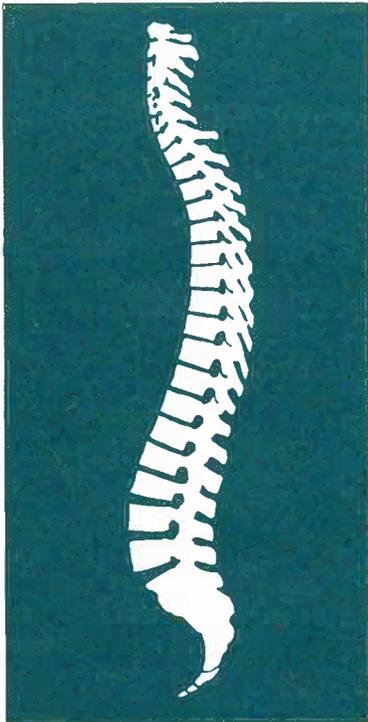


THE CHIROPRACTIC REPORT

Editor: David Chapman-Smith LL.B. (Hons.)

March 1998 Vol. 12 No. 2



PROFESSIONAL NOTES

Complementary and Alternative Medicine (CAM)

In North America and Europe the medical profession, and now governments and the public, have given the name Complementary and Alternative Medicine (CAM) to all treatments and health care disciplines not commonly taught in medical schools - including manipulation and chiropractic, which is seen as the most developed profession within the CAM world.

Now that it is clear that CAM is in strong public demand and represents a huge market, there is rapidly increasing medical and government interest - which CAM professions must respond to thoughtfully and carefully. Two clear examples of this new level of interest are:

- An important new UK Report from the Foundation for Integrated Medicine - for comment on this see page 4.
- An editorial in the December 17, 1997 issue of the Journal of the American Medical Association in which the JAMA Editorial Board ranks alternative medicine "among the top three subjects (of 86) for our journals to address in the coming year". Last year they ranked 68 out of 73.

continued on page 4

COST-EFFECTIVENESS - THE SECOND MANGA REPORT

The High Cost of Failing to Use Cost-Effective Care

A. INTRODUCTION

1. In Canada a new expert report from health economists, based on a review of international evidence and Canadian health care statistics, estimates that an increase in the proportion of the public using chiropractic services from 10% to 20% in the province of Ontario (population: 11.5 million) would save the government \$348 million per year in direct health care costs, and lead to indirect savings for the government and private sector of more than \$1 billion per year - through sharply reduced levels of short and long-term disability and compensation. ¹ A Decima Research public opinion poll, discussed below, supports this economic assessment.

2. The province of Ontario in Canada has a population of 11.5 million, a publicly-funded health care system and an annual government health care budget of \$18 billion. There are approximately 2000 chiropractors. To produce improved care at less cost the Ontario government has begun to implement substitution of services during the past 10 years - midwives for obstetricians, nurse practitioners for primary care physicians, dental hygienists for dentists and nurse aids for nurses.

In 1992, as part of this process, the Ontario Ministry of Health commissioned Dr. Pran Manga, Professor of Health Economics, University of Ottawa to prepare a report on The Effectiveness and Cost-Effectiveness of Chiropractic Management of Patients with Low-Back Pain. ² This 1993 Report found there was now compelling evidence showing that chiropractic care was significantly superior to conventional care in terms of effectiveness, safety, cost-effectiveness and patient satisfaction. Manga, who was not asked to develop an economic model, simply concluded:

"There would be highly significant cost savings if more management of low-back pain was transferred from physicians to chiropractors. Evidence from Canada and other countries suggests potential savings of many hundreds of millions annually."

Last year the Ontario Chiropractic Association commissioned Manga to update his earlier study, now five years old, by analysing the current international evidence on the cost-effectiveness of chiropractic services for all neuromusculoskeletal disorders, developing an economic model, and estimating specific cost savings.

3. Manga's new report, like the first one prepared together with fellow Ottawa health economist Professor Doug Angus, was presented to Ontario's Standing Committee on Finance and Economic Affairs on February 12, 1998 during public hearings in Toronto in preparation for the 1998/99 Ontario budget. Manga reports:

- a) Musculoskeletal disorders rank first as a cause of chronic pain and disability in Canada, and first as a reason for consultation with a health professional.
- b) They rank second as a reason for use of prescription drugs, and are the second most costly category of health problem.
- c) There is now "considerable empirical support for the cost-effectiveness and the safety of chiropractic management of musculoskeletal disorders", so much so that doubling the proportion of the Ontario public who visit chiropractors for these problems from 10% to 20% will lead to direct annual savings of \$348 million to the Ontario health care system, indirect savings of \$1.85 billion per year.
- d) "In Canada the poor and lower-middle income groups and the elderly are low users of chiropractic mainly due to the deterrent effect of the high co-payments or user fees. Yet the prevalence of neuromusculoskeletal conditions is highest among these socio-economic groups."
- e) "Chiropractic therapy is almost wholly hands-on care. There is a nominal use of auxiliary services, no to little use of drugs, and little hospitalization. Payments to chiropractors for services they provide is 80% or more of the total cost of care. For physician management of low-back pain the proportions are virtually reversed. Prescription drugs, laboratory tests, referrals to

specialists, and hospital in-patient care leads to a four or five fold increase in total health care costs of the physician's own billing for medical services".

4. In Ontario the government-funded health care system (the Ontario Health Insurance Plan or OHIP) covers the full cost of medical services with MDs having no right to charge the patient a user fee or co-payment, but covers only about 33% of the cost of chiropractic services (about \$10 of \$30 for an average treatment visit). The government acknowledges that this is partial funding only, and chiropractors are able to charge a co-payment as they deem appropriate. On average it is about \$20. This follows a co-payment for the initial examination and diagnosis that may be \$50-125 depending upon whether or not X-ray examination is necessary.

Manga explains that user fees of that size "represent a major barrier to access" with the effect that patients are "steered away from chiropractic care to medical management which is free under OHIP".

Notwithstanding this about 10% of the population annually, which includes 33% of those with back pain, choose chiropractic services. However government figures show that "4 out of 5 chiropractic patients have had their disorders for over 6 months", and many have already had extensive medical diagnosis and treatment.

The net savings estimated by Manga would come from the government increasing funding for chiropractic services, reducing the user fee per visit to under \$10. This would improve access with two effects:

- causing patients to visit chiropractors much sooner; and
- doubling the number of patients using chiropractic services

Manga and Angus further argue that making the patient's first visit free of any co-payment, as with medical care, "would further enhance access and increase net savings". They conclude:

"Significant reduction of health care costs, improved health outcomes, and equitable access to services are all important objectives for the Ontario health care system. Any one would be sufficient reason for the proposed reform in funding for chiropractic services. The fact that this reform meets all three objectives makes the case urgent and compelling."

5. Their methodology and literature review, and prediction of very substantial cost savings, are supported by another prominent health economist Dr. Philip Jacobs, Professor of Health Policy and Management, Faculty of Medicine, University of Alberta who, in a written opinion on the report, says Manga

and Angus "are on very solid ground when they conclude... on a literature review that chiropractic care versus other care (medical and physiotherapy) is effective and less costly for selected conditions which have a high incidence in the general population. It follows from the arguments of Manga and Angus that policies which are designed to increase chiropractic usages for these conditions should be pursued." ³

Jacob further says:

a) Since 1990 there has been enough evidence, from randomized, controlled trials and workers' compensation and other insurance observational databases, to provide "authoritative information" on the cost-effectiveness of chiropractic services, and that economists are now "in a position to make specific policy".

b) The studies vary in quality and must be carefully interpreted - "as Manga and Angus point out". The recent US studies given most emphasis in the new Report, those by health economists Stano & Smith (see para 10 below), are indeed "the most valid and comprehensive" and indicate "there are considerable savings from using chiropractic versus medical care for specified musculoskeletal conditions."

The large body of evidence analysed by Manga, Angus and Jacobs comes from North America, Australia and the United Kingdom. The only two studies that do not show significantly better cost-effectiveness for chiropractic services, those by Shekelle, Markovich et al. ⁴ and Carey Garrett et al. ⁵ in the US, are both by medical researchers not economists, says Manga, and have significant design problems that render their conclusions unreliable. More on the evidence, methods, and economic conclusions in the Manga Report 98 later - but now, the poll.

B. DECIMA RESEARCH POLL

6. A public opinion poll was conducted by Decima Research in Ontario from January 30 - February 3, 1998. ⁶ This was also commissioned by the Ontario Chiropractic Association, with Decima chosen because it is nationally respected and is the polling agency for the Ontario Ministry of Health.

On a random survey of 803 Ontarions "who personally suffer or have a household member who suffers from back, neck or headache pain for which they have sought treatment from a health practitioner" Decima found that 389 had not used chiropractic services (i.e. were medical patients) and 414 were past users (211) or recent users (203) of chiropractic services, and reported:

a) *Recurrences and Disability.* On average respondents claim that their conditions have

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caused them to be unable to work 18.5 times with a loss of 48 working days.

Regular users of chiropractic have lost work time on account of pain 2 times on average, occasional users chiropractic 18 times, and non-users 25 times. Regular users lost 16 working days on average, non-users 51 days on average.

b) *Choice of Providers.* Respondents reported that first treatment choice was family physician/GP (59%), chiropractor (25%), hospital emergency department (3%), medical specialists (3%), physiotherapists (2%), other/do not know (8%).

Most recent treatment choice was family physician/GP (24%), chiropractor (38%), hospital emergency department (2%), medical specialists (9%), physiotherapists (11%), and other/do not know (12%).

Cost of care, not surprisingly, is a factor. Higher income earners "are significantly more likely to have tried a chiropractor on subsequent occasions", and those least likely to have seen a chiropractor for the most recent bout of pain are the unemployed and those on a lower income.

The above figures show a significant progression towards chiropractic care. Why?

c) *Success Ratings.* Apparently because treatment was more effective. Only 1 in 4 (26%) of non-users of chiropractic described their treatment as "very successful". 2 in 4 (48%) said that their treatment was "somewhat successful". 1 in 4 (23%) said it was "not very successful" (13%) or "not at all successful" (10%).

In contrast, 6 in 10 (59%) of recent users of chiropractic rated their treatment very successful, 1 in 3 (34%) somewhat successful, and only 1 in 20 (6%) not very successful (3%) or not at all successful (3%).

d) *Diagnosis and Management.* On their most recent episode of pain for which they sought care, non-users of chiropractic had the following diagnostic tests - X-rays (47%), MRI/CT scan (28%), blood tests (37%) examination by medical specialists (30%), other (13%), no tests (29%).

Treatments prescribed, in order of frequency, were prescription medication (62%), rest or bed rest (48%) exercises (47%), over-the-counter medication (37%), physiotherapy (36%), special diet or changes in diet (12%),

surgery (8%), steroid injections (6%), other (5%), none (4%).

Unfortunately no question on this topic was asked of recent users (i.e. current users) of chiropractic services. As already mentioned Manga concludes that ancillary diagnostic and treatment costs are much higher in medical care (representing about 80% of costs under family physician care, where as they represent only 20% of costs under chiropractic care) and no chiropractic patients in Ontario would receive MRI/CT scans, blood tests, medical specialists examinations, or surgery other than the under 5% of patients referred for medical care.

e) *Effectiveness.* Asked whether they thought chiropractic treatment was more effective than conventional modalities for back, neck and headache pain 7 in 10 (69%) of all respondents - whether medical or chiropractic patients - thought it was equally or more effective. 1 in 10 (12%) thought it was less effective, 2 in 10 (20%) had no opinion. See Figure 1 for full details.

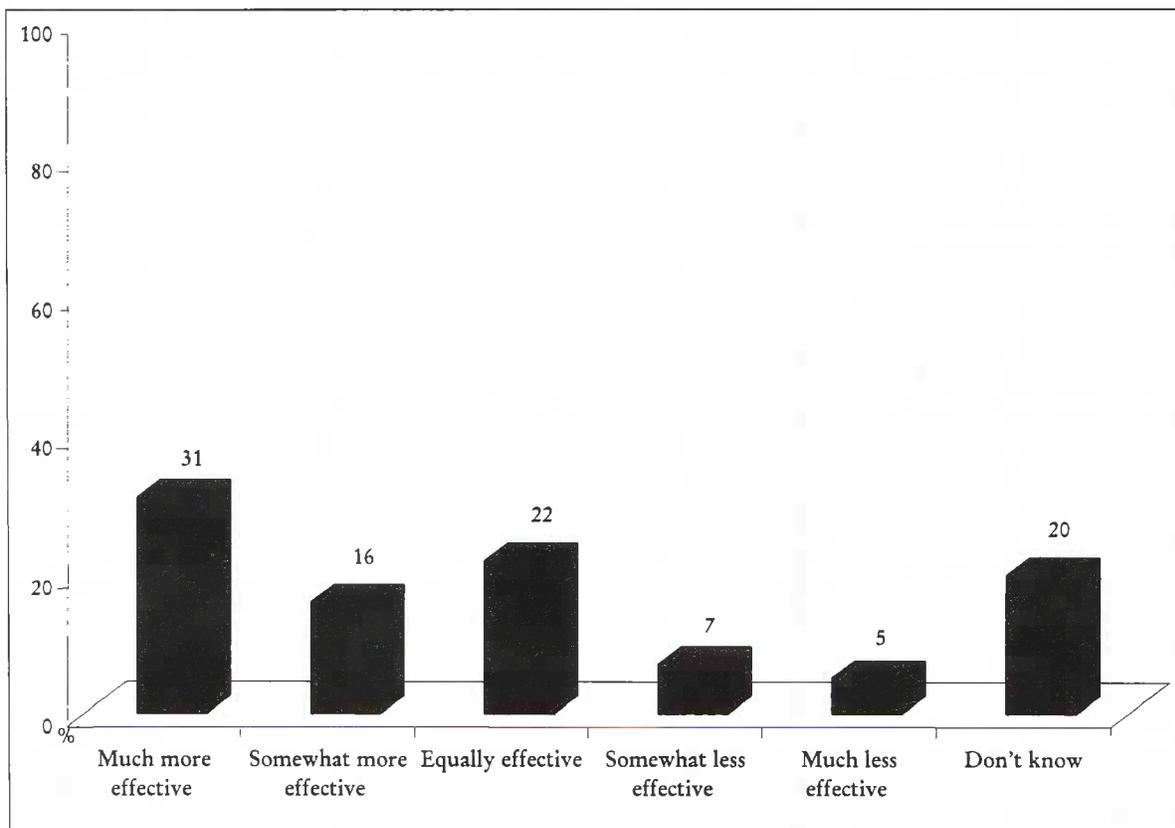
47% thought that chiropractic treatment was

somewhat or much more effective, 12% that medical care was somewhat or more effective. If you remove the 20% that had no opinion, this means that of those within an opinion (59%) considered chiropractic care more effective (47% x 80%), compared to only 15% for medicine (12% x 80%). These, it should be remembered, are the opinions of those with experience of using the health care system for relief from back, neck and headache pain.

f) *Attitudes Towards Increased Government Funding.* Respondents were asked whether they supported increasing the amount that OHIP pays for visits to a chiropractor for treatment. A substantial majority (73%) supported an increase, and support was strongest among those who considered chiropractic treatment to be equally or more effective than medical treatment (82%), those under age 35 (79%), and those using chiropractic services (79%).

continued on page 6

Figure 1
Effectiveness of Chiropractic Treatment



Base: total sample (n = 803).

Q. And, compared to treatment provided by a medical doctor or physician, do you think chiropractic treatment for back, neck or headache pain is more effective, equally effective or less effective? (IF MORE OR LESS EFFECTIVE, ASK: much more/less or somewhat more/less?)

NORTH AMERICA

continued from page 1

JAMA admits that published surveys now show that "on average physicians perceive complementary therapies (such as acupuncture, manipulation) as moderately effective" and note that at least 34 US medical schools have started or are developing courses on alternative medical practices.

JAMA will carry articles on alternative medicine throughout 1998, and have one theme issue on this. It "invites authors from the US and from other nations to submit original manuscripts on topics pertaining to complementary and alternative medicine for consideration for publication in JAMA". This may be "original research, a review article, an opinion piece, etc."

There appear to be three compelling reasons for the chiropractic profession to now become fully engaged in the new world of CAM - firstly chiropractic is viewed by the public as the leading exponent, but risks being left out of both CAM and conventional medicine if it does not participate; secondly there are clear signs that the medical profession would like a controlling interest in education, research and delivery of CAM services including manipulation; and thirdly CAM at last gives a context in which the broader health effects of chiropractic treatment can be publicly discussed and attract public research funding.

2. US Federal Funding - Chiropractic Research. Since September last year US federal agencies have made research grants of \$4.29 million for chiropractic research as follows:

a) Health Services Resources Administration

• *Low-Back Pain: Long Term Outcome and Practice Activities*, Mitchell Haas, DC, Western States Chiropractic College - \$960,697.

• *Spinal Manipulation Versus Mobilization for Neck Pain*, Hal Morgenstern, PhD, UCLA/Los Angeles College of Chiropractic - \$854,464.

• *Flexion Distraction Versus Medical Care for Low-back Pain*, Ram Gudavalli, PhD, Texas Back Institute - \$439,661.

b) Office of Complementary and Alternative Medicine / National Institutes of Health

• *Consortial Center for Chiropractic Research*, William Meeker, DC, Palmer College of Chiropractic - \$2,591,146.

These grants have followed seed funding from the chiropractic profession, most frequently through the Foundation for Chiropractic Education and Research (FCER) supported by the National Chiropractic Mutual Insurance Company (NCMIC). FCER/NCMIC have other exciting projects in formative stages including a controlled trial comparing medical and chiropractic management of patients with low-back pain in which principal investigator is David Eisenberg, MD of Harvard University and the Beth Israel Deaconess Hospital, Boston. The pilot study has now started.

EUROPE

1) UK - Taking The Lead At Integrating Complementary and Alternative Medicine. The Foundation for Integrated Medicine (FIM), established under the patronage of HRH Prince Charles, has as its purpose "the comprehensive integration of complementary and orthodox medicines" in the UK. Its new Report titled *Integrated Health Care: A Way Forward for the Next Five Years* presents a practical agenda for integration. It is the work of a Steering Committee and 4 working groups (Research and Development, Education and

Training, Regulation, and - significantly - Delivery Mechanisms) with broad representation from government and the health care world. Participating chiropractors were Drs. Alan Breen and Kim Humphries, AECC, and Dr. Christopher Turner, British Chiropractic Association. Chairman of the Steering Committee is Dr. Manon Williams, Assistant Private Secretary to Prince Charles.

The starting point of the FIM and its new report is that the conventional health care system has major limitations, complementary and alternative medicine (CAM) offers many benefits often at lower cost, there is demonstrated public demand in the UK and internationally, patients and doctors wishing to have access to CAM often have insufficient or confusing information, and it is now time for a comprehensive effort towards a more integrated health care system. It is acknowledged that CAM, which "may be loosely defined as referring to treatment systems other than those employed in conventional (allopathic) medicine", covers a "very broad spectrum of therapies ranging from the manipulative skills of osteopathy and chiropractic to various forms of self care."

Impressive statistics are given on the rapid growth of CAM in the UK, the US and Australia (where the public now spends twice as much on CAM as they do on orthodox pharmaceuticals). Similar rapid growth in many countries "suggests a degree of public dissatisfaction with what people see as the limitations of orthodox medicine and concern over the side effects of ever more potent drugs. Biotechnical approaches - pharmaceuticals and surgery - often have a limited amount to offer those with chronic, degenerative or stress-related diseases...there is a widespread recognition of the growing financial, social and personal cost involved, and of the need for a less fragmented, and more participative and humane, approach. This view is reflected in both the Report, "Tomorrows Doctors" by the General Medical Council (GMC) and the (British Medical Association's) Report: Complementary Medicine: New Approaches to Good Practice".

The Report gives several pages of specific recommendations for integration, which include:

• Research and development - funding research in a network of new research centres.

• Education and training - CMA practitioners should be trained at courses properly accredited by professional bodies representing their disciplines, and both orthodox (i.e. medical) and CAM practitioners should have common elements in their core curriculum (e.g. fundamentals of orthodox medical diagnosis and guidelines for patient referral; fundamentals of CAM therapies and their potential uses; holistic models of health care; impact of social, cultural, economic, employment and environmental factors on health).

• Regulation - a single lead self-regulatory body should be established for each of the CAM professions (this already exists for chiropractic) and "all health practitioners (including registered medical practitioners) who practice CAM should be trained to levels of competence agreed by the appropriate CAM regulatory body and, where appropriate, be registered with that body."

• Delivery mechanisms - development of a number of well-resourced pilot units and networks to provide CAM services, and "the Department of Health should sponsor the preparation of a guide to CAM services and the qualifications of the practitioners" for the public.

Copies of the report may be obtained from the FIM, Suite 201, 16-16A Baldwins Gardens, London, England EC1N 7RJ Tel: 44-171-242-3355, Fax: 44-171-831-6110, E-mail: FIMed@compuserv.com (68 pages £10) or, in North America, from The Chiropractic Report

(\$20.00 inclusive of shipping- check, Visa, MasterCard - for address - see order form on page 8).

2. Research. Management of Whiplash Injuries. A new trial from Norway involving 201 car accidents victims with soft-tissue whiplash injuries has two messages - firstly that patients get better results if they are encouraged to continue usual activities after the accident rather than rest, take time off work and use a soft neck collar; but secondly that early activity in itself is not enough.

All patients were instructed in self training of the neck from the first day of treatment, but one group was also instructed to carry on daily activities as usual whereas the other was given sick leave and immobilization with the soft collar. The active patients did better at 2 weeks and 6 months in terms of subjective pain and stiffness, but no better in terms of neck and shoulder movements or in terms of sick leave. Overall results were poor, with over 10% of the patients in the active group having severe symptoms 6 months after the accident.

Although there is reference to the Quebec Task Force Report and a long list of potential treatments in the literature review, interestingly there is no mention of manipulation or mobilization - the forms of treatment most recommended by the Quebec Task Force.

(Borchgrevnik GE, Kaasa A et al (1998) *Acute Treatment of Whiplash Neck Sprain Injuries: A Randomized Trial of Treatment During the First 14 Days After a Car Accident*, Spine 23(1):25-31.)

ASIA/PACIFIC

1. The Philippines - Legislation. The Philippines became the second country in Asia to pass legislation to recognize and regulate the practice of chiropractic when President Ramos signed the Alternative Medicine Act into law on December 8, 1997. (The first was Hong Kong in 1993). The new Act, which also provides for the recognition of acupuncture and herbal medicine and was opposed by the Philippines Medical Association, was promoted by the Traditional Medicine Unit of the Department of Health and followed an extensive campaign by the Philippines Chiropractors' Association led by the President Dr. Jameson Uy of Manila.

2. Korea - Education. Korea commenced its first chiropractic school, at Hanseu University, Seoul in September 1997. The program has been developed in collaboration with the Korean Chiropractic Association and RMIT University Melbourne, Australia and brings formal chiropractic education to a country where many medical doctors and oriental medical doctors have claimed to practice chiropractic after taking short-term courses.

The September class of 29 students were joined by 40 more this month. Coordinator of the program is Seung-won Lee, DC, MD, PhD,

a graduate of Parker College of Chiropractic in Dallas, Texas and Vice-President of the Korean Chiropractic Association.

3. Asian Chiropractic Federation Formed. The accelerating growth in chiropractic in Asia, and the desire to protect standards of education and practice, are factors that led to the formation in Hong Kong on January 24, 1998 of an Asian Chiropractic Federation. The ACF, like the European Chiropractors' Union in Europe, represents national chiropractic associations in the region.

The meeting was hosted by the Hong Kong Chiropractors' Association and chaired by Dr. Bruce Vaughan, Past President, HKCA and Asian Director on the Council of the World Federation of Chiropractic. Those elected to lead the new ACF are Dr. Jameson Uy, President, (Philippines), Dr. Graham Hunt (Malaysia), and Dr. Edward Lee (Hong Kong), Vice-Presidents, Dr. Don Nakaya Neilsen, Secretary (Thailand) and Dr. Koichi Nakagaki, Treasurer (Japan).

4. Japan - CCJ Annual Assembl. Japan, with approximately 10,000 practitioners, has the largest chiropractic profession in Asia. Chiropractic practice is legal, but not regulated by legislation. Most Japanese chiropractors have graduated from Japanese schools of varying quality, and only approximately 75 are graduates from accredited colleges outside Japan. Their association is the Chiropractic Council of Japan (CCJ).

Last June the CCJ, in association with the Chiropractic Federation of Japan representing Japanese trained chiropractors and the World Federation of Chiropractic, held a large and successful Congress that was addressed by Mr. Koizumi, the Japanese Minister of Health and Welfare. Since that time there have been negotiations to form a Ministry-approved Foundation that would set minimum standards for chiropractic education and practice and form the basis for chiropractic legislation.

At its annual assembly held in Tokyo on February 15, the CCJ endorsed a Foundation proposal that may now be approved by the Ministry in near future. New CCJ Chairman is Dr. Yozo Kawanishi, the Japanese representative to the International Chiropractic Sports Foundation (FICS).

LATIN AMERICA

1. Brazil - Education. On March 3, 1998 the first chiropractic school in Latin America opened its doors at Feevale University in Novo Hamburgo (near Porto Alegre) in the state of Rio Grande do Sul, Brazil with 40 students. The program has been developed in collaboration with Palmer College of Chiropractic and the Brazilian Chiropractors' Association whose President, Dr. Sira Borges of Ilheus, and Vice-President, Dr. Eduardo Bracher of Sao Paulo, are both Palmer graduates.

The Palmer delegation at the opening ceremonies was led by Dr. Virgil Strang, President, and Dr. Garry Krakos, Director of the Palmer Clinics, who has been most responsible for development of this initiative during the past five years.

2. Peru - Practice. Peruvian chiropractor Dr. Walter Sanchez, a Life College graduate, and his associates have established a group of chiropractic clinics based in Lima, Peru and are looking to North America and Europe for chiropractors, including those recently graduated, who are interested in establishing chiropractic services in Peru. Ability to speak Spanish is preferred, but not necessary, and there must be a minimum commitment of 12 months. Contact for more information: Liam P. Schubel, DC, Centro Quiropractico, Av. Velasco Astete 2639, Santiago de Surco, Lima, Peru, telefax (51-1) 438-2641, e-mail: quirolps@amauta.rcp.netpe

Erratum

In the September 1997 issue of *The Chiropractic Report* titled *The Role of Subluxation in Chiropractic* the word "articular" was incorrectly omitted from the definition of subluxation developed by the Association of Chiropractic Colleges. The correct definition is:

A complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ systems function and general health. A subluxation is evaluated, diagnosed and managed through the use of chiropractic procedures based on the best available rational and empirical evidence.

The Chiropractic Report regrets and apologises this inaccuracy.

Pointing to the significant diagnostic and treatment costs of “conventional modes of treatment”, the indirect costs from the greater number of days lost, and the fact that respondents who regularly use conventional modes of treatment are significantly less likely to rate their treatment as successful, Decima Research concludes that the results of its poll supports the position that “chiropractic treatment is a more cost-effective means of treating musculoskeletal disorders.” Finally, as a result of other questions asked on the cost of chiropractic care and its impact on the respondents’ health care decisions, Decima says its results:

“...also lend support to the contention that cost is a significant barrier to greater use of chiropractic treatment. More specifically, demographic analysis finds non-chiropractic users disproportionately among those segments of the population potentially least able to afford regular treatment, namely the unemployed, low-income groups and older members of the population. At the same time, these groups emerge among those likely to have undergone expensive diagnostic tests and conventional treatment (i.e. surgery) with a lower level of perceived success”. This is exactly what Manga reported from the international evidence.

C. THE MANGA REPORT

7. **Substitution.** Manga’s starts with what he calls “the classic manpower substitution question”. Given that the insurer (government, employer, workers’ comp, etc.) must provide certain services to patients:

“Which of the alternative caregivers who have been educated and trained to provide the services can provide them most appropriately and cost-effectively, having regard also to quality of care, safety of treatment and patient preferences?”

“Huge savings are certain if substitutions are carefully implemented...there are literally dozens of studies pointing to evidence-based manpower substitution, but for a variety of professional, political, insurance practice and other administrative reasons, many of those health human resources substitutions have yet to occur.”

Manga then applies the substitution question to the prevention and management of neuromusculoskeletal (NMS) disorders, problems such as back pain, sciatica and headache, because government data in Ontario show that these disorders represent 96% of chiropractic practice in the province.

8. **Costing an Episode of Injury or Illness.** Calculating the direct and indirect costs of care for an episode of illness is more complex than you might think - in his review of the literature Manga “did not encounter a single study that measured the direct health care

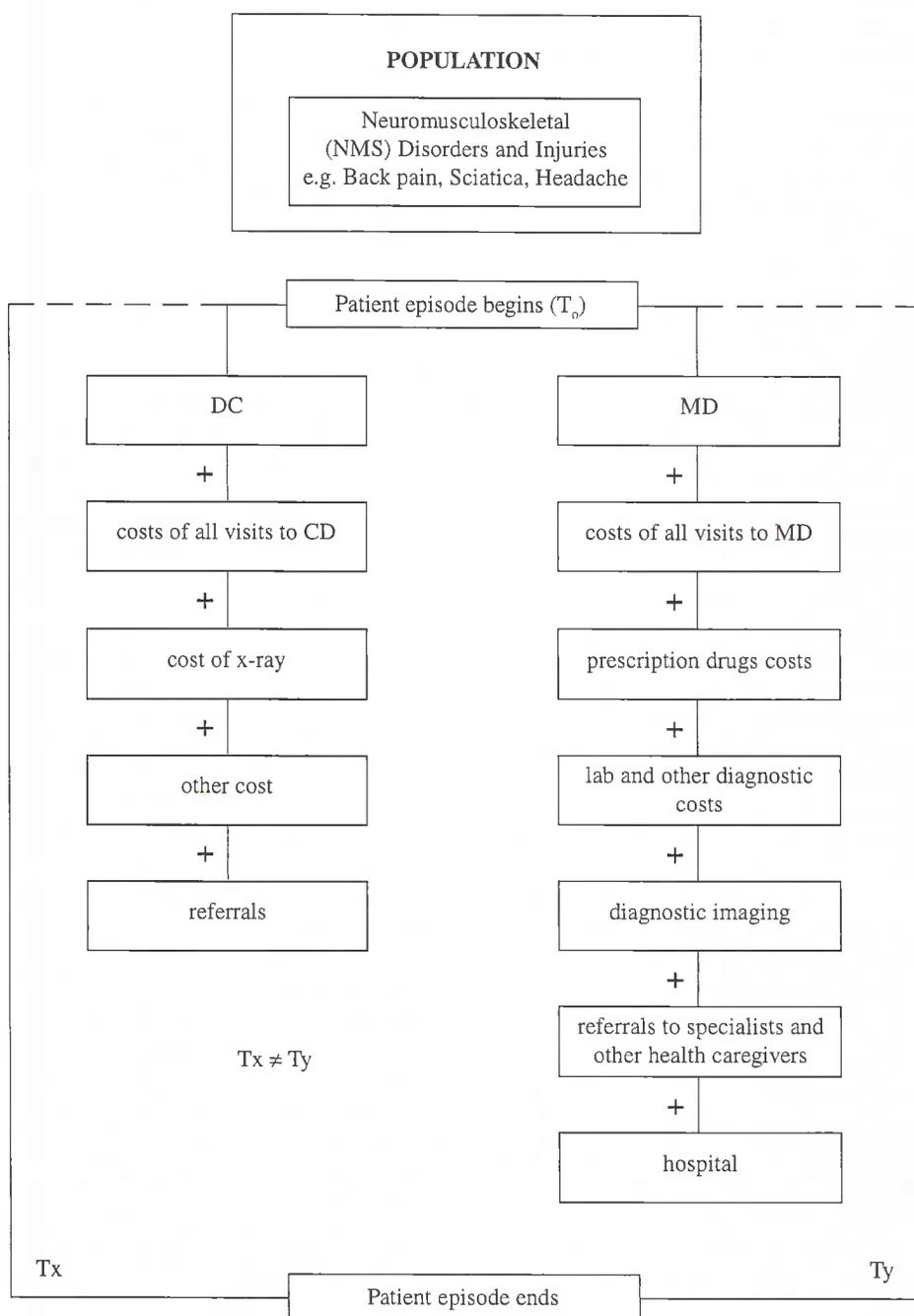
costs of an episode of illness fully”, though the studies by Stano & Smith in the US^{7,8} came close.

Figure 2 illustrates *direct* costs and it is noted:

a) The evidence is that “costs of all visits to DCs” represents 80% of total health care costs for chiropractic patients, whereas “costs of all visits to MDs” represents only 20-23% of these costs for medical patients. Accordingly, to simply compare primary care MD and DC treatment costs is simplistic and wrong. Indeed if DC costs are say three times higher, overall chiropractic care remains significantly less costly in total health care costs.

b) Another major issue is definition of when the patient episode ends (see bottom of Figure 2). For example Shekelle et al., in their cost comparison for back pain patients in the US,⁴ chose to define an episode of care as complete if there was a three month period without care. This meant that a patient who saw an MD, then had a month of medication and physical therapy, then returned to the MD with a recurrence after four or five months had two episodes of care. The patient who saw a chiropractor for four weeks and then had a monthly check up visit for four or five months had one episode of care.

Figure 2
Measuring the Direct Health Care Cost of Episodes of NMS Disorders



If medical costs were \$700 and chiropractic costs \$500, because of the definition of a "patient episode", medical care would be reported as less expensive - \$350 per episode versus \$500 per episode for chiropractic care.

And the next important question, not considered yet, is how successful is the treatment? How many recurrences will there be, and at what cost?

c) Next, Figure 2 only illustrates direct costs. The bigger cost item with NMS disorders, because of their high burden of disability, is indirect cost. During the four or five months mentioned above, was the patient at work or disabled while receiving medical or chiropractic care?

d) Yet another issue, Manga points out, is safety and the cost of side effects or iatrogenic problems. A true economic analysis includes this cost which is much higher for medical care (whether failed surgery, mortality and morbidity rates from prescription and non-prescription drugs, etc.) than chiropractic care.

9. Patient Flows. Manga then explains that chiropractors and medical doctors are not only substitutes but complement each other in the treatment of NMS disorders. Initial choice of provider, and time and rates of subsequent patient flows between the two professions through patient choice or on referral, are major cost factors.

10. The Empirical Evidence. In the largest section of the report (24 pages) Manga looks at the various studies internationally that have compared the cost of chiropractic and medical management of similar populations of patients. There is now a large body of evidence - some good and some not. To summarize:

a) *Overall Conclusions:* "There are very solid empirical estimates that chiropractic care can save the health care system 61% of costs for a range of NMS conditions. For some conditions the savings are even higher, for others they are lower to about 25% to 35%." Best evidence is for back pain and other musculoskeletal pain, as yet there is less data for headache.

b) *Best Evidence - Stano & Smith.* The best evidence comes from two recent papers by Stano & Smith, US health economists, analysing data from 7,077 patients involving 8,018 episodes of care.^{7,8} These patients records come from a health benefits consulting firm (MedStat Systems Inc., Ann Arbor, Michigan) and are part of complete health history records for 2 million patients across the US in the 2 year period from July 1988 to June 1990.

The studies look at chiropractic and medical use and costs for 208 ICD-9 codes diagnoses for NMS disorders, in patients who were

equally free to chose medical or chiropractic care for these conditions under the terms of their employment health benefits plans. Manga reports:

- Stano & Smith found that 75% of patients first visited an MD, 25% a DC. For all episodes of care the figures were respectively 70% and 30%, indicating a net crossover to chiropractic care.

- There was careful regression analysis to ensure that the two patient populations were similar in terms of severity of complaints and variables such as age and sex, location, relation to insurance plan (employee or dependent), insurance plan type, and similar access to medical and chiropractic care (through the terms of the plan, including levels of deductibles and co-payments).

- The entire claims history and all costs for the complete episode were known, other than non-prescription medications.

- Medical care costs were significantly higher. For the 9 high-frequency codes most typically used by both MDs and DCs, mostly involving back and sacroiliac disorders including disk degeneration and sciatica, medical payments were 47% higher for outpatient care, 61% higher for total care.

- Data confirmed that chiropractic and medical care substitute for each other for these conditions.

Manga then looks at two earlier studies by Stano using the same general database and concludes that these four studies "present convincing evidence of the cost-effectiveness of chiropractic care and the merits of the substitution concept."

c) *Other Evidence.* There is then review of a large body of other evidence, less rigorous in design for economic purposes, which generally supports the above conclusions. Notably:

i. Workers' compensation studies, and especially the better-designed ones such as those Jarvis et al. in the US⁹ and Ebrall in Australia,¹⁰ report significant savings in both direct and indirect costs when similar populations of injured workers opt for chiropractic care. In the former, workers in Utah with back injuries with identical ICD-9 codes had approximately 10 times the number of days off work on average (20.7 versus 2.4) and compensation costs (\$668.39 versus \$68.38) if they choose medical rather than chiropractic care.

In the latter study in Australia, relating to injured workers in Victoria in the 1990-91 workers' compensation year, average payments per claimant were \$963.47 for chiropractic patients (direct health care costs of \$571.45, compensation costs of \$392.02) and \$2308.10 for medical patients (\$738.17 and \$1569.93), and the higher compensations

costs for MD-managed cases reflected the fact that a greater number of MD patients developed chronic pain (11.6%) than DC-managed patients (1.9%).

ii. For comparative cost-effectiveness the best and largest randomized controlled trial was by Meade et al. in the UK^{11,12} and compares chiropractic and standard hospital outpatient management of adults under age 65 with acute and chronic mechanical low-back pain. This trial, Manga notes, reports significant short and long-term benefits for those receiving chiropractic management. Meade et al. indicate there would be substantial direct and indirect savings with more use of chiropractic services by such patients in the UK but, being epidemiologists with primary interests in health outcomes rather than costs, do not make - and unlike Stano & Smith do not have a sophisticated data to make - a close economic analysis.

iii. Manga refers to an interesting new study by Mosley et al.,¹³ the only published study comparing medical and chiropractic health outcomes and costs for back and neck pain patients in the US in a managed care setting. This study analysed claims for 12 months in a Louisiana HMO in which patients were permitted direct access to either a primary gatekeeper physician or a participating chiropractor. Even in this heavily cost-controlled environment direct health care costs per chiropractic patient were 70% of costs for medical patients over a range of identical ICD-9 diagnoses (Codes 720-724). Medical patients received more imaging and prescription drugs although, interestingly, surgical rates were identical. The authors conclude that "chiropractic care was substantially more cost-effective than conventional care, yet it had similar clinical outcomes for back and neck pain."

iv. There are two studies that suggest that primary medical care is less costly than chiropractic management, but Manga explains that "both have significant design problems from an economist's point of view, and they illustrate the importance of fully accounting for all the costs of care and employing proper methods and analytical and statistical approaches." The first, by Carey et al. in North Carolina,⁵ found that patient costs per episode were lowest in a group-model HMO for primary care physicians, and highest for urban chiropractors and orthopaedists. Problems, says Manga, include poor matching (the mix of diagnoses and severity of complaints were not known) and failure to include all costs per episode (only out-patient costs were considered, neither inpatient costs nor indirect costs).

The second study by Shekelle et al.,⁴ though published recently, uses data from 16-24 years ago. Other significant problems include the definition of episode of back

pain, invalid attribution of costs (many physical therapy and prescription drug costs are not properly aggregated into GP costs - indeed many prescription drugs costs are improperly attributed to chiropractic care) and an inadequate sample of patients (too small, with large geographic variations for unknown reasons, causing the authors to acknowledge that their results are not generalizable).

11. **Economic Model.** Finally Manga develops an economic model for estimating cost savings based on:

- a) Health Canada data up to and including 1993 on the direct and indirect costs of illness by diagnostic category.
- b) A "savings ratio" taken from the empirical evidence and applied to this data, on the basis that the number of patients with NMS disorders using chiropractic services in Ontario doubles from 10% to 20% of the population per annum. He builds a range into the savings ratio and concludes:

- Direct health care cost savings could be \$570 million per year, will likely be \$348 million and will certainly be \$180 million.
- Indirect cost savings - "made up of the short and long-term costs of disability" - will likely be \$1.849 billion and will certainly be \$1.255 billion.

Manga concludes that the case for greater coverage of chiropractic care under private and public insurance systems, generally and specifically in Ontario, "becomes particularly strong and convincing" given the current evidence and these figures. On independent review of his work, as already mentioned, fellow economist Professor Jacobs from the University of Alberta agrees with Manga's methodology and his conclusion that there should be a major policy shift to improve access to chiropractic services by lowering patient user fees. The expenditure for this will produce substantial net cost savings through substitution of services.

12. **Conclusion.** The 1993 Manga Report was referred by government to a Chiropractic Services Review Committee (CSRC) chaired by former Minister of Health Tom Wells. The 1994 CSRC Report endorsed the Manga Report - as impliedly, it should be noted in passing, did evidence-based clinical guidelines in the US (AHCPR)¹⁵ and the UK (CSAG)¹⁶ in 1994 - and recommended:

"That the citizens of Ontario should have improved and genuine freedom of choice of chiropractic services...(and) that the current level of co-payments for chiropractic services...represents an inequitable barrier to access which should be minimized".

In response, some barriers to access have been removed. Private insurance in Ontario may now cover the full user fee or co-payment from the first visit, and government funding for chiropractic services will increase by a minimum of 12% this fiscal year. However the high user fee for chiropractic services under the Ontario Health Insurance Plan, especially in circumstances whether there is no user fee for medical services, remains a significant barrier to access for most patients. The Manga Report and the Decima Research Poll identify compelling reasons, in terms of major cost savings, improved health outcomes, and patient preference, for better integrating chiropractic services into the health care system - reasons that are valid not only in Canada but everywhere.

References

1. Manga P, Angus D (1998) *Enhanced Chiropractic Coverage Under OHIP as a Means of Reducing Health Care Costs, Attaining Better Health Outcomes and Improving the Public's Access to Cost-Effective Health Services*, University of Ottawa, Ontario, Canada.
2. Manga P, Angus D et al (1993) *The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain*, Pran Manga and Associates, University of Ottawa, Ontario, Canada.
3. Written opinion dated February 9, 1998 from Jacobs P., Faculty of Medicine and Oral Health Sciences, University of Alberta to Ontario Chiropractic Association.
4. Shekelle PG, Markovich M et al (1995) *Comparing the Costs Between Provider Types of Episodes of Back Pain Care*. Spine 20(2), 221-227.
5. Carey TS, Garrett J et al (1995) *North Carolina Back Pain Project*, N Eng J Med 333:913-917.
6. *Usage of and Opinions About Chiropractic Services* (1998) Decima Research, Hill and Knowlton, Toronto, Canada.
7. Stano M, Smith M, (1996) *Chiropractic and Medical Costs for Low-Back Care*, Medical Care 34(3),191-204.
8. Smith M, Stano M, (1997) *Cost and Recurrences of Chiropractic and Medical Episodes of Low-Back Care*, J Manipulative Physiol Ther 20(1),5-12.
9. Jarvis KB, Phillips RB et al (1991) *Cost Per Case Comparison of Back Injury of Chiropractic Versus Medical Management For Conditions With Identical Diagnosis Codes*, J Occup Med 33(8), 847-852.
10. Ebrall PS, (1992) *Mechanical Low-Back Pain: A Comparison of Medical And Chiropractic Management Within the Victorian Workcare Scheme*, Chiro J Australia 22(2),47-53.
11. Meade TW, Dyer S et al (1990) *Low-Back Pain of Mechanical Origin: Randomised Comparison of Chiropractic and Hospital Outpatient Treatment*, BMJ 300:1431-1437.
12. Meade TW, Dyer S et al (1995) *Randomised Comparison of Chiropractic and Hospital Outpatient Management for Low-Back Pain: Results from Extended Follow-Up*, BMJ 311:349.
13. Mosley CD, Cohen IG et al (1996) *Cost-Effectiveness of Chiropractic Care in a Managed Care Setting*, Am J Managed Care 11(3),280-282.
14. Wells T (1994) *Ontario Chiropractic Services Review Committee Report*, Ministry of Health, Ontario.
15. Bigos S, Bowyer O, Braen G et al (1994) *Acute Low Back Problems in Adults. Clinical Practice Guideline No.14*. AHCPR Publication No. 95-0642. Rockville, MD; Agency for Health Care Policy and Research, Public Health Service, U.S. Department of Health and Human Services.
16. Rosen M, Breen A et al (1994), *Management Guidelines for Back Pain Appendix B in Report of a Clinical Standards Advisory Group Committee on Back Pain*, Her Majesty's Stationery Office (HMSO), London.

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