urinary problems</td>
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<tr>
<td>Allergies</td>
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<tr>
<td>Sleeping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headaches /migraines</td>
<td></td>
<td></td>
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<tr>
<td>Behaviour</td>
<td></td>
<td></td>
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<tr>
<td>Skin conditions</td>
<td></td>
<td></td>
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<tr>
<td>Disability</td>
<td></td>
<td></td>
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<tr>
<td>i.e cerebral palsy</td>
<td></td>
<td></td>
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<tr>
<td>Illness prevention / health maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please state)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

34. **Have you or your partner ever used Osteopathic therapy?**
   - No
   - Yes (if YES how often do you currently use it i.e. over the **past 1 year**)?
     - Weekly
     - Fortnightly
     - Monthly
     - 3 Monthly
     - 6 Monthly
     - Yearly
     - Other............................

35. **Have you ever sought Osteopathic therapy for your child/ren?**
   - No
   - Yes (if YES how often do you currently use it i.e. over the **past 1 year**)?
     - Weekly
     - Fortnightly
     - Monthly
     - 3 Monthly
     - 6 Monthly
     - Yearly
     - Other.............................
36. If you have sought Osteopathic treatment for your child/ren please complete the table below;

<table>
<thead>
<tr>
<th>Age of child</th>
<th>1st child</th>
<th>2nd child</th>
<th>3rd child</th>
<th>4th child</th>
<th>5th child</th>
<th>6th child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn</td>
<td></td>
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<tr>
<td>under 2 years</td>
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<tr>
<td>preschool</td>
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<tr>
<td>5-10 years</td>
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<tr>
<td>11-16 years</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Type of therapy</td>
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<td>2nd child</td>
<td>3rd child</td>
<td>4th child</td>
<td>5th child</td>
<td>6th child</td>
</tr>
<tr>
<td>cranial osteopathy</td>
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</tr>
<tr>
<td>general osteopathy</td>
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</tr>
<tr>
<td>Type of health issue</td>
<td>1st child</td>
<td>2nd child</td>
<td>3rd child</td>
<td>4th child</td>
<td>5th child</td>
<td>6th child</td>
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<td>colic</td>
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other (please state)

Overall helpfulness of treatment

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Overall satisfaction with treatment

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<tr>
<td>very satisfied</td>
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<td>moderately satisfied</td>
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<td>moderately unsatisfied</td>
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please explain further:
37. On average how much would you spend on your own alternative healthcare per month?

- $0-$20
- $21-$40
- $41-$60
- $61-$80
- $81-$100
- More than $100 (please state)

38. On average how much would you spend on your child/ren's alternative healthcare per month?

- $0-$20
- $21-$40
- $41-$60
- $61-$80
- $81-$100
- More than $100 (please state)

Is there any other information you would like to share that could be useful to this project?

Thank you for taking the time to complete this questionnaire and your support in enabling me to complete both my project and degree, as well as providing information that can be used to support parents in accessing the healthcare of their choice.

Please ensure you keep the Participant information sheet and attached docket, I will be in touch via the Playcentre coordinators in Term 2 with the docket number of the winning family for the family movie pass and the name of the winning Playcentre for the new books.
Appendices for Research Project
Appendix A

Notification of Ethics Approval

Felice Karuna
31 Cochran Road
Oratia
Auckland

23 October 2008

Dear Felice

Your file number for this application: 2008.904
Title: Complementary and Alternative Medicine Use by Families of the Auckland Playcentre Association

Your application for ethics approval has been reviewed by the Unitec Research Ethics Committee (UREC) and has been approved for the following period:

Start date: 22 October 2008
Finish date: 31 March 2010

Please note that:
1. the above dates must be referred to on the information AND consent forms given to all participants
2. you must inform UREC, in advance, of any ethically-relevant deviation in the project. This may require additional approval.

You may now commence your research according to the protocols approved by UREC. We wish you every success with your project.

Yours sincerely

[Signature]

Deborah Rolland
Deputy Chair, UREC

cc: Sue Gascoigne
Cynthia Almeida
Appendix B

Survey permission from the Auckland Playcentre Association

28 October 2008

Felice Karuna
31 Cochran Rd
Oratia
WAITAKERE 0604.

Dear Felice

We are happy for you to survey the members of the Auckland Playcentres Association for your research project.

Regards

Lynda Richardson
Secretary

www.Playcentre.org.nz

“Whānau tupu ngātahi – families growing together”
Appendix C

Recruitment Advertisement

Complementary and Alternative Medicine use by
Parents of the Auckland Playcentre Association

Would you like to participate in research seeking to better understand parent’s healthcare choices for their family?

This research is open to all Playcentre families. You do not need to use complementary/alternative medicine to participate. Please give 20-30 minutes of your time and complete a questionnaire; see your Playcentre coordinator if you are unsure where to find them. Please see a participant information sheet for more details.

In appreciation of your time: Every participant goes into the draw to win a family movie pass and the Playcentre with the highest proportion of completed and returned questionnaires will receive $100 worth of books for the centre library.
Appendix D

Participant Information

Please keep for your records – Full name ........................................

Complementary and Alternative Medicine use by Parents of the Auckland Playcentre Association

Dear Playcentre Parent,

My name is Felice Karuna; I am past member of Laingholm Playcentre and currently a fifth year osteopathic student at Unitec, undertaking a research dissertation as part of my Master of Osteopathy. This project is being supervised by Sue Gasquoine and Andy Stewart.

I would like to invite you to participate in a study investigating “New Zealand parents use of complementary and alternative medicine for their families”. This research is open to all Playcentre families. You do not need to use complementary/alternative medicine to participate.

This research aims to investigate complementary and alternative medicine use by New Zealand parents in order to better understand parents’ health care choices for their families.

Participants in this project will be required to:

- Complete a 20-30 minute questionnaire and return it to the collection box at the Playcentre where it will be collected by the researcher.
- Consent to the research team’s use of the research data in preparing both a research project dissertation and an article for publication.

In appreciation of your participation:

- every completed and returned questionnaire will be entered in the draw for a family movie pass. Please keep this sheet and the attached ticket.
- In addition the Playcentre with the highest proportion of returned questionnaires will be given a voucher for $100 worth of books for the Playcentre’s library.
Participation, consent and anonymity

We would greatly appreciate your participation in this study. If you’re interested in participating please complete a questionnaire and return it to the box located in your Playcentre. Return of questionnaires is taken as IMPLIED CONSENT for participation in the study. Your anonymity is ensured; participants are not asked to identify themselves.

You have the right not to participate, or to withdraw from this research project at any time prior to commencement of data analysis; 1st April 2009. This can be done by email or phone; please ensure you keep the questionnaire docket as this is the only means for indentifying your questionnaire.

If you do have questions about the study do not hesitate to contact us.

Contacts:
Felice Karuna
Unitec NZ
(09) 818 4375
0211304722
felice@naturalosteopathy.co.nz

Sue Gasquoine
Unitec NZ
(09) 815 4321
ext: 5204
sgasquoine@unitec.ac.nz

Any Stewart
Unitec NZ
(09) 815 4321
ext: 8384
astewart@unitec.ac.nz

Information and concerns
If you would like further information about the project you can call or email the above addresses. If at any time you are confused or concerned about the research project, you can contact Felice Karuna, the primary researcher, on the details above.

If you have any concerns about the way in which the research is being conducted, you can contact the following:
Health Advocates: Advocates Network Services Trust, Phone (09) 6235799, (0800)205555, Fax (09)6235798, PO Box 9983, Newmarket, Auckland.

Research outcomes
A copy of the final report will be available at the Unitec NZ library, and a plain English summary will be available to participants and other interested parties. Summaries and recommendations may be published in research journals.

Finally, we would like to extend our appreciation and thanks to you for your valuable contribution to this research.

UREC REGISTRATION NUMBER: (2008.904)
This study has been approved by the UNITEC Research Ethics Committee from 22/10/2008 to 31/03/2010. 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 7248). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix E

Guidelines for submission to the *International Journal of Osteopathic Medicine*

NOTE: although these article format guidelines are the most current available, retrieved in May 2012 from: [http://www.journalofosteopathicmedicine.com/authorinfo](http://www.journalofosteopathicmedicine.com/authorinfo) they vary slightly from how the journal actually ends up publishing the articles submitted.

Guide for Authors

The Editors of the Journal welcome contributions for publication from the following categories: Letters to the Editor and Editorials, Reviews and Original Research articles, Commentaries, Clinical Practice articles (Case Studies) with educational value and Protocols.

The Guidelines are separated into the following sections:

A Online Submission  
B Types of Contributions  
C General Guidance  
D Preparation of the Manuscript  
E Specific Guidance for Original Research Articles  
F Specific Guidance for Protocols  
G Post Acceptance

(A) ONLINE SUBMISSION  
Submission to this journal proceeds totally online at ([http://ees.elsevier.com/ijom](http://ees.elsevier.com/ijom)). You will be guided stepwise through the creation and uploading of the various files. The system automatically converts source files to a single Adobe Acrobat PDF version of the article, which is used in the peer-review process. Please note that even though manuscript source files are converted to PDF at submission for the review process, these source files are needed for further processing after acceptance. All correspondence, including notification of the Editor's decision and requests for revision, takes place by e-mail and via the Author's homepage, removing the need for a hard-copy paper trail.

The above represents a very brief outline of this form of submission. It can be advantageous to print this "Guide for Authors" section from the site for reference in the subsequent stages of article preparation.

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the Publisher.
(B) TYPES OF CONTRIBUTIONS - word limits exclude tables, figures and references.

Letters to the Editor (up to 1,000 words)
As is common in biomedical journals the Editorial Board welcomes critical responses to any aspect of the journal. In particular, letters that point out deficiencies and that add to, or further clarify points made in a recently published work, are welcomed. The Editorial Board reserves the right to offer authors of papers the right of rebuttal, which may be published alongside the letter.

Reviews and Original Articles (2,000 - 5,000 words)
These should be either (i) reports of new findings related to osteopathic medicine that are supported by research evidence. These should be original, previously unpublished works; or (ii) a critical or systematic review that seeks to summarise or draw conclusions from the established literature on a topic relevant to osteopathic medicine.

Short review (1,500-3,000 words)
The drawing together of present knowledge in a subject area, in order to provide a background for the reader not currently versed in the literature of a particular topic. Shorter in length than and not intended to be as comprehensive as that of the critical or systematic review paper. These papers typically place more emphasis on outlining areas of deficit in the current literature that warrant further investigation.

Research Note (up to 1,500 words)
Findings of interest arising from a larger study but not the primary aim of the research endeavour, for example short experiments aimed at establishing the reliability of new equipment used in the primary experiment or other incidental findings of interest, arising from, but not the topic of the primary research. Includes further clarification of an experimental protocol after addition of further controls, or statistical reassessment of raw data.

Preliminary Findings (1,500-2,500 words)
Presentation of results from pilot studies which may establish a solid basis for further investigations. Format similar to original research report but with more emphasis in discussion of future studies and hypotheses arising from pilot study.

Commentaries (up to 2,000 words)
Includes articles that do not fit into the above criteria as original research. Includes commentaries and essays especially in regards to history, philosophy, professional, educational, clinical, ethical, political and legal aspects of osteopathic medicine.

Clinical Practice
Authors are encouraged to submit papers in one of the following formats: Case Report, Case Problem, and Evidence in Practice.

i. Case Reports - usually document the management of one patient, with an emphasis on presentations that are unusual, rare or where there was an unexpected response to treatment (e.g.
an unexpected side effect or adverse reaction). Authors may also wish to present a case series where multiple occurrences of a similar phenomenon are documented. Preference will be given to reports that are prospective in their planning and utilise Single System Designs, including objective measures.

ii. The aim of the **Case Problem** is to provide a more thorough discussion of the differential diagnosis of a clinical problem. The emphasis is on the clinical reasoning and logic employed in the diagnostic process.

iii. The purpose of the **Evidence in Practice** report is to provide an account of the application of the recognised Evidence Based Medicine process to a real clinical problem. The paper should be written with reference to each of the following five steps: 1. Developing an answerable clinical question. 2. The processes employed in searching the literature for evidence. 3. The appraisal of evidence for usefulness and applicability. 4. Integrating the critical appraisal with existing clinical expertise and with the patient’s unique biology, values, and circumstances. 5. Reflect on the process (steps 1-4), evaluating effectiveness, and identifying deficiencies.

**Protocols (1,500 - 2,000 words)**
The IJOM accepts the submission of protocols of randomised interventions, systematic reviews and meta-analyses, observational studies, and selected phase I and II studies (novel intervention for a novel indication; a strong or unexpected beneficial or adverse response; or a novel mechanism of action), with the overall aim to encourage good principles in clinical research design.

The editors are looking for studies that will appeal to a wide general readership. The question being addressed and the planned design and analysis will need to be as original as possible, topical, and valid. All protocols will be subject to the journal’s usual peer review process.

**C) GENERAL GUIDANCE**

**Submission Declaration**
Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the copyright-holder.

**Ethical considerations**
*Human subjects.* Work on human beings that is submitted to *The International Journal of Osteopathic Medicine* should comply with the principles laid down in the declaration of Helsinki; Recommendations guiding physicians in biomedical research involving human subjects. Adopted by the 18th World Medical Assembly, Helsinki, Finland, June 1964, amended by the 29th World Medical Assembly, Tokyo, Japan, October 1975, the 35th World Medical Assembly, Venice, Italy, October 1983, and the 41st World Medical Assembly, Hong Kong, September 1989. The manuscript should contain a statement that the research has been approved by the appropriate ethical committees
related to the institution(s) in which it was performed and that subjects gave informed consent to
the work. Studies involving experiments with animals must state that their care was in accordance
with institution guidelines. Patients' and volunteers' names, initials, and hospital numbers should not
be used. In a case report, the subject's written consent should be provided. It is the author's
responsibility to ensure all appropriate consents have been obtained.

Patient anonymity. Studies on patients or volunteers require ethics committee approval and
informed consent which should be documented in the manuscript.

Patients have a right to privacy. Therefore identifying information, including patients' images,
names, initials, or hospital numbers, should not be included in videos, recordings, written
descriptions, photographs, and pedigrees unless the information is essential for scientific purposes
and you have obtained written informed consent for publication in print and electronic form from
the patient (or parent, guardian or next of kin where applicable). If such consent is made subject to
any conditions, Elsevier must be made aware of all such conditions. Evidence of written consent
must be provided to Elsevier on request.

Even where consent has been given, identifying details should be omitted if they are not essential. If
identifying characteristics are altered to protect anonymity, such as in genetic pedigrees, authors
should provide assurance that alterations do not distort scientific meaning and editors should so
note.

Authors submitting manuscripts as Case Reports, Case Problems, and Evidence in Practice should
ensure that they have received consent from patients who are the subject of such reports. A
statement to this effect should be included in the manuscript.

If such consent has not been obtained, personal details of patients included in any part of the paper
and in any supplementary materials (including all illustrations and videos) must be removed before
submission.

Role of the funding source
You are requested to identify who provided financial support for the conduct of the research and/or
preparation of the article and to briefly describe the role of the sponsor(s), if any, in study design; in
the collection, analysis and interpretation of data; in the writing of the report; and in the decision to
submit the paper for publication. If the funding source(s) had no such involvement then this should
be stated. Please see http://www.elsevier.com/funding.

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Acknowledgments
In the appendix one or more statements should specify (a) contributions that need acknowledging, but do not justify authorship (b) acknowledgments of technical support (c) acknowledgments of financial and material support, specifying the nature of the support. Persons named in this section must have given their permission to be named. Authors are responsible for obtaining written permission from those acknowledged by name since readers may infer their endorsement of the data and conclusions.

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The IJOM now offers authors the option to sponsor non-subscriber access to individual articles. The access sponsorship contribution fee per article is $3,000. This contribution is necessary to offset publishing costs - from managing article submission and peer review, to typesetting, tagging and indexing of articles, hosting articles on dedicated servers, supporting sales and marketing costs to ensure global dissemination via ScienceDirect, and permanently preserving the published journal article. The sponsorship fee excludes taxes and other potential author fees such as colour charges which are additional.

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Manuscripts going forward to the review process are reviewed by members of an international expert panel. All such papers will undergo a double blind peer review by two or more reviewers. All papers are subject to peer review and the Journal takes every reasonable step to ensure author identity is concealed during the review process. The Editors reserve the right to the final decision
regarding acceptance.

**Author Enquiries**

For enquiries relating to the submission of articles (including electronic submission where available) please visit this journal’s homepage at [http://www.elsevier.com/ijosm](http://www.elsevier.com/ijosm). You can track accepted articles at [http://www.elsevier.com/trackarticle](http://www.elsevier.com/trackarticle) and set up e-mail alerts to inform you of when an articles status has changed. Also accessible from here is information on copyright, frequently asked questions and more.

Contact details for questions arising after acceptance of an article, especially those relating to proofs, will be provided by the publisher.

**(D) PREPARATION OF THE MANUSCRIPT**

Submitted papers should be relevant to an international audience and authors should not assume knowledge of national practices, policies, law, etc. Authors should consult a recent issue of the journal for style if possible. Since the journal is distributed all over the world, and as English is a second language for many readers, authors are requested to write in plain English and use terminology which is internationally acceptable.

*Abbreviations* - Avoid the use of abbreviations unless they are likely to be widely recognised. In particular you should avoid abbreviating key concepts in your paper where readers might not already be familiar with the abbreviation. Any abbreviations which the authors intend to use should be written out in full and followed by the letters in brackets the first time they appear, thereafter only the letters without brackets should be used.

*Statistics* - Standard methods of presenting statistical material should be used. Where methods used are not widely recognised explanation and full reference to widely accessible sources must be given.

**Manuscript Layout**

The manuscript with a font size of 12 or 10 pt double-spaced with wide margins (2.5 cm at least) and number pages consecutively beginning with the Title Page. Depending on the paper type (see above) this should include the title, abstract, key words, text, references, tables, figure legends, figures, appendix. Microsoft Word or similar programme should be used.

Please check your typescript carefully before you send it off, both for correct content and typographic errors. It is not possible to change the content of accepted typescripts during production.

To facilitate anonymity, the author’s names and any reference to their addresses should only appear on the title page. Please check your typescript carefully before you send it off, both for correct content and typographic errors. It is not possible to change the content of accepted typescripts during production.

Papers should be set out as follows, with each section beginning on a separate page:
Title page
To facilitate the blinded peer-review process, two title pages are required. The first should carry just the title of the paper and no information that might identify the author or institution. The second should contain the following information: title of paper; full name(s) and address(es) of author(s) clearly indicating who is the corresponding author; you should give a maximum of four degrees/qualifications for each author and the current relevant appointment only; institutional affiliation; name, address, telephone, fax and e-mail of the corresponding author; source(s) of support in the form of funding and/or equipment.

Keywords
Include four to ten keywords in alphabetical order, which accurately identify the paper’s subject, purpose, method and focus. These should be indexing terms that may be published with the abstract with the aim of increasing the likely accessibility of your paper to potential readers searching the literature. Therefore, ensure keywords are descriptive of the study. Use the Medical Subject Headings (MeSH®) thesaurus or Cumulative Index to Nursing and Allied Health (CINAHL) headings where possible (see http://www.nlm.nih.gov/mesh/meshhome.html).

Abstract
Both qualitative and quantitative research approaches should be accompanied by a structured abstract of no more than 250 words. Commentaries and Essays may continue to use text based abstracts of no more than 150 words. All original articles should include the following headings in the abstract as appropriate: Background, Objective, Design, Setting, Methods, Participants, Results, and Conclusions. As an absolute minimum: Objectives, Methods, Results, and Conclusions must be provided for all original articles. Abstracts for reviews of the literature (in particular systematic reviews and meta-analysis) should include the following headings as appropriate: Objectives, Data Sources, Study Selection, Data Extraction, Data Synthesis, Conclusions. Abstracts for Case Studies should include the following headings as appropriate: Background, Objectives, Clinical Features, Intervention and Outcomes, Conclusions.

Text
The text of observational and experimental articles is usually, but not necessarily, divided into sections with the headings; introduction, methods, results, results and discussion. In longer articles, headings should be used only to enhance the readability. Three categories of headings should be used:

- major headings should be typed in capital letter in the centre of the page and underlined (i.e. INTRODUCTION)
- secondary ones should be typed in lower case (with an initial capital letter) in the left hand margin and underlined (i.e. Participants).
- minor ones typed in lower case and italicised (i.e. questionnaire).

Do not use 'he', 'his' etc. where the sex of the person is unknown; say 'the patient' etc. Avoid inelegant alternatives such as 'he/she'.
Statement of Competing Interests
When submitting a manuscript you will need to consider if you, or any of your co-authors, are an Editor or Editorial Board member of the International Journal of Osteopathic Medicine. If this is the case you will need to include a section, at the end of your manuscript immediately before the reference section, called "Statement of Competing Interests". Example statement, which may require editing, is as follows: {Name of author} is an Editor of the Int J Osteopath Med; {Name of author} is a member of the Editorial Board of the Int J Osteopath Med but was not involved in review or editorial decisions regarding this manuscript.

References
Responsibility for the accuracy of bibliographic citations lies entirely with the authors.

Citations in the text: Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Avoid using references in the abstract. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either "Unpublished results" or "Personal communication". Citation of a reference as "in press" implies that the item has been accepted for publication.

Text: Indicate references by superscript numbers in the text. The actual authors can be referred to, but the reference number(s) must always be given.

List: Number the references in the list in the order in which they appear in the text.

Examples:

Reference to a journal publication:


Reference to a book:


Reference to a chapter in an edited book:


For journal articles, the abbreviated title of the journal should be used. Authors should refer to the National Library of Medicine database for journal abbreviations (http://www.ncbi.nlm.nih.gov/nlmcatalog/journals).
Note shortened form for last page number. (e.g., 51-9), and that for more than 6 authors the first 6 should be listed followed by "et al." For further details you are referred to "Uniform Requirements for Manuscripts submitted to Biomedical Journals" (J Am Med Assoc 1997;277:927-934) (see also http://www.nejm.org/general/text/requirements/1.htm).

Web references - As a minimum, the full URL and access date should be given. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be provided. Web references should be included in the reference list.

Tables, Illustrations and Figures
Tables, illustrations and figures should be placed on separate pages as separate electronic files and not placed within the manuscript. Each table, illustration or figure should be accompanied by a number (e.g. Table 1) and a brief description of the content of the table, figure or illustration, below the table, illustration or figure. All tables, illustrations or figures should be referred to in the manuscript.

File Formatting for Artwork & Illustrations - General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Save text in illustrations as "graphics" or enclose the font.
- Only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Provide captions to illustrations separately.
- Produce images near to the desired size of the printed version.
- Submit each figure as a separate file.

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**(E) SPECIFIC GUIDANCE FOR ORIGINAL RESEARCH ARTICLES**

The text of original research for a quantitative or qualitative study is typically subdivided into the following sections:

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State the purpose of the article. Summarise the rationale for the study or observation. Give only strictly pertinent references and do not review the subject extensively. Do not include data or conclusions from the work being reported.

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Describe your selection of observational or experimental participants (including controls). Identify the methods, apparatus (manufacturer's name and address in parenthesis) and procedures in sufficient detail to allow workers to reproduce the results. Give references and brief descriptions for methods that have been published but are not well known; describe new methods and evaluate limitations.

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**Results**

Present results in a logical sequence in the text, tables and illustrations. Do not repeat in the text all the data in the tables or illustrations. Emphasise or summarise only important observations.

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Emphasise the new and important aspects of the study and the conclusions that follow from them. Do not repeat in detail data or other material given in the introduction or the results section. Include implications of the findings and their limitations, and include implications for future research. Relate the observations to other relevant studies. Link the conclusion with the goals of the study, but avoid unqualified statements and conclusions not completely supported by your data. State new hypothesis when warranted, but clearly label them as such. Recommendations, when appropriate, may be included.

**Conclusion**

A summary of the pertinent findings and, relevance of the study and implications of the study for future research.
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Study of Diagnostic accuracy/assessment scale - STARD - Standards for the Reporting of Diagnostic Accuracy Studies  

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AB conceived the idea for the study. AB and CD contributed to the design and planning of the research. All authors were involved in data collection. AB and EF analysed the data. AB and CD wrote the first draft of the manuscript. EF coordinated funding for the project. All authors edited and approved the final version of the manuscript.

(F) SPECIFIC GUIDANCE FOR PROTOCOLS

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- Publication plan.
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