The Chiropractic Report

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Professional Notes

LBP – Thoroughly Good News from Vancouver

The North American Spine Society (NASS) prize winning RCT by Bishop, Quon et al. mentioned in the last issue of this Report has now been published in The Spine Journal.

This, somewhat surprisingly, is the first trial that has compared patient care according to clinical practice guidelines (CPGs) – the complete package of care rather than individual components such as manipulation or exercise or reassurance – with usual family physician-directed care for back pain patients.

Conducted by medical and chiropractic researchers at the Vancouver Hospital University of British Columbia, Canada the trial compared two protocols for the management of 88 patients with acute low-back pain:

• CPGs-based study care (SC): reassurance regarding natural history; advice to avoid passive treatment approaches (e.g. bed rest, heat or the use of back supports/corsets/braces); advice to carry out

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Collaborative Practice – Challenges and Opportunities

A. Introduction

A HALLMARK OF THE TIMES IS increased collaboration between chiropractic and medical doctors in the management of patients with neuromusculoskeletal disorders.

This is occurring in both community-based private practice and hospital settings throughout the world. Therefore, for example:

• In the US there are doctors of chiropractic in military and veteran's administration hospitals/health centers across the country. Young graduates who had the opportunity of clinical training at these facilities are participating in collaborative spine care programs in their communities such as that established by Dr. Ian Paskowski, now Medical Director, Back Pain Program, at the Jordan Hospital, Plymouth, Massachusetts.

• In Canada the Mount Carmel Clinic in Winnipeg, a government-funded community health centre for Manitobans on social assistance, and St. Michael's Hospital in Toronto, a teaching hospital for the University of Toronto, have chiropractors integrated into their healthcare teams and services.

• In Denmark spinal trauma patients admitted to the Lillebaelt Hospital, which is a specialized spine care center for Southern Denmark, not only have chiropractic services available but are often first seen by a chiropractor as the specialist providing initial diagnosis and triage.

• In Guatemala in Central America Dr. David Tyggum quickly established his practice in the 1990s by opening his clinic adjacent to a major hospital in Guatemala City and establishing referral protocols with specialists. At the Saad Hospital in Saudi Arabia Dr. Amy Bowzaylo chairs a rehabilitation department with six chiropractors amongst its multidisciplinary staff. In the small city of Fjorde in Norway Dr. Andre Didriksen has recently published papers with medical colleagues reporting on chiropractic care given by him for patients referred from the orthopedic and ENT departments of the local hospital[1,2]. In Kampala, the capital of Uganda, Dr. Charles Sebwana divides his time between his private clinic and the Chiropractic Unit at the Mulago Hospital.

• In Brazil Porto Seguro Saude, the healthcare branch of one of the largest insurance companies in the country, established a hospital-based ambulatory unit at the Hospital Santa Catarina in Sao Paulo in 2008. This is known as the Health Promotion Institute and includes physiatrists, orthopedic surgeons, neuro surgeons, pediatricians, obstetricians, oncologists, internists, rheumatologists, psychiatrists and others.

The spine care group providing management for patients with spinal conditions includes chiropractic care, physical therapy, acupuncture, invasive analgesic procedures and spinal surgery. All conservative spine care is coordinated by Dr. Eduardo Bracher, DC, MD, PhD, a Palmer West graduate. Currently five chiropractors are working at the Institute.

Chiropractic treatment takes place at the same place as medical consultations, and computerized patient files are unified for medical and chiropractic doctors. Back school, neck school and

*Dr Gregory Stewart (*left*) and Dr Robert Palaschuk of Winnipeg, who led introduction of chiropractic services at Mount Carmel Clinic in Winnipeg in Canada.*

*Dr. Maria Inês Calori (*left*), Eduardo Bracher DC, MD and Maria Angela Ferraz PT at Porto Seguro Saude.*

shoulder school, which are activities available for all patients, are coordinated by Dr. Maria Ines Calori, one of the staff chiropractors.

2. There are several reasons for this much greater level of collaboration than in the past, collaboration which is a highly significant development for patients and both the medical and chiropractic professions. The most important reason is a body of consistent clinical guidelines during the past 15 years, based on research evidence since the early 1990s, supporting chiropractic spinal manipulation for patients with non-specific or mechanical back and neck pain and headache[3,4,5]. Spinal manipulation, once regarded as inappropriate by most in the medical profession, now has an acknowledged benefit and role for most of the many patients with spinal pain and other symptoms arising from spinal and other joint and muscle dysfunction.

3. However this era of collaboration brings significant challenges for many individuals in each of the chiropractic and medical professions, who were trained in an earlier time characterized by lack of knowledge and distrust of each others attitudes, skills and approaches to patient care. In response to that this issue of The Chiropractic Report addresses two main issues:

- What are the challenges, benefits and opportunities of collaboration between the chiropractic and medical professions?
- What are the specific factors or activities that would help promote collaboration?

In considering these issues we look at experience from practice. An excellent source of this is a study recently published in the Journal of Interprofessional Care[6]. This is from experts charged with designing a framework for the delivery of collaborative musculoskeletal care by chiropractors and physicians in community-based primary care in Canada. First author is Silvano Mior, DC, PhD of the Canadian Memorial Chiropractic College (CMCC) and the Department of Health Policy, Management and Evaluation, Faculty of Medicine, University of Toronto. Dr. Mior has been a consultant to the Ministry of Health (MOH) in Ontario in the development of a model for MD DC collaboration in primary care health teams in the province.

Other authors include Dr. Jan Barnsley and Dr. Heather Boon, also from the Faculty of Medicine, University of Toronto, and Dr. Robert Haig, Executive Director of the Ontario Chiropractic Association (OCA) which is working with the MOH in building collaborative primary care health teams in Ontario.

This report then looks at Dr. Paskowski's work for the Jordan Hospital System. This is an example of a successful initiative by an individual chiropractor in private practice, acting in a manner consistent with the principles outlined by Mior, Barnsley et al.

Much is being done in chiropractic colleges and education to prepare graduates for the evolving health care world which features collaboration, integration, evidence-informed best practices and a greater variety of practice environments and career choices for chiropractors. These matters were reviewed in depth at an international meeting in Spain last October titled *Clinical Training in Chiropractic Education: Meeting the Demands of a New Era.*

At this conference, held at the chiropractic school at the Royal University Centre Escorial – Maria Cristina near Madrid and hosted by the World Federation of Chiropractic, the Association of Chiropractic Colleges and the Consortium of European Chiropractic Educators, 115 delegates from 21 colleges and other chiropractic education organizations agreed:

"A central demand of this new era which the chiropractic profession must satisfy is demonstration of the clinical and professional competencies necessary to practice in collaboration with other healthcare professions," and that a growing and important change for educational institutions was "clinics in a variety of community and hospital-based settings, especially those having collaborative and interprofessional practice".

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B. Collaborative Care – Principles

4. Experienced doctors of chiropractic (DCs) will have no difficulty identifying barriers to collaborative care with medical doctors (MDs), physiotherapists (PTs) and other healthcare providers. These include:

- Philosophical differences
- Lack of knowledge about each others education, clinical skills and scope of practice
- Perceived lack of research evidence supporting the appropriateness (safety and effectiveness) of chiropractic care
- Professional biases
- Provider competition

• Cost – MDs may want to refer patients for chiropractic care but they and their patients may be reluctant for financial reasons in many health care systems

Are these the main barriers, and if so how are they best overcome? Individuals will have their own experiences and views, but in their recent study Mior, Barnsley et al., working with the support of a university health policy department and the incentive of advising the Government of Ontario on the development of new collaborative primary health care networks (PCNs), have approached these questions in a broad and methodical way.

5. **Methods.** Mior (*right*), Barnsley et al. first analyzed the factors important to successful collaboration using three approaches:

(a) Interviews with key persons chosen from across North America because of their expertise and influence in primary healthcare practice and policy. These were 16 opinion leaders from academia (3), administration (1), chiropractic (5), medicine (4), midwifery (1), nursing (3) and physiotherapy (1).

In interviews with these key informants there was a basic structure and series of questions created by the research team based on past research and personal experience, but those interviewed were free to add their personal issues and thoughts.

(b) Focus group discussion of the factors identified by the key informants. Members of focus groups (5-12 persons per group) were taken from the specific communities in Ontario where collaboration between MDs and DCs in primary care networks (PCNs) was planned. There were eight focus groups, two each of:

• MDs in existing PCNs (with PCN members under the same administrative structure but not necessarily at the same physical locations)

• DCs practicing close to the PCNs

• Patients from PCN physician offices who had not previously seen a DC

• Patients from PCN physicians and DCs who were receiving chiropractic care

(c) Two confirmatory focus groups. These were focus groups of MDs and DCs together, refining the issues already identified and selected from participants in the previous focus groups.

6. **Results**. Results of this qualitative research included the following:

(a) **Collaboration vs Integration**. A distinction was drawn between collaboration, meaning healthcare providers working together but maintaining their autonomy and not having formal structure and processes for delivery of care, and integration, "a more formal relationship where different healthcare professionals are subsumed under a common policy, administration, formal structure, and share a common vision of delivery of care".

PCNs as were being established in Ontario would involve collaboration. In contrast, chiropractic services delivered within a hospital or multidisciplinary spine care clinic involve integration. While these two concepts are useful, the line between them is not entirely clear – that will be seen when we address the Jordan Hospital System in the USA below.

(b) **Leaders and champions.** To sustain collaboration successfully two types of individual are necessary:

• A leader – ensuring that necessary resources and incentives are available

• A champion – facilitating day-to-day performance and planning

(c) **Two key themes**. The two key themes or messages from all the advice from participants were:

i. **Trust.** Building trust is vital for success – trust in relationships not only between providers, in this instance MDs and DCs, but also between patients and collaborating providers. Fundamental issues for MDs and patients in this study and requiring attention included:

• Lack of knowledge about chiropractic

• Real or perceived negative experiences of inappropriate care

• General negative image as promogated by the media or other healthcare professionals

• Real or perceived differences in philosophy and scope of practice

ii. **Patient-centered focus**. The focus of any successful collaboration must be the patient rather than the personal or professional preferences of the providers. Collaboration requires patient-centeredness. Collaboration should "enable patient participation in clinical decision making and management, and be respectful of patient choice".

7. How do you build trust and patient-centeredness? Mior, Barnsley et al. offer a framework built upon three main areas as shown in Figure 1, being:

(a) **Communication**. Planned, constantly ongoing formal and informal communication "was identified as critical for the collaborative relationship". This should include for example:

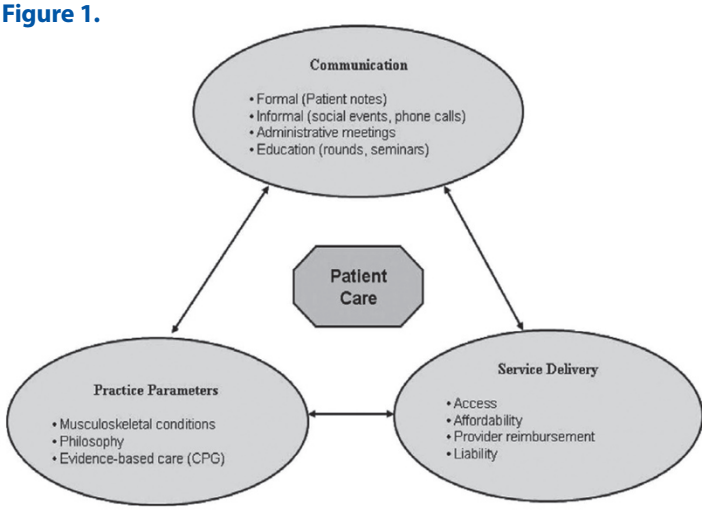
• Development and use of common language, perhaps with the aid of an agreed glossary of terms for interprofessional communication.

• An agreed format for referral notes either way – brief and clear – maybe limited to one page.

• Development of other approved common materials – e.g. posters, brochures, announcements in the PCN newsletter, format for patient-directed workshops.

• Regular formal meetings. As one focus group MD said "if they did accredited continuing education with us we would get to know (DCs) pretty well. You cre-

Figure 1.



A Conceptional Framework for MD DC Collaborative Care. From Mior S, Barnsley J et al. (2010).

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LBP – Thoroughly Good News from Vancouver

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a progressive walking program; acetaminophen (650mg every 6-8 hours as required for 2-4 weeks); and a maximum 4 weeks of lumbar chiropractic spinal manipulative therapy (CSMT – side posture – 2-3 treatments per week).

• Usual physician-directed care (UC): patients were advised of their diagnosis of acute mechanical LBP and referred back to their referring family physicians who were advised to treat at their own discretion. Physicians knew that their treatments would be recorded.

Patients in the UC group received treatment from a variety professionals including family physicians, massage therapists, kinesiologists and/or physiotherapists. Most of this care was inconsistent with CPGs. On a scale of 7 all patients in the SC group scored 7 for consistency of treatment with CPGs by definition, but in the UC group 77% had a score of 2 or less and none higher than a score of 4.

For example at 16 weeks 78% of patients in the UC group were still taking narcotic analgesic medications. Only 6% had received CSMT. Overall there were high rates of opiod use (80%) and passive modalities (60%), and much less use of aerobic exercise or spinal manipulation.

The CPGs-based treatment was associated with significantly greater improvement. Specifically this was clinically important and statistically significant better results in reduced disability as measured by the Roland Morris Disability Questionnaire (RDQ) at 16 weeks and 24 weeks following up to 4 weeks of CPGs-based care. As Bishop, Quon et al. note, 16 weeks is approximately the end of the acute phase of a patient's clinical course – patients with poor outcomes at that point "are thought to be at a significant risk for going on to develop chronic low-back pain . . . improvements in functional capacity at this time are critically important".

Here is a trial of high scientific quality, a fact confirmed by the prize it won from the foremost society representing spine care specialists in North America, which includes the following clear messages:

(a) Today there is sound and consistent evidence on the best way to manage patients with back pain – from trials, consistent systematic reviews and many CPGs.

(b) The transfer of this knowledge to practice is poor. Generally family physicians continue to do what they do, which is largely inconsistent with the evidence and CPGs – as specifically shown in this trial.

(c) CPGs-based care does produce better results for patients.

(d) For back pain a central aspect of CPGs-based care is chiropractic manipulation.

(e) It is wrong to treat all spinal manipulation as equivalent. Virtually all the research evidence for manipulation that is the basis of today's CPGs was from trials evaluating SMT by chiropractors. On this important point Bishop, Quon et al. say:

"Although spinal manipulation is currently administered by many different healthcare professionals, including chiropractors, osteopaths, orthopaedic surgeons, family physicians, kinesiologists, naturopaths, and physiotherapists, the levels of training and clinical acumen vary widely . . . current guideline-based care (*is based on chiropractic manipulation and)* does not endorse any forms of spinal manipulation administered by other practitioners".

(f) As shown in this trial from a university hospital spine clinic, it is practical and workable to integrate medical and chiropractic care in the interdisciplinary management of patients, including as here with MDs and DCs who have not previously worked together.

(Bishop PB, Quon JA, Fisher CG et al. *The Chiropractic Hospital-Based Interventions Research Outcomes (CHIRO) Study: A Randomized Controlled Trial on the Effectiveness of Clinical Practice Guidelines in the Medical and Chiropractic Management of Patients with Acute Mechanical Low-Back Pain* (2010) The Spine J 10:1055-1064.)

Rio Congress – Guest Speakers

The World Federation of Chiropractic's 11th Biennial Congress to be held at the Rio Intercontinental Hotel in Rio de Janeiro, Brazil, April 6-9, 2011 features outstanding academic and social programs.

Program Directors are Scott Haldeman, DC, MD, PhD from Los Angeles and Eduardo Bracher, DC, MD, PhD from Sao Paulo and guest speakers from other professions include:

Scott Haldeman

Eduardo Bracher

• Tarcisio de Barros Filho, MD, PhD, Orthopedic Surgeon, Professor of Orthopedics, University of Sao Paulo who will speak on indications for surgical management of the cervical spine in a session that includes Dr. Haldeman on non-surgical management and Dr. Donald Murphy on chiropractic management of cervical radiculopathy.

• Wagner Castropil, MD, PhD, Orthopedic Surgeon, Olympian and Brazilian and Pan American champion in judo, now Head Physician, Brazilian Judo Federation, on the roles of medical and chiropractic doctors in the sports medical team.

Tarcisio de Barros Filho

Other speakers in his session include Michael Reed, DC, Medical Director, Sports Performance Division, US Olympic Committee on USOC chiropractic services and Greg Kawchuk, DC, PhD of the University of Alberta, Edmonton, Canada. Dr. Kawchuk, a foremost expert in his field and highly entertaining lecturer, will speak on the biomechanical mechanisms and effects of joint manipulation.

Wagner Castropil

• Mariano Rocabado, PT, PhD, Dean, Faculty of Rehabilitation Sciences, University of Andres

Bello, Santiago, Chile on the status of spinal manipulative therapy, education and practice in the physical therapy profession.

Mariano Rocabado

Marcos Musafir

• Marcos Musafir, MD, MSc, Orthopedic Surgeon, Rio de Janeiro who holds postgraduate qualifications in sports medicine, orthopedics and traumatology and represents Brazil on the International Coordinating Committee for the Bone and Joint Decade. Dr. Musafir will be the guest speaker at the Saturday Night Gala Banquet speaking on the BJD, the significance of musculoskeletal disorders and the importance of collaboration between the chiropractic and medical professions in this field of huge disability and suffering.

Early indications are that the Rio Congress will be the biggest yet – three months in advance there were over 400 registrations and the original research competition, the leading one in the profession and with prize awards of $30,000 from NCMIC and the IBCE, has attracted 220 submissions.

The 32 submissions accepted for speaker presentation at the Congress – there are another 90 accepted for poster presentation – include 9 new randomized controlled trials of chiropractic management of a variety of conditions – from back pain to chest pain, TMD, hypertension and pediatric conditions such as infantile colic and AD/HD.

Plan to join your colleagues from around the world in one of the world's most exciting cities – Rio de Janeiro. All information is at www.wfc.org/congress2011.

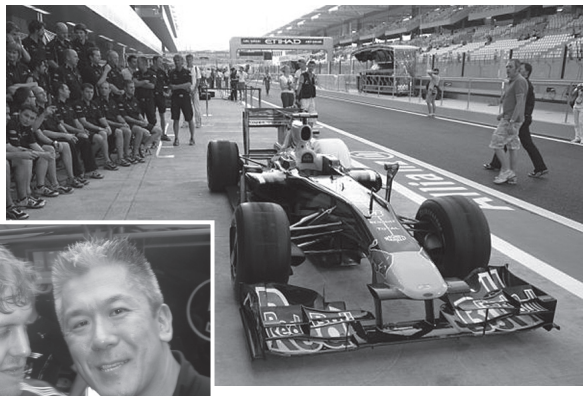
Red Bull, an F1 World Championship and Sports Chiropractic

In Abu Dhabi in October Sebastian Vettel of Germany and the Red Bull Racing Team became the youngest Formula One World Champion ever at age 23.

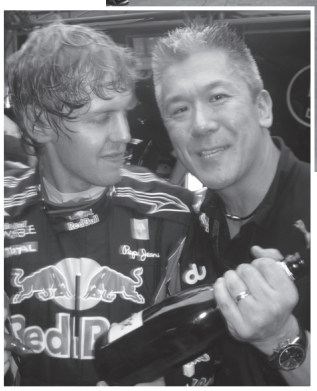
Four drivers started the final race with a chance of winning the Championship, including his fellow Red Bull driver Mark Webber of Australia.

Dr. Paul Cheung of Harrogate, Yorkshire in the UK was there. He was completing his third season travelling and working with the Red Bull team. For each race he is available for 4 days – Thursday to Sunday. He treats drivers, mechanics, managers and others. Drivers get top priority and only they receive treatment during the one hour before practice and qualification on Fridays and Saturdays and the 2 hours before the race on Sundays. Dr. Cheung spends 30 minutes with each driver just before the race.

Go to Publications at www.fics-sport.org to see the December 2010 issue of the FICS News with his account of final preparations for the Abu Dhabi race and the celebrations at race end as Vettel took the checkered flag as World Champion. See also other sports chiropractic news from around the world.



The Red Bull team ready to go.



Dr. Paul Cheung savouring the moment of success with Sebastian Vettel.

FICS
FEDERATION INTERNATIONALE DE CHIROPRATIQUE DU SPORT

The Fédération Internationale de Chiropratique du Sport (FICS), with headquarters in Lausanne, Switzerland and an administrative office in Toronto, Canada, is the international body representing the specialty of sports chiropractic. Current President is Dr Sheila Wilson (USA), and Vice President Dr Alex Steinbrenner (Germany). FICS has its next General Assembly and Symposium in Rio de Janeiro on Wednesday April 6, 2011 at the time of the WFC Congress. For all information on these meetings and FICS go to www.fics-sport.org

ate a relationship where you share issues, for example developing a model for managing acute low-back pain".

• Ongoing informal meetings – as an interviewed MD said "social things, having dinner together, having evening meetings or meetings around an education event, that will enable you to put a face to a name and chat in some other capacity, allows for a bit of trust to develop".

(b) **Practice parameters.** This refers to scope of practice and frequency and duration of care. Various MDs and patients in focus groups raised well known concerns, for example chiropractic management of systemic conditions such as asthma, ongoing weekly treatment plans with no apparent end, and the safety of neck manipulation. On the other hand some MDs indicated their experience of persuading unwilling patients to try chiropractic care with positive results.

One agreed answer to these concerns is better definition of practice parameters through the adoption and use of clinical practice guidelines (CPGs) that address quality and frequency and cost of care.

(c) **Service delivery.** Service delivery is the actual practical process of delivering care. Issues include:

• Access – how do patients get access to providers? Normally patients may choose a DC directly – will a network interfere with this; should MD patients wanting or needing chiropractic care but with no previous experience of it choose from a published list of DCs working in the PCN or receive a recommendation from their MD?

• Cost – a key issue for MDs and patients in a situation as in Ontario where MD care is 'free' by virtue of government funding but DC care is not.

• Provider reimbursement – how will reimbursement be handled in a network?

• Liability – MD concerns about potential increased liability for patients they are referring for DC care need to be addressed. These concerns arise not only from lack of knowledge of chiropractic liability insurance but also MDs past experiences with other providers such as midwives and nurse practitioners.

In summary, an effective framework for building and sustaining collaborative care needs to address the above issues. It needs to build trust through many lines of planned communication and through delivering care based on agreed best practices. The framework should promote a focus upon patients and empowering them, not on the health providers and their rights.

C. Collaborative Care – Example from Practice

8. The Mior, Barnsley et al. study gives an informed framework for collaborative practice – principles based on sound evidence and experience from practice. We now turn to consider an example of those principles working in practice. For this we could choose from a variety of practice situations mentioned in the introduction. These run the full spectrum from fully integrated to loosely collaborative practice. In most such situations, including for example the chiropractic services model in the Department of Defense and Veteran's Administration facilities in the US, the chiropractic field of practice is described as neuromusculoskeletal disorders or something similar.

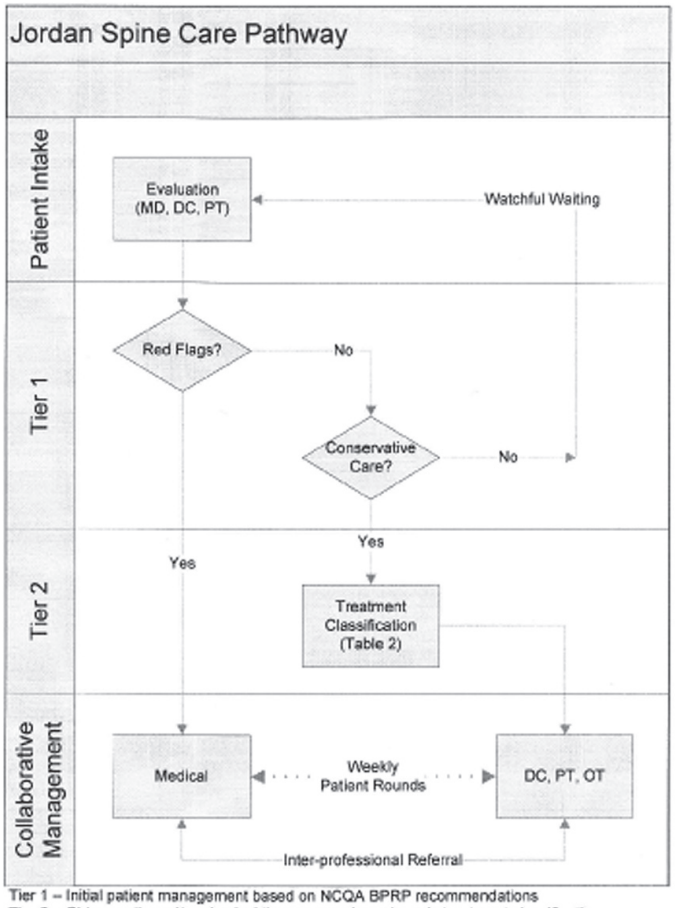
What is examined is the model established in the Jordan Hospital System in Plymouth, Massachusetts. This is chosen because it is clearly defined, successful, developed by one clinician chiropractor, easy for other to replicate – and is consistent with the framework from Canada just discussed. It is an example that combines both collaboration and integration as defined above.

8. Jordan Hospital (JH) is a 160-bed community-based hospital in Cape Cod, Massachusetts serving 12 communities with a combined population of approximately 260,000 people. Some 5 years ago it recognized a large variation across the country, in local communities and in the hospital itself in how several prevalent and costly clinical conditions were being managed, and it decided to do something about it. These conditions were congestive heart failure, transient ischemic attack, alcohol withdrawl, chest pain, hip fracture, sleep disorders, breast cancer – and low-back pain.

9. It embarked upon the development of clinical care pathways based on the best available evidence and clinical experience for each of these conditions in order to standardize and improve quality and cost of care. Importantly, these improved care pathways were for use not only in the hospital but in affiliated out-patient clinics and within the community generally.

Dr. Ian Paskowski (*right*), a 2002 New York Chiropractic College graduate who had completed an internship at the National

Figure 2.



Tier 1 – Initial patient management based on NCQA BPRP recommendations
Tier 2 – Chiropractic and/or physical therapy care based on six treatment classifications

Naval Medical Center in Bethesda, Maryland during his training, was in practice in Plymouth and had already developed evidence-based protocols for collaborative care that were proving successful. He was invited to participate. He joined JH in August 2008 were he now serves as Medical Director for the Back Pain Program and practices part time at the JH Spine Care Clinic. We now review development of Jordan Spine Care (JSC) and the results of the first 500 consecutive patients seen. Further details will appear in a paper recently submitted for publication[7].

10. **JSC – Internal Development.** Dr. Paskowski reports that it was recognized that there was a 'supermarket' of over 200 treatments for back pain, to use the language of Haldeman and Dagenais[5], employed by many different types of provider in the community and hospital. This was without guiding principles and often leading to extensive diagnostic testing and specialty consults when effective lower cost interventions were overlooked. Creation and successful use of a new spine care pathway would require both internal development, with clinical leaders from the JH group of providers, and external developments, with other providers and patients in the community. Important features of internal development included:

(a) Literature review and development of a spine care pathway by a multidisciplinary team. Existing concepts and work were incorporated wherever possible. For example a standard approach to physical examination, case history, diagnostic triage, general case management and clinical record keeping had been established by the National Center for Quality Assurance Back Pain Recognition Program (NCQA BPRP). That was adopted. Details may be found at www.ncqa.org/bprp but include:

- Performing a comprehensive case history and physical examination in order to rule out 'red flags' of serious pathology
- Using validated measures of pain, function, and mental health periodically during treatment to monitor progress
- Advise the patient to remain active, avoid bed rest, and quit smoking
- Recommendations for exercise and patient reassurance about a favorable prognosis
- Minimizing the use of unnecessary x-rays and advanced diagnostic imaging at the earlier stages of treatment
- Appropriate timing of surgical and spinal injection procedures

(b) All JSC MDs and DCs were trained for and received BPRP recognition status, and organizational recognition status was obtained for JSC, Jordan Occupational Health, the Jordan Hospital Pain Clinic and the Jordan Neurosurgery Clinic. This was to establish a standardized process for the initial evaluation and management of patients with LBP across multiple providers and programs. It was also to promote acceptance and support from potential referring MDs in the community.

(c) The JSC pathway is shown in Figure 2. The five conservative treatments offered in Tier 2 for the majority of patients, those with no red flags for medical referral, are found in Figure 3.

(d) Outcome measures chosen to monitor clinical progress were the Numeric Pain Rating Scale (NPRS) and Bournemouth Questionnaire (BMQ), completed by patients at the initial visit, every two weeks and at discharge. In addition all patients answered a treatment satisfaction questionnaire at discharge and costs were monitored.

(e) When JSC protocols were finalized there was an internal education program aimed at emergency department physicians and hospitalists.

(f) Subsequently there was a structured monitoring process to ensure that the new spine care pathway was being followed by all.

11. **JSC – External Development.** This was accomplished, and continues to be accomplished, by a community outreach program with educational efforts targeted at four groups – primary care physicians, spine care specialists, occupational medicine clinics and patients/the general community. The outreach program is comprehensive and includes Grand Rounds presentations, primary care and other medical specialty office in-services, journal club presentations, newspaper articles, magazine articles and continuous education of providers on appropriate evidence-based care of LBP.

JH has positioned its spine care program as the center of choice for primary care MDs who did not want to manage

Figure 3. The 5-category treatment classification system and treatment strategies (Tier 2) used by Jordan Spine Care clinicians. Adapted from: Hebert et al

Flexion Bias	Extension Bias	Manipulation	Stabilization	Traction
• Older age (>50 y) • Directional preference for flexion • Imaging evidence of lumbar spine stenosis	• Symptoms distal to the buttock • Symptoms centralize with lumbar extension • Symptoms peripheralize with lumbar flexion • Directional preference for extension	• No symptoms distal to knee • Duration of symptoms <16 d • Lumbar hypomobility • Fear-Avoidance Beliefs Questionnaire for Work <19 • Hip internal rotation range of motion >35	• Younger age (<40y) • Average straight-leg raise (>90°) • Aberrant movement present • Positive prone-instability test	• Symptoms extend distal to the buttock(s) • Signs of nerve root compression • Peripheralization with extension movement; or positive contralateral straight leg raise test

low-back pain patients in their offices. This has led to consistent and growing community referrals.

Importantly, JH did not limit its outreach to MDs. Patients and the community in general have been exposed to JSC through patient lectures, newspaper articles and public service announcements on public access television. However Dr. Paskowski advises that the strongest driver of patient volume and growth has resulted from the discussions that have taken place with primary care MDs and their patients.

12. **JSC Results.** The JSC program began seeing new patients on January 1, 2009 and in the first six months 518 new LBP patients were evaluated and treated. Results include:

(a) Of 518 patients 25 (5%) required medical referral, and 402 or 78% were managed by DCs.

(b) For those managed by DCs there was an average of 5.2 visits at an average cost of $302, with 95% of the patients rating their overall satisfaction as excellent. Patients comprised all payor types including Medicare, group health, workers compensation and auto accidents.

(c) Paskowski's team acknowledge limitations to their data as there was no comparison group nor long term follow-up to track recurrence rates or other downstream costs. Current and future research will address these matters.

(d) Most patients in the program were managed by DCs because two chiropractors were dedicated to the spine care program fulltime and had most flexibility to see new patients in a timely manner. The subset of 30 patients triaged to spinal stabilization exercise were managed chiefly by physical therapists because they were the clinicians providing general rehabilitative exercise services at JH. Dr. Paskowski notes that a core value of the JSC standardized processes is that they can be "implemented in the same quality manner by any qualified healthcare provider in a profession-blind manner".

Dr. Paskowski, a consultant to the NHL Washington Capitols and a former professional hockey player himself, advises that JSC is currently being replicated in three hospitals in the region and that he has just completed related consultancy work with a large teaching hospital in Boston. The spine care program, led by him, has cut through an expensive, uncoordinated, supermarket approach towards management of patients with LBP to create a consistent, cost-effective approach with high patient satisfaction. See the published paper for fuller results and discussion.

Conclusion

13. The Back Pain Program at Jordan Spine Care (JSC) in the US follows the principles articulated in the Mior, Barnsley et al. study in Canada. Trust is being built between MDs, DCs, PTs and patients by strong communication, use of common language and evidence-based CPJs, and a focus on standardized processes and the interests of patients rather than provider groups and their interests. JSC has clear benefits and satisfaction for patients. See this confirmed in the new collaborative care trial from Bishop, Quon et al. at the Vancouver Hospital in British Columbia, Canada discussed in this Report under Professional Notes.

This review makes it clear that collaborative and integrated care for DCs and MDs brings considerable challenges for them and for patients – but also huge opportunities for quality care and professional and patient satisfaction. TCR

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