The Chiropractic Report

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Professional Notes

Brazil Supreme Court Rules for Chiropractic

On July 1 the Supreme Court in Brazil delivered one of the most important court decisions for the chiropractic profession ever made anywhere.

This was a final decision in favor of the Brazilian Chiropractors' Association (ABQ) which means that the professional and legislative efforts of the physical therapy profession in Brazil over the past 10 years to establish chiropractic as a specialty of physical therapy have been defeated.

In a lawsuit brought by the ABQ against the Federation of Regulatory Bodies for Physical Therapy and Occupational Therapy (COFFITO) the court ruled that COFFITO's Proposition 220, designating chiropractic a specialty of physical therapy and aggressively enforced by COFFITO's member councils in the various Brazilian states during recent years, was invalid because chiropractic is a separate and distinct profession. It is incapable of being proclaimed a specialty by another profession.

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Recent Research Relevant To You

Management of Spinal Pain, Expectant Mothers, Pediatric Patients

LAST MONTH IT WAS A PLEASURE to open the latest issue of *Spine,* the leading scientific journal in the field of spinal research, and discover that the first and featured article was an important, new, clinical trial from a chiropractic research team at Palmer College of Chiropractic in Davenport, Iowa.

In a large, randomized controlled trial (RCT) funded by the US National Institutes of Health[1], Xia, Long, Gudavalli et al. from the Palmer Center for Chiropractic Research report that:

- High-velocity, low-amplitude joint manipulation and flexion-traction mobilization are effective in the treatment of patients with sub-acute and chronic low-back pain, producing reductions in pain and disability that are statistically and clinically significant in comparison with control group patients who received no treatment.
- Interestingly, that both forms of treatment were equally effective.

The June issue of the chiropractic profession's leading scientific publication, the *Journal of Manipulative and Physiological Therapeutics (JMPT),* also carried important new clinical research.

- An RCT from Gorrell, Beath and Engel[2] from the Department of Chiropractic, Macquarie University in Sydney, Australia reports that manually-assisted manipulation (MAM) has superior short-term results to instrument-assisted manipulation (IAM) for patients with mechanical neck pain.
- An RCT from Haavik, Murphy and Kruger[3] from the New Zealand College of Chiropractic, a first study in its field, provides evidence that chiropractic manipulation to correct spinal dysfunction in asymptomatic, pregnant women results in relaxation of the pelvic floor muscles. This is of great potential significance to expectant mothers given the role of the muscles in the birth process.

The depth and quality of chiropractic research continue to expand. The studies mentioned are clinical trials. Other important, recent papers include other categories of research – for example health services research in the US reporting reduced prescription of opioids for spine pain patients in communities with more doctors of chiropractic, and extensive growth of chiropractic services in the US Veterans Administration healthcare system; and evidence-based, chiropractic clinical guidelines for pediatric practice.

This issue of *The Chiropractic Report* reviews these studies, all of significance to practicing chiropractors.

B Thrust or Non-Thrust – Which is Better?

2. At the beginning of their paper in *Spine* Xia, Long et al. explain that low-back pain is now recognized as a major health problem, because of its high prevalence, levels of disability and socioeconomic cost, and that spinal manipulation is commonly used in the US and is recommended in current, evidence-based clinical guidelines in the US[4] and Europe[5].

However there are different types of spinal manipulation, and the current evidence says that they produce beneficial effects "via multiple mechanisms including biomechanical, neurophysiological, cellular and/or psychological components". Which type is better for sub-acute and chronic back pain patients?

Xia et al. adopt the terms thrust and non-thrust manipulation to divide and describe manual therapies with a primary target of the joints, rather than the muscles, fascia and other soft-tissues not directly associated with the joint structures. (See comment on this below.)

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The goal of their study was to determine whether two biomechanically distinct forms of chiropractic spinal manipulation, HVLA thrust manipulation or flexion/distraction non-thrust manipulation, resulted in different short-term results for patients with persistent and significant back pain and disability. They focused on adults younger than age 55 to reduce comorbidities that would potentially influence treatment results.

3. Summary points are:

a. Participants. The 192 participants were adults (21-54 years of age) with uncomplicated,sub-acute or chronic back pain ("at least 4 weeks") of at least moderate intensity (score of 6 or more on the Roland Morris Disability Questionnaire). In fact 90% had chronic LBP with the current episode lasting more than 3 months, and 62% more than one year. In other words, this was essentially a chronic back pain population. Exclusion criteria included neurological signs, stenosis, red flags, history of surgery, involvement in litigation and recent use of manipulation.

b. Trial Groups. Participants were randomly assigned to one of 3 groups:

• Side-lying Thrust Manipulation. Patients were in side posture, with treatment directed at the L4, L5 and/or SI joints and given by one of four doctors of chiropractic, each with at least 6 years' experience. There were two treatments per week for two weeks, or four treatments in total. Clinicians were free to determine the side and specific levels of treatment based on individual assessment.

• Non-thrust Flexion-distraction Manipulation. Cox flexion-distraction technique was used, with the same target area, doctors of chiropractic and frequency of care. Each session typically included the application of up to 15 slowly applied traction cycles, each lasting 1-3 seconds.

• Wait List Control. These participants were the control group. They were assessed at the beginning of the trial (at baseline) and at 2-week follow up but did not receive any treatment.

c. Outcome Measures. The primary outcome measure was level of disability on the Roland-Morris Disability Questionnaire. Secondary measures included self-rated pain intensity ("average pain during the last week") on a 100-mm line Visual Analogue Scale (VAS), Fear-Avoidance Beliefs Questionnaire measurement of fear of pain and avoidance of activities, and SF-36 measurement of health status.

d. Results. These were measured at 2 weeks on completion of treatment and during a study visit in week 3. Results included:

• Both spinal manipulation procedures "generated short-term reductions in disability and pain intensity that were statistically and clinically significantly better than a wait list control".

• No significant difference in any of the outcomes was observed as between the two spinal manipulation groups.

• Mean decrease in disability on the Roland-Morris DQ was 4.0 points for the thrust manipulation group, 3.8 for the non-thrust group, 1.0 for the wait list group. (Minimum clinically significant change is 2-3 points. As most patients had truly chronic pain and disability, the improvement in the two manipulation groups of approximately 4.0 after two weeks of care seems encouraging. As Xia et al. comment, four treatments were considerably less than a standard course of manipulation as current literature supports and recommends an initial course of 12 manipulation treatment visits for such patients.)

• Mean decrease in pain intensity on the VAS was 23.5 mm in the thrust manipulation group, 17.8 mm in the non-thrust manipulation group, and 6.1 mm in the wait list group.

4. Xia et al. report that these results are consistent with previous evidence which suggests that thrust and non-thrust spinal manipulation produce similar clinical results with such patients. However, as they acknowledge, it is important to understand that there are substantial differences in past studies in various ways, including the specific manual therapy interventions used. The position is made even more complicated by the lack of agreement on terminology.

What exactly is non-thrust joint manipulation, and how does this differ from joint mobilization? Since the time of Sandoz in the 1960s chiropractic has drawn a distinction between:

• Joint manipulation – thrust or high-velocity techniques that move the joint beyond its passive range of motion into the paraphysiological space, with approximately 20 minutes elapsing before the joint surfaces resume contact. Typically there is cavitation, and

• Joint mobilization – non-thrust or low-velocity techniques with the joint remaining within its active and passive ranges of motion.

It is the physical therapy profession that has described joint manipulation as the final level or grade of mobilization. Use of the term spinal manipulative therapy (SMT) instead of spinal manual therapy also muddies the waters. There is a strong case for chiropractic maintaining a clear distinction between joint mobilization and joint manipulation, which require significantly different levels of skill and training.

5. Turning then to past studies:

• Medical researchers Hadler et al.[6] compared the effects of one session of side-lying thrust manipulation (manipulation) and non-thrust manipulation (mobilization) in adults with acute low-

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back pain. Results were followed for 2 weeks. Patients who had had LBP for more than 2 weeks before commencement of the trial responded better to manipulation initially, but after 2 weeks the average disability level on the Roland-Morris DQ was the same for patients in both groups.

• Physical therapy researchers Cleland et al.[7] compared the effects of supine thrust manipulation and side-lying thrust manipulation (both manipulation) with posterior-to-anterior, non-thrust manipulation (mobilization) in 112 adults with acute and sub-acute LBP. There were only 2 treatment sessions. Patients in both manipulation groups had significantly reduced disability as measured by the Oswestry Disability Index, and pain intensity, at 1 and 4 weeks than those receiving mobilization.

• Physical therapy researchers Cook et al.[8] examined thrust and non-thrust posterior-to-anterior techniques for 154 adults with mechanical LBP. Again, patients received only 2 treatment sessions. In this trial they also received a standardized, home exercise program. There were no significant group differences in disability (Oswestry) or pain (NRS) following treatment or at discharge.

• Chiropractic researchers Hondras et al.[9], in a trial similar to that by Xia et al. and performed simultaneously with it at the same Palmer Center, compared the results of thrust and non-thrust manipulation with older adults (age 55 or more). However there were 12 treatment sessions over 6 weeks. At each of 3 and 6 weeks there were no significant differences in pain and disability between those receiving thrust manipulation and the Cox flexion-distraction mobilization.

In summary, it is challenging to draw conclusions when there are so many variables in the research – not only in forms of manual therapy used but also course of treatment, use of other interventions, patient populations and methods of measuring results. Both of the common methods of chiropractic manual treatment used in the new Xia et al. trial were shown to be safe and effective. There is some suggestion in the past research that overall joint manipulation may produce earlier and better results than joint mobilization with acute and chronic back pain patients.

C Neck Pain – Manual vs Instrument Adjusting

6. The June issue of *JMPT* has just published a well-designed RCT from Lindsay Gorrell MChiro, PhD and colleagues from the Department of Chiropractic, Macquarie University, Sydney, Australia which addresses the question of which form of manipulation is best for patients with mechanical neck pain (MNP), defined by them as "nonspecific pain of non-pathological origin occurring in the cervical spine".

Gorrell et al. note that the evidence and published clinical guidelines support the effectiveness of manipulation for patients with MNP – but that the next important step is better evidence on which form or forms of manipulation are better. They therefore compare:

• Manually-applied manipulation (MAM) – lateral flexion thrust manipulation delivered by one experienced (30 years) chiropractor, as fully described in the paper. This involves "application of a force aimed at moving a joint beyond its physiological range of motion"; and

• Instrument-applied manipulation (IAM) – using an Activator IV at setting 2 delivered by one experienced (29 years) chiropractor, as more fully described in the paper. This "does not rely on moving a joint beyond its physiological range of motion to achieve an effect". (This gives rise to the question of terminology already discussed above. Is this form of adjustment really manipulation, or is it better described as mobilization?)

A population of 65 patients with mechanical neck pain was randomly assigned to one of three groups:

• Muscle Stretching Control. Patients received a standardized, active, muscle-stretching routine.

• Manually-applied Manipulation (MAM). Patients received the above routine plus MAM. In this trial, because Gorrell et al. wanted direct evidence of treatment and dose effect, there was only one treatment delivered, with results measured immediately afterwards and at one week follow up. They acknowledge this is therefore different from clinical practice.

• Instrument-applied Manipulation (IAM). Again, one treatment only plus the muscle-stretching routine.

Gorrell et al. report:

• Ranges of Motion. Cervical rotation bilaterally, and lateral flexion on the contralateral side to manipulation, improved immediately after MAM but not after IAM. Range of motion was calculated by an average of 3 movements in each direction by each patient, scored with a Pro Digital Dual Inclinometer.

• Pain. For pain, measured first by Visual Analogue Scale then Neck Pain Rating Scale at follow up, there was no immediate improvement, but improvement at 7 days follow up for the MAM group compared with a control group, but not for the IAM group. The degree of improvement after MAM compared with controls was only at the margin of clinical significance (-1.4 on the 11-point scale), but likely reasons given for this include the low pain levels of patients in the trial at outset, giving a 'floor effect' which could have been avoided by excluding those with a self-rating of less than 3, and the single adjustment only, rather than further treatment as in clinical practice.

These results, suggesting that MAM is superior to IAM for patients with mechanical neck pain, contradict three earlier, small, uncontrolled studies, but are consistent with the largest and best trial comparing MAM and IAM for back pain. This, by Schneider, Haas et al.[10] , reported greater reductions in short-term disability and pain scores following MAM.

The results are also consistent with a number of good quality RCTs, say Gorrell et al., showing that "MAM is more effective than mobilization in reducing subjective pain levels for MNP", relevant they emphasize because the force used in mobilization is similar to that used in IAM in their trial. See the paper for various other aspects of this new trial. Other outcomes measured, for which there was no clinically significant improvement in any of the groups included pressure pain threshold, grip strength and wrist blood pressure.

D Pregnancy, Chiropractic Manipulation and improved Pelvic Muscle Function

7. Also to be found in the June issue of *JMPT* is a new trial from Heidi Haavik BSc(Chiro), PhD at the New Zealand Col-

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Brazil Supreme Court Rules for Chiropractic

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"This is the successful end of a hard-fought, 10-year fight involving many legal battles," says former World Federation of Chiropractic Secretary-General David Chapman-Smith, "and has immediate and huge significance not only in Brazil but throughout South America and beyond."

"The practice of chiropractic is not yet regulated by law in any South American country. The COFFITO is powerful, represents over 95,000 PTs in Brazil, and has wide powers to establish specialties. PT organizations in Argentina, Chile and all of South America were watching closely and preparing to follow the path of COFFITO."

This was a David and Goliath contest, with the ABQ having only 350 members when it first filed litigation in 2007. However there was soon strong support from the World Federation of Chiropractic (WFC) and its member associations, which understood the historic importance of this challenge.

They raised donations of over US$120,000, which allowed the ABQ to hire the leading labour relations attorney Antonio Maia in the capital city of Brasilia and commence a broad-based legal and legislative campaign. Major donations came from the American Chiropractic Association ($20,000), British Chiropractic Association($25,000), Chiropractors' Association of Australia ($20,600) and the Danish and Norwegian Associations ($10,000 each).

However many smaller associations, colleges and individuals were equally generous. See www.wfc.org/projects for a full list of donors. The significance of what was happening in Brazil was brought home to all when members of a Palmer College Clinics Abroad team of clinicians and students were detained by police in June 2008 while giving humanitarian services to patients at a school in a poor community in Florianopolis in the south of Brazil.

The police explained they were acting on a complaint from the local branch of COFFITO, closed down the clinic and escorted the Palmer team to the station. After full explanation from the ABQ attorney Mr Maia, and a check to find that all visa and other formalities had been met, the Palmer team was released to continue its work.

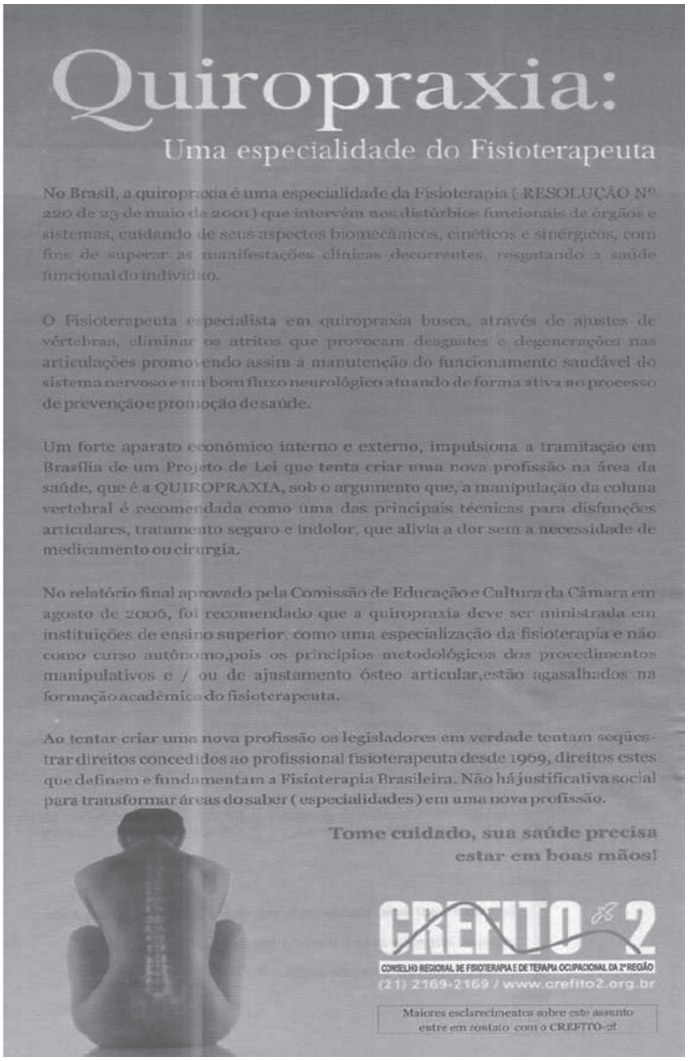
Further summary background to the momentous July 1 decision is:

• In the 1990s there were few chiropractors in Brazil. It was the opening of two schools of chiropractic in the late 1990s, in universities in Sao Paulo and Novo Hamburgo, that led to the move by COFFITO to claim that chiropractic was a PT specialty. Today Brazil has over 1,000 chiropractors, but the ABQ's continuing campaign for legislation to regulate the profession has not yet succeeded.

• Having declared chiropractic a specialty in or about 2005, COFFITO and its member councils in each Brazilian state set about training PT chiropractors in 300-hour, technique courses. These 'graduates' were given a specialty certification and were eligible to join the national organization ABRAFIQ – the Brazilian Physical Therapy Chiropractic Association. In January 2007 it claimed to have 1,200 members. The career PT chiropractor was registered with and published by the Ministry of Work. National and regional newspaper carried advertisements proclaiming that chiropractic was a specialty of physical therapy.

• The ABQ, working with the Ministerio Publico, a federal agency to protect the public, obtained and enforced injunctions to stop the PT chiropractic courses. For example in July 2008 process servers armed with an injunction stopped a weekend course being given at a hotel in Novo Hamburgo by the PT organization Physion in partnership with the University of Ribeirao Preto. This was a particular affront to Brazilian chiropractors because one of the real chiropractic programs is in that city, at Feevale University. At first lecturers refused to stop, but they did so on learning the fine was $10,000 daily for each teacher, $5,000 daily for each student.

• When some PT Councils began to pressure the police to close down genuine chiropractic clinics on the basis that chiropractors were practicing physical therapy without a licence, the ABQ



COFFITO member newspaper advertisement

applied to the federal court for orders or injunctions to prevent this.

• The ABQ's first success was in its case against the biggest and most influential COFFITO member council, CREFITO-3 in Sao Paulo. In a March 2009 judgment, available in English at www.wfc.org/projects, Judge Brunstein of the Federal Court, granted an injunction against CREFITO-3, forbidding the laying of any complaint against chiropractors. This was on the grounds that chiropractic, although not yet recognized under Brazilian law, was a separate profession and therefore could not be a PT specialty.

• Influential evidence was the World Health Organization's recognition of chiropractic as a separate profession in its *Guidelines for Basic Training and Safety in Chiropractic (2005),* and the educational standards set by the profession, supported by WHO, and found at the two established chiropractic schools in Brazil.

• A series of further ABQ legal actions and PT council challenges on appeal followed. However these have all now been resolved with the Supreme Court's ruling that the COFFITO's Proposition 220 is invalid, because chiropractic is a separate profession and incapable of being declared a PT specialty.

Social media were immediately active when news of this landmark decision was made public. Wrote Dr Mayda Serrano of Puerto Rico: "An amazing accomplishment for chiropractic in Brazil, Latin America and all of the world. So much work was done for this to happen. I'm very proud of the ABQ and it's amazing Board who fought diligently for this to happen. What happens in Brazil has major repercussions in all of our countries in Latin America. Great victory."

"Thank God we have brave leaders within our profession to champion the cause. Yet another watershed case! Thanks too for the gutsy support of the WFC to ensure chiropractic is rightfully distinct and autonomous within legislative protection internationally" wrote Dr Simon Roughan from New Zealand.

Those who led this key battle for chiropractic are ABQ Presidents Dr Sira Borges, Dr Eduardo Bracher, Dr Ricardo Fujikawa, Dr Juliana Piva and Dr Roberto Bleier Filho. Particular thanks are also due to ABQ Legislative Commission leaders throughout the campaign, Dr Juliana Piva and Dr Evergisto Souto Maier.

And last but not least the chiropractic profession worldwide is indebted to the architect and first general of the ABQ campaign, now deceased having succumbed to cancer, ABQ lawyer Antonio Maia.

Dr Ricardo Fujikawa, ABQ Past President

Dr Juliana Piva, ABQ Past President and Legislative Commission Co-Chair

ABQ lawyer Antonio Maia, Past President Dr Sira Borges, and Legislative Commission Co-Chair Dr Evergisto Souto Maior

World Notes

Visit the World Federation of Chiropractic's website www.wfc.org for impressive world news in the WFC's June Quarterly World Report, including:

New WFC President. An interview with WFC President Dr Espen Johannessen (Palmer, 1982) of Norway, newly elected at the WFC's Annual Meeting in Dubai in May.

Africa – Botswana. A report on the April World Spine Care Conference, and the growing impact of WSC, the multinational, interdisciplinary charitable organization founded by Dr Scott Haldeman in 2008.

Africa – Namibia. News of the Annual Congress of the African Chiropractic Federation in Namibia in June. There was an impressive sports chiropractic conference, with Ministry of Health and Namibian Olympic Committee leaders together with Olympic athletes in attendance and affirming the importance of chiropractic care for elite athletes. Dr Elga Drews of Namibia was elected AFC President.

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lege of Chiropractic, Bernadette Murphy DC, PhD and nurse researcher Jennifer Kruger PhD.

It has small numbers (11 subjects treated, 15 controls) and is therefore titled 'preliminary', but is important because of its quality and because it is in a significant area with little research to date – the exact effects of HVLA manipulation during pregnancy and the relevance of this to patients. It reports a specific effect, relaxation in the pelvic floor muscles (PFMs) in women in their first pregnancy and with PFM dysfunction during their second trimester and while at rest, which is of potential importance for them during the birth process.

As Haavik et al. explain: "The PFMs, also known as the *levator ani muscle complex,* are intimately involved in the birth process, mainly during the second stage of labor. The consequences of a difficult vaginal delivery, particularly when intervention is required, are strongly correlated to the development of PFM dysfunction." This form of dysfunction "often manifests as stress urinary incontinence, pelvic organ prolapse, and/or fecal incontinence. The social and economic cost of pelvic floor dysfunction is enormous".

Points are:

a. Women in both the treatment group (pregnant for the first time and in their second trimester) and the control group (non-pregnant) were from age 18-35 and asymptomatic.

b. They were assessed for spinal dysfunction and treated by experienced chiropractors with at least 10 years of clinical experience. The paper has a detailed description of "known clinical indicators of spinal dysfunction", which included "tenderness to palpation of the relevant joints, manually palpating for restricted intersegmental range of motion, assessing for palpable asymmetric intervertebral muscle tension, and any abnormal or blocked joint play and end-feel of the joints".

c. All subjects received once only both a control intervention (the setup for manipulation, involving passive and active movements to the subject's head, spine and body but no pressure on any individual spinal segment) and then spinal manipulation (HVLA thrusts to the spinal and pelvic joints at areas of dysfunction).

d. Relaxation of the PFMs was assessed by measurement before and after treatment of the levator hiatal area of muscle, using transperineal ultrasonographic imaging. The images show that the muscle area at rest increased significantly for the pregnant women after spinal manipulation, but not for the non-pregnant women. This suggests that this relaxation of the PFMs may be pregnancy-related.

E Growth in VA Chiropractic Services

8. The health care system of the Department of Veterans Affairs (VA), funded by the Federal Government, is the largest health care system in the USA. It includes 144 hospitals, more than 1,400 other facilities, a workforce of over 326,000, and it services more than 9 million of America's 22 million war veterans.

The inclusion and growth of chiropractic services in the VA health care system since 1999, and more recently of clinical residency training for doctors of chiropractic, represent one good example of the significant level of acceptance and integration of chiropractic services in contemporary, mainstream healthcare.

In the May issue of *JMPT* there is an article by Lisi and Brandt[11] reporting statistics on the large growth of VA chiropractic services since the VA was authorized by Congress to purchase chiropractic services in 1999, and then mandated to deliver them in a minimum of 21 VA facilities in 2001. This may be of particular value to chiropractic leaders in other US health care systems and in other countries seeking to demonstrate the need for and value of integration of chiropractic and medical services.

Authors are Dr Anthony Lisi, Chiropractic Section Chief, VA Connecticut Healthcare System, New Haven, also an Assistant Clinical Professor at the Yale University School of Medicine in New Haven, and Dr Cynthia Brandt MD, MPH, a VA staff physician and Professor, Yale Center for Medical Informatics, Yale University School of Medicine. Items of interest include:

a. From 2004 to 2015 the annual number of patients seen by doctors of chiropractic in VA clinics increased from 4,052 to 37,349 (822% increase). The number of visits increased from 20,072 to 159,366 (up 694%), the number of chiropractic clinics grew from 27 to 65 (9.4% annually), and the number of chiropractor employees grew from 13 to 86 (21.3% annually).

b. With respect to chiropractic services purchased by the VA outside its clinics, from 2000 to 2015 this grew to 159,533 visits for 19,435 patients, at a cost of $11,155,654 or $11.156 million annually. No starting number is given.

c. Because there has been no legislation to increase the required number of VA chiropractic clinics from "a minimum of 21" as established in 2001, all of the above growth has been to meet demand – has been "organic" rather than mandated.

F Chiropractic Reduces Opioid Use and Harm

9. A new study from Weeks and Goertz[12] published in the May issue of *JMPT* presents the case, supported by detailed analysis of Medicare data, that greater use of chiropractic services has promising potential for reducing America's "expensive and expanding opioid use epidemic." They note that, motivated by a 16.3% increase in overdose deaths from legal opioid drugs in 2014, the US Centers for Disease Control has issued new guidelines to physicians to reduce opioid prescriptions, stating that "the risks are addiction and death, and the benefits are unproven."

The study is worthy of note because it is from prominent researchers, has very interesting new data showing reduced opioid prescriptions in US regions with more doctors of chiropractic, and links this to research evidence that chiropractic management of spinal pain is more effective than usual medical care – which commonly involves prescription of opioids in current US practice.

Authors are William Weeks MD, PhD, MBA, Professor, Dartmouth Institute for Health Policy and Clinical Practice, Lebanon, New Hampshire and Christine Goertz DC, PhD, Professor, Palmer Center for Chiropractic Research, Palmer College, Davenport. They studied data from the US Government's Medicare program for seniors, which covers chiropractic manipulative therapy services (CMT), to determine whether or not a higher supply of doctors of chiropractic and/or CMT services provided might be associated with lower use of prescription opioids among younger (under age 65), disabled Medicare patients/beneficiaries.

They were encouraged in this by a new study which found that, while per capita opioid prescription is concentrated in the fields of pain, anesthesia and physical medicine and rehabilitation, it is not specialists who provide the majority of prescriptions – "internists and family practitioners prescribe over half of all opioid prescriptions," commonly for back and neck pain. Summary points are:

a. Data sets found and examined included the supply of DCs per 1,000 Medicare beneficiaries and per capita spending on CMT in 2011 in all Dartmouth Atlas 306 hospital referral regions across the US; Medicare data on opioid used by beneficiaries; the proportion of beneficiaries with at least one opioid prescription, and with 6 or more such prescriptions (chronic users).

b. Weeks and Goertz report:

• "Per-capita supply of DCs and per-capita Medicare spending on CMT were strongly inversely correlated with the percentage of younger Medicare beneficiaries with at least 1, as well as with 6 or more, opioid prescription fills. In other words there was less use of opioids in regions with more DCs and more use of chiropractic services by beneficiaries.

• There was no such correlation between supply of DCs or spending on CMT, and opioid dosage. In other words, where a patient did choose medical care and get a prescription, the supply of DCs and the level of spending on CMT did not have an impact on the dosage prescribed.

c. They suggest "that Medicare considers promoting a trial of CMT prior to use of conventional medical care for patients with neck or back pain". In support of this recommendation they point to the leading trial by Bronfort, Evans et al.[13] published in the Annals of Internal Medicine in 2012, which compared chiropractic manipulative therapy (CMT), home exercises and advice, and medical management for patients with acute or sub-acute neck pain. Patients in the first two groups did much better than those in the medication group. But specifically as to opioid use, none of the 182 patients in the first two groups took opioids, but 80 of the 90 in the medication group were prescribed and took opioids.

G Best Practices – Pediatric Care

10. Chiropractic treatment of infants and children is sometimes seen by the media and the general public as questionable, partly because of outspoken medical critics and partly because of excesses by some chiropractors.

This gives importance to *Best Practices for Chiropractic Care of Children: A Consensus Update,*[14] international chiropractic guidelines recently published in *JMPT* which update 2009 guidelines and provide a basis for chiropractic pediatric practice that is defensible with patients, parents, the public and third party payers.

They are based a review of the research literature to March 2015. Search questions were first "What is the effectiveness of chiropractic care, including spinal manipulation, for conditions experienced by children" and second "What are the adverse events?"

Funded by NCMIC, the guidelines come from a consensus panel of 29 chiropractic experts from five countries (USA – 18; Canada – 5; UK – 3; Denmark – 2 and Netherlands – 1) with an average of 20 years in practice. The goal of the project was "to protect the health of the public by defining the parameters of an appropriate approach to chiropractic care for children under 18 years of age".

This means that the guidelines specify minimum requirements (e.g. in informed consent, neurodevelopmental examination) and restrictions (e.g. on imaging, chiropractic treatment in the presence of various listed signs and symptoms that indicate immediate medical referral), and therefore put boundaries on appropriate chiropractic care.

Hawk et al. acknowledge that there is still little RCT and high-quality evidence supporting chiropractic pediatric care, the situation for many professions with respect to many patient populations and conditions, but review the growing evidence base and provide the basis for an appropriate trial of care. As they state:

• "Lack of research evidence does not imply ineffectiveness"

• "Evidence-based practice is the integration of clinical expertise and patient values with the best available research evidence"

• "A therapeutic trial of chiropractic care can be a reasonable approach to management of the pediatric patient in the absence of conclusive research evidence when clinical experience and patient/parent preferences are aligned".

As one example of why it is valuable to have this new best practices publication, clearly developed on the basis of best evidence and a rigorous consensus process, consider this:

• Edzard Ernst in the UK, one of the outspoken medical critics of all things chiropractic, has published a number of low-quality, evidence reviews concluding that chiropractic care is ineffective and inappropriate for children with various conditions. Because he has been much-quoted by the media from the UK to Australia that has caused the profession difficulty.

• One such review has been on the management of asthma. In this guideline his review is included, defensibly rated as low-quality, and placed in the context of other low- and high-quality reviews. His review is more than neutralized by them. Hawk et al. conclude: "Overall, limited support was found in high-quality studies for asthma….." (As it was for infantile colic, nocturnal enuresis and respiratory disease.)

Such conclusions will not sound exciting to clinicians. However they are exciting in fact, because they are credible, evidence-based, defensible ones that support chiropractic care.

Wellness care is supported in this wider context: "Well child visits are an established aspect of pediatric health care and may be indicated for the purpose of health promotion counseling and clinical assessment of asymptomatic pediatric patients." There is then advice on what should be emphasized in counseling children and their parents – "including but not limited to the following topics: adequate age-appropriate physical activity and decreased screen time, such as TV, electronic games and computer use; healthy diet; adequate sleep; injury prevention; and substance use…".

On safety and adverse events the literature search produced 9 articles, and Hawk et al. summarize the position with this quote from the review by Todd, Carroll et al.[15] published in JMPT last year: "Published cases of serious adverse events in infants and children receiving chiropractic, osteopathic, physiotherapy, or manual medical therapy are rare ….. no deaths associated with chiropractic care were found in the literature to date" (4/1/1). Underlying, pre-existing pathology was associated with the most reported cases of serious adverse events.

For full details consult these guidelines or best practices directly. They are available for free on open access at http://www.jmptonline.org/article/S0161-4754(16)00062-2/pdf.

11. In summary, there is a wealth of recent chiropractic research of immediate interest and relevance to practicing doctors of chiropractic. This includes studies that support practice not only in the fields of back and neck pain, but also asymptomatic musculoskeletal dysfunction in expectant mothers and a broad range of pediatric care. TCR

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Europe – AECC. The significance of the new degree granting rights of the Anglo-European Chiropractic College is explained, together with how and why AECC won the ECU Honour Award in May – the first time this award has gone to an institution rather than an individual.

North America – Spine IQ. Read about this new non-profit organization in the USA to improve spine care through establishing and empowering primary spine practitioners (PSPs). The founders are well-connected doctors of chiropractic and this could become very big. All details also at www.spineiq.org .

North America – New Logan President. This is Dr William Morgan (Palmer, 1985), known for his leadership of chiropractic services at the Walter Reed National Military Hospital in Bethesda, Maryland since 1998. Discover his fascinating background in the military and chiropractic, and his goals.

Future meetings. These include **DC 2017: Impact Spinal Health** in Washington DC next March 15-18, the WFC's 14th Biennial Congress combined with the ACA's National Chiropractic Leadership Convention and the ACC's Research Agenda Conference. Make plans now to be there.