



ORIGINAL PAPER

The scope of chiropractic practice: A survey of chiropractors in the UK

Aranka Pollentier^a, Jennifer M. Langworthy^{b,*}

^a Eikenlaan 3, 8470 Gistel, West-Vlaanderen, Belgium

^b IMRCI, Anglo-European College of Chiropractic, Bournemouth, Dorset, BH5 2DF, UK

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Summary

Rationale: In the UK, chiropractic has undergone significant change in recent years, particularly with the advent of statutory regulation and an increasing emphasis on evidence-based and multidisciplinary health care. Little is known about what effect, if any, such changes have had on the profession's view of its scope of practice.

Objective: To ascertain the opinion of UK chiropractors regarding chiropractic beliefs and philosophy, the benefit of chiropractic intervention in paediatric, adolescent and adult conditions and its relationship with the National Health Service (NHS). Differences in opinion between chiropractors from different UK chiropractic associations – the British Chiropractic Association (BCA), McTimoney Chiropractic Association (MCA), the Scottish Chiropractic Association (SCA) and the United Chiropractic Association (UCA) – were also investigated.

Methods: A one-shot postal questionnaire was sent to 490 randomly selected chiropractors in the UK registered with the General Chiropractic Council (GCC) (Sample 1). Subjects were selected by a simple random probability sample design. Sample 2 comprised a further 45 randomly chosen subjects from the same sampling frame and was used to test whether Sample 1 was representative of the population. Data were subjected to descriptive analysis using SPSS v10. Differences between groups were investigated by Chi-square analysis and the Kruskal–Wallis *H*-test.

Results: The response rate for Samples 1 and 2 was 54% and 53%, respectively. There was no difference between the two samples in terms of gender, age, college of graduation and chiropractic association membership. Internal consistency of the questionnaire was proven to be weak-moderate ($r = -.265$ [interclass correlation (IC): $-.256$; 95% confidence interval (CI): $-.368$ to $-.136$] to $.591$ [IC: $.583$; 95% CI: $.494$ – $.659$]). Overall, mechanical conditions of the musculoskeletal system were felt to be treated effectively by chiropractic intervention and there was 100% agreement that it was beneficial in treating mechanical dysfunctions of the spine. Non-musculoskeletal conditions in adults, including asthma (64%), gastro-intestinal complaints

* Corresponding author. Tel.: +44 1202 436277; fax: +44 1202 436278.
E-mail address: imrci.jlangworthy@aecc.ac.uk (J.M. Langworthy).

(61%) and pre-menstrual syndrome (PMS) (70%), were considered conditions that can benefit from chiropractic management. Opinions on the treatment of osteoporosis (43%), obesity (26%), hypertension (42%) and infertility (30%) were less conclusive. Childhood musculoskeletal and muscular conditions, infantile colic, otitis media and asthma were perceived to benefit from chiropractic intervention by more than 50% of the respondents. Statistically significant differences between chiropractors of different associations in the UK were present, particularly regarding the benefits of chiropractic treatment for non-musculoskeletal conditions.

Conclusion: The chiropractors in this study may not view themselves as neuromusculoskeletal (NMS) specialists only. Respondents reported treating visceral/organic conditions and expressed a belief that patients with these complaints can benefit from chiropractic. Differences in opinion appear to remain between the professional associations, particularly in relation to treatment benefits for viscerosomatic conditions and philosophical relevance. However, these findings need to be explored in a more representative sample.

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Introduction

The Chiropractors' Act was established in 1994 and provided the foundation for the establishment of the General Chiropractic Council (GCC)¹—the UK chiropractic regulatory body charged with ensuring the continuing regulation and registration of the profession. Despite publication of the GCC's Standard of Proficiency and Code of Practice,² the scope of chiropractic remains ill-defined, i.e. "Chiropractic is an independent primary health care profession."

For much of its history, chiropractic care has been a complementary therapeutic paradigm separate from, or marginal to, the mainstream healthcare system.^{3–5} In recent times, the situation in the UK has changed, with opportunities arising for chiropractic services to be offered within the National Health Service.^{4–6} An important issue in relation to integration has been the application of evidence-based practice. To date, over 73 randomised controlled trials (RCTs) of a broadly defined spinal manipulative therapy (SMT) have been published in the general medical, orthopaedic and chiropractic literature.⁷ Most RCTs have studied the effect of SMT on musculoskeletal conditions. Nevertheless, a small number have investigated the effectiveness of chiropractic treatment and management of visceral/organic conditions, i.e. primary dysmenorrhoea,⁸ pre-menstrual syndrome (PMS),⁹ asthma,¹⁰ enuresis¹¹ and infantile colic.^{12,13} Although some of these studies are broadly supportive of chiropractic as an effective intervention the evidence is weak, while others have failed to demonstrate evidence for chiropractic as an effective treatment, e.g. for asthma and enuresis.^{14,15} Further RCTs on the effectiveness of manual therapies in the treatment of visceral/organic conditions are needed before more definitive conclusions can be drawn.

Twenty years ago, the treatment of viscerosomatic conditions was not a feature of European chiropractic practice.¹⁶ However, a decade later this appeared to have changed, at least within the UK profession.¹⁷ The current study investigated whether this apparent change was sustained during a time that saw the emergence of evidence-based healthcare and whether there has been a perceived change in the scope of practice among a sample of UK chiropractors away from a neuromusculoskeletal (NMS) specialism toward a more discernible form of primary care practitioner. In considering the scope of chiropractic practice, this study investigated the possibility of differences in opinion between chiropractors affiliated to different chiropractic associations established within the UK—the British Chiropractic Association (BCA), the McTimoney Chiropractic Association (MCA), the Scottish Chiropractic Association (SCA) and the United Chiropractic Association (UCA).

Methods

Data collection was achieved via a descriptive one-shot questionnaire sent to a randomly selected sample of GCC registered chiropractors within the UK. The sampling frame provided by the GCC comprised the most recently updated list of 2134 registered chiropractors in the UK at the time of the study. This excluded chiropractors living abroad or having their GCC registration investigated at that point in time and on this basis 158 individuals were deemed ineligible. A simple random sample design was used to obtain a sample of 490 chiropractors (Sample 1). Probability sampling was the preferred sample design and was performed by an anonymous third party who was instructed to select one subject out of every four

consecutive subjects from the sampling frame with exclusion criteria applied.

Questionnaires were pre-coded prior to distribution to enable follow-up of non-responders. However, this proved impossible to do as codes were often missing or purposely made illegible upon return. To investigate if Sample 1 was representative of the UK chiropractic population, a random selection of a further 45 subjects (Sample 2) was made. Data were analysed using Statistical Package for Social Sciences (SPSS) Version 10.

The questionnaire comprised 52 questions in 4 sections utilising Likert scales with 5 intervals (agree strongly, agree, not sure, disagree and disagree strongly). The independent samples (Samples 1 and 2) were compared for gender, age, college of graduation and chiropractic association membership using the Pearson Chi-square (χ^2) test for two independent samples. Internal consistency of the questionnaire was tested using the non-parametric Kendall's tau b test. Frequency tables were calculated, as were medians and interquartile ranges (ICR) for the data obtained from the questionnaires in Sample 1. The Kruskal–Wallis *H*-test was applied to investigate if the opinions of British chiropractors on the scope of chiropractic practice differed significantly between males and females, between different age groups and between chiropractors belonging to different UK chiropractic organisations—the BCA, the MCA, the SCA and the UCA. It is a non-parametric alternative to one-way analysis of variance and tests the null hypothesis that the samples do not differ in mean rank for the criterion variable. The significance level was set at 99% ($p \leq 0.001$).

Results

For Sample 1, a total of 263 (54%) of the 490 originally distributed questionnaires were returned. Of those, 14 were invalid: either the respondent had left the country or had failed to fully complete all sections of the questionnaire. Therefore, 249 were available for analysis. The response rate for Sample 2 was 53%. No significant difference was found between the samples with regards to gender ($p = .787$), age ($p = .243$), college of graduation ($p = .217$) and association membership ($p = .543$). Internal consistency of the questionnaire was weak to moderate. Correlation coefficients ranged between $-.256$ and $.591$. Interclass correlations (ICs) for single measures were $-.256$ (95% CI $-.365$ to $-.136$) and $.583$ (95% confidence interval (CI) $.494$ – $.659$), respectively.

Of the respondents in Sample 1, 43% were female. In Sample 2, 46% were female. Most (34%) respondents were in the age group 25–35 years. Fifty per cent had graduated from the Anglo-European College of Chiropractic. Other respondents had graduated from the McTimoney Chiropractic College (17%), Welsh Institute of Chiropractic (14%) or other non-UK colleges (19%). The majority (68%) of the participating chiropractors were members of the BCA. Seventeen per cent were members of the MCA, 4% of the SCA and 7% of the UCA. Four per cent of the respondents were not affiliated to any of the UK chiropractic associations. Currently, the BCA accounts for 1264 full members actively working in the UK (59%), the MCA for 514 (24%), the UCA for 243 (11%) and the SCA for 145 (7%).

Nearly all (98%) respondents considered a chiropractor to be a primary contact practitioner (PCP). Sixty-nine per cent did not see themselves as a neuromusculoskeletal (NMS) specialist only. Most (78%) respondents agreed that a chiropractor primarily treats NMS disorders and, to some degree, visceral or organic conditions (Table 1). Traditional chiropractic beliefs (chiropractic philosophy) were deemed important by 76% of the respondents and 63% considered subluxation to be central to chiropractic intervention. Forty-three per cent disagreed that the term 'subluxation' was a barrier to integration and expanding primary care roles for chiropractors. However, science was considered more important than traditional chiropractic beliefs/philosophy by 47% of the sample. Limited prescription rights were not considered beneficial (59%). However, the survey failed to differentiate between the profession and its members and patients with regard to this. Mainstream and chiropractic paradigms were perceived to be compatible in practice by 73%. Greater integration of chiropractic with the NHS was considered to be beneficial for patients and for chiropractors by 61% of the respondents.

Chiropractors participating in the survey believed strongly that chiropractic intervention in adult patients is beneficial in the treatment of mechanical dysfunctions, including temporomandibular joint (TMJ) conditions and carpal and tarsal syndromes (Table 2). They also indicated a belief in the effectiveness of chiropractic treatment for some visceral conditions, for example, dysmenorrhoea and premenstrual syndrome (Table 2). The majority were also firm in their belief that chiropractic is an effective treatment of musculoskeletal problems in the adolescent (Table 3), as well as for infantile systemic conditions. Respondents were less certain of the benefits of treating attention deficit hyperactivity disorder (ADHD) and cerebral palsy in children. Statistically significant ($p \leq 0.001$)

Table 1 Traditional chiropractic beliefs/philosophy

Traditional chiropractic beliefs/philosophy	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
A chiropractor is a primary contact practitioner	0	1	1	29	68
A chiropractor is a primary contact practitioner, treating primarily neuromusculoskeletal disorders by giving adjustments only	19	52	5	21	4
A chiropractor primarily treats neuromusculoskeletal disorders by giving adjustments only	22	53	4	19	3
A chiropractor primarily treats neuromusculoskeletal and, to some degree, visceral or organic conditions	3	10	9	66	12
A chiropractor primarily treats neuromusculoskeletal disorders by giving adjustments and/or using complementary therapy modalities	2	11	8	51	28
A chiropractor is a neuromusculoskeletal specialist <i>only</i>	29	40	10	16	5
A chiropractor primarily treats neuromusculoskeletal and, to some degree, visceral or organic conditions by giving adjustments and using complementary therapy modalities	3	15	8	49	25
Traditional chiropractic beliefs (chiropractic philosophy) are an important and integral part of chiropractic	2	8	14	45	31
Subluxation is central to chiropractic intervention	5	18	14	42	21
In today's chiropractic profession science is more important than traditional chiropractic beliefs/philosophy	10	30	19	30	12
Chiropractic is alternative with regard to its holistic healthcare approach	8	31	19	36	7
Mainstream and chiropractic paradigms are compatible in practice	3	10	14	55	17
Greater integration of chiropractic into the NHS would be beneficial for patients and for chiropractic	8	15	15	35	26
The term 'subluxation' offers a barrier to integration and expanding primary care roles for chiropractors	10	33	21	30	7
It would be beneficial if chiropractors were allowed to prescribe medication on a restricted basis	28	31	14	21	7

differences in opinion were found between chiropractors from the four professional associations on issues influenced by philosophical belief (Table 4).

Discussion

The results of this study are limited owing to the low number of participants, which prevents the findings being generalisable to the whole profession. Weak to moderate internal consistency (the extent to which survey items assess the same dimension)¹⁸ is another likely confounder. Removal of items not highly correlated with each other may improve internal consistency but this will create a one-dimensional instrument resulting in low content validity (i.e. the completeness and relevance of questions to the area of investigation).¹⁹ In a heterogeneous population, it is quite possible that the measure will show low internal consistency but in these circumstances it is purported better to forfeit

internal consistency in favour of content validity when the aim of the measure is inferential, as this depends more on content validity than on internal consistency.²⁰ Nevertheless, it should be noted that the questionnaire utilised in the current study was not validated prior to use.

While results of the current study on first impression might seem to suggest that UK chiropractors are changing their perceptions on the scope of chiropractic practice away from a more mechanistic/ biomedical model focusing largely on mechanical dysfunction, to one that incorporates an organic approach, this remains unproven. An alternative interpretation may be that this suggested change may not be change per se but is attributable to the vagaries of sampling, the randomisation process selecting a majority of practitioners who have always been more inclusive of the organic model of practice. If so, then there would be a natural polarisation from those with a more biomedical practice ethos produced by the sampling. Further

Table 2 Adult conditions considered effectively treatable by chiropractic methods

Adult conditions	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
Low back pain				6	93
Mechanical dysfunction(s) of the spine				9	91
Mechanical dysfunction(s) of the peripheral joint(s)				17	83
Neck pain				7	92
Cervicogenic headache				13	87
Tension type headache			1	23	76
Joint sprain		2	6	31	61
TMJ syndrome/conditions			7	36	57
Carpal or tarsal tunnel syndrome		1	10	40	49
Upper extremity pain/dysfunction				29	71
Lower extremity pain/dysfunction				29	71
Tendonitis/tenosynovitis		1	8	45	47
Muscular conditions (e.g. sprain/strain, atrophy)		1	8	43	47
Osteoporosis/osteomalacia	9	27	22	31	12
Asthma	2	7	27	47	17
Hypertension	4	19	35	30	12
Gastro-intestinal complaints	2	10	27	43	18
Obesity	11	31	32	21	5
Menstrual disorders/dysmenorrhoea/PMS	1	6	23	53	17
Infertility	12	19	39	21	9

work is needed to determine whether real change has taken place.

The majority of responding chiropractors in the current study considered themselves to be PCPs. Moreover, in a study²¹ of managed care in the US it was concluded that chiropractors provide services appropriate to them being profiled as primary care physicians. The debate between 'primary contact' versus 'primary care' is an ongoing one within the profession and perhaps focuses around the issues of setting (primary care) and access (primary contact). This debate is beyond the scope of the current study but nonetheless, whatever the terminology, either description distances the chiropractor from the role of therapist (activity). In a survey by Wilson in 2000,¹⁷ it was observed that 55% of respondents saw themselves as diagnosticians, whereas 71% considered themselves to be therapists. The apparent

change in perception of chiropractors in the UK may be attributable to the introduction of the GCC Standard of Proficiency and Code of Practice in 1999² in which it is stated 'a chiropractor must formulate a working diagnosis or clinical impression and document it in terms that are comprehensible to both chiropractors and other health professionals, expressed rationally and clearly to the evidence from the clinical assessment.'

In the current study the majority (74%) of respondents did not consider themselves to be NMS specialists only and indicated that they do also treat visceral and/or organic conditions. In 1991, Pedersen¹⁶ conducted a survey of chiropractic practice in Europe and found virtually no evidence of attempts to manage viscerosystemic disease in the chiropractic practice setting. A few years later, Wilson (2003)¹⁷ found that the management of visceral/

Table 3 Paediatric/adolescent conditions considered effectively treatable by chiropractic methods

Paediatric/adolescent conditions	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree %	Strongly agree (%)
Infantile colic (e.g. reduced crying behaviour)			12	46	41
Childhood asthma	1	3	32	42	22
Childhood (nocturnal) enuresis	1	6	38	34	21
Otitis	2	8	36	33	21
Childhood epilepsy and/or seizure disorders	8	18	45	19	10
Childhood ADHD	3	12	38	34	13
Childhood cerebral palsy	8	17	42	24	10
Musculoskeletal conditions in the adolescent			1	21	78
Muscular conditions in the adolescent		1	2	40	58

Table 4 Differences in opinion between members of the professional associations

	Chi-square	Significance
Please indicate if you strongly disagree, disagree, agree, strongly agree or are not sure with the following statements		
A chiropractor is a primary contact practitioner	32.521	0.000*
A chiropractor is a primary contact practitioner, treating primarily neuromusculoskeletal disorders by giving adjustments only	1.916	0.590
A chiropractor primarily treats neuromusculoskeletal disorders by giving adjustments only	2.237	0.525
A chiropractor primarily treats neuromusculoskeletal and, to some degree, visceral or organic conditions	0.475	0.924
A chiropractor primarily treats neuromusculoskeletal disorders by giving adjustments and/or using complementary therapy modalities	13.109	0.004
A chiropractor primarily treats neuromusculoskeletal and, to some degree, visceral or organic conditions by giving adjustments and using complementary therapy modalities	6.820	0.078
A chiropractor is a neuromusculoskeletal specialist <i>only</i>	6.039	0.110
Traditional chiropractic beliefs (chiropractic philosophy) are an important and integral part of chiropractic	46.392	0.000*
Subluxation is central to chiropractic intervention	43.126	0.000*
In today's chiropractic profession science is more important than traditional chiropractic beliefs/philosophy	56.635	0.000*
Chiropractic is alternative with regard to its holistic healthcare approach	1.211	0.750
Mainstream (allopathic) and chiropractic paradigms are compatible in practice	28.299	0.000*
Greater integration of chiropractic into the NHS would be beneficial for patients and for chiropractic	15.406	0.002
The term 'subluxation' offers a barrier to integration and expanding primary care roles for chiropractors	32.881	0.000*
It would be beneficial if chiropractors were allowed to prescribe medication on a restricted basis	18.642	0.000*
Please indicate if you strongly disagree, disagree, agree or strongly agree or are not sure if chiropractic intervention (not only spinal manipulative therapy) can provide benefits in the treatment of the following conditions		
Low back pain	11.775	0.008
Mechanical dysfunction(s) of the spine	13.753	0.003
Mechanical dysfunction(s) of the peripheral joint(s)	14.258	0.003
Neck pain	6.526	0.089
Cervicogenic headache	9.211	0.027
Tension type headache	8.216	0.042
Joint sprain	10.270	0.016
TMJ syndrome/conditions	2.641	0.450
Carpal or tarsal tunnel syndrome	0.813	0.846
Upper extremity pain/dysfunction	6.186	0.103
Lower extremity pain/dysfunction	5.498	0.139
Tendonitis/tenosynovitis	12.694	0.005
Muscular conditions (e.g. sprain/strain, atrophy)	7.671	0.053
Osteoporosis/osteomalacia	6.035	0.110
Asthma	11.012	0.012
Hypertension	25.450	0.000*
Gastro-intestinal complaints	19.726	0.000*
Obesity	6.530	0.088
Menstrual disorders/dysmenorrhoea/PMS	18.114	0.000*
Infertility	28.629	0.000*
Infantile colic (e.g. reduced crying behaviour)	3.319	0.345
Childhood asthma	10.536	0.015
Childhood (nocturnal) enuresis	11.986	0.007
Otitis	9.190	0.027
Childhood epilepsy and/or seizure disorders	28.036	0.000*

Table 4 (Continued)

	Chi-square	Significance
Childhood attention deficit/hyperactivity disorder (ADHD)	16.210	0.001*
Childhood cerebral palsy	18.044	0.000*
Musculoskeletal conditions in the adolescent (e.g. acute low back pain, scoliosis, neck pain, headache)	1.615	0.656
Muscular conditions in the adolescent (e.g. sprains, strains)	17.235	0.001*

* Significant at 99% ($p \leq 0.001$).

organic conditions was viewed within the scope of chiropractic practice by 69% of the participating ($n = 816$) UK chiropractic population. This may not represent the change that is perhaps initially suggested as the populations in these two studies were different. Most notably, the study by Wilson (2003)¹⁷ included McTimoney and McTimoney–Corley chiropractors, whose philosophical traditions have historically been strongly associated with the Palmer (vitalistic/organic) model of chiropractic. However, studies^{8,9,13,22–28} reported in the literature on the efficacy of chiropractic spinal manipulative therapy (SMT) for non-musculoskeletal conditions might have emboldened chiropractors to consider a broader scope of chiropractic practice, away from a NMS specialism. In turn, it is theoretically possible that this may have facilitated opportunity for the co-management of selective conditions with other conventional healthcare professions, although it is more likely that such opportunities would be limited to the treatment of conditions with a body of evidence in support. It should be noted that most of the literature supporting the effectiveness of chiropractic treatment for non-musculoskeletal conditions are case reports, which provide the weakest level of evidence. While case studies have an important role to play, practitioners need to be familiar with the hierarchy of evidence if they are contemplating changes to what and how they treat/practice.

It could perhaps be argued that the positive outcome for chiropractic of the Meade (1995)²⁹ trial provided a stimulus for serious consideration of the provision of chiropractic services under the NHS. In the current study, nearly three-quarters of the respondents agreed that chiropractic and mainstream paradigms are compatible in practice and almost two-thirds believed that integration of chiropractic into the NHS would be beneficial for patients and for chiropractic. In 2001, Wilson found that 11% of respondents treated patients funded by the NHS.¹⁷ Langworthy et al. (2002)³⁰ reported that 29% of responders in their study had previously provided chiropractic treatment to NHS patients with musculoskeletal complaints and 21% who had never done so were very keen to provide chiropractic care to NHS patients subject to acceptable terms

and conditions. The GCC (2004)³¹ found in their study (response rate 42%) that 82% of the responding UK chiropractors would be willing to see patients whose chiropractic care was funded by the NHS and 75% would be willing to be involved with a Primary Care Trust to provide a chiropractic service in primary care.

Regarding the debate on limited prescription rights for chiropractors, 59% of the respondents did not consider the prescription of medication beneficial for the chiropractic profession, while an additional 14% were undecided. Wilson¹⁷ found 36% of the respondents felt that prescription of medications should be integrated within the scope of chiropractic practice.

Of the conditions considered, there was 100% agreement that chiropractic intervention in adult patients provides benefits for mechanical dysfunctions of the spine. Results from this study closely mimic those obtained by the GCC (2004).³¹ The efficacy of chiropractic is supported by scientific evidence from RCTs and also from meta-analyses that have shown chiropractic intervention to be beneficial in the treatment of acute and chronic low back pain.^{32–40}

Thirty-one per cent of the respondents did not consider chiropractic intervention for infertility to be beneficial. Of note, 39% were not sure if chiropractic could help with the condition. There may be several reasons for this. First, case studies^{41,42} have been published in this area suggesting that chiropractic intervention has a positive effect on female reproductive disorders. However, more research in this area is needed. Second, results from the USA Job Analysis of Chiropractic (2001)⁴³ show that patients do not often present to the chiropractic clinic with the specific problem of infertility. Instead, they will seek help from gynaecologists and other specialties. However, chiropractors (51%) in the USA do co-manage infertility problems.⁴³

The majority of respondents in the current study agreed that chiropractic is beneficial in the treatment of infantile colic. Moreover, the literature suggests that chiropractic treatment is frequently used in the treatment of this condition, with both parents

and chiropractors reporting improvement in the child.¹³ Positive effects following SMT (decreased total daily hours of infantile colic, reduced crying behaviour and increased total hours of sleep) have been reported by Mercer and Nook²⁸ and by Wiberg and Nilsson.²⁷ Also, in the GCC report (2004),³¹ 63% of the respondent chiropractors reported being able to manage infantile colic with chiropractic intervention.

Conclusion

Results suggest that participating chiropractors in this study may not consider themselves to be neuromusculoskeletal specialists only. However, whether this represents a real change in perceived scope of practice is unproven. While respondents reported treating visceral/organic conditions because of a belief that patients with these complaints can benefit from chiropractic, differences in opinion existed between members of the professional associations in relation to this and issues subject to philosophical influence. Further work is needed to establish whether current results are representative of today's chiropractic within the UK and the wider chiropractic community.

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