THE CHIROPRACTIC REPORT

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Professional notes:

Medicine Deserts Bedrest

The times they are a'changin. It was always going to happen, but medicine is now moving sharply towards the chiropractic model of management of back pain. There are two important recent reviews of which you should be aware.

The Biopsychosocial Model

'A New Clinical Model for the Treatment of Low Back Pain' Waddell G, Spine (1987) 12(7):632-644. **PN 1**

This article will be highly influential within medicine. It is by Gordon Waddell, a well-published British orthopaedic surgeon from the Western Infirmary, Glasgow. It won the prestigious 1987 Volvo Award in Clinical Sciences, and is thus accepted in medicine as a foremost international spinal research contribution for 1987.

On considerable clinical and research evidence Waddell says:

a) "The main theme of management must change from rest to rehabilitation and restoration of function".

b) There is "a fundamental antithesis between the passive and active approaches" to treatment of back pain.

c) "There is no evidence that rest has any beneficial effect on the natural history of low back pain. On the contrary, there is strongly suggestive evidence that rest, particularly prolonged bed-rest,

Cost Effectiveness of Chiropractic – the evidence

A. Introduction

1. In a paper entitled 'Health Economics and Chiropractic'[1] Professor John Dillon, a prominent Australian economist, studies modern health care economics and concludes:

- "Undoubtedly, in terms of economic appraisal of the current health scene ... chiropractic is in a very strong position. Compared to medical services, it is an extremely cheap avenue of health care for those who seek it. Unlike primary medical practice, it does not spiral costs into the system through ancillary and specialist services, hospitalization and pharmaceutics. On average, a dollar spent on a chiropractor's services causes no further costs".

- "... until very recently and unlike medical services ... chiropractic has stood the market test of exhibiting a growing demand for services without the inducement of price subsidies, health insurance coverage and tax deductibility. ... Far more, therefore, than the demand for medical services, the demand for chiropractic services reflects an expressed need in the community".

- "... in terms of meeting the not insignificant need felt by many members of the community to have an occasional friendly chat with a professional practitioner about their health, chiropractic beats medicine hands down".

2. In terms of cost-effectiveness a chiropractor can best be compared with a dentist. Both see the patient directly, and generally provide all necessary diagnosis and treatment themselves.

The essentials of chiropractic practice are the same worldwide. Treatment is conservative without the cost of drugs or surgery. Principal treatment approach is joint adjustment, comprising a wide range of specific manipulative techniques, with adjunctive use of remedial exercises, nutritional therapy and advice, soft tissue and pressure techniques, traction and electrotherapy. These are self-contained inexpensive approaches to care.

3. Recent government inquiries in Australia (1986)[2] and Sweden (1987)[3] have found chiropractic treatment effective and cost-effective, and recommended increased government funding for chiropractic services.

This report looks at the evidence of cost-effectiveness, emphasizing acute and chronic back pain including workers' compensation figures, neck pain/migraine/headache, and prevention.

Most talk of cost-effectiveness is at the community level – costs to insurance companies, WCBs, government and society. A final section looks at chiropractic cost-effectiveness from the patient's point of view.

B. Back Pain

4. Surveys of chiropractic practice in a number of countries confirm that approximately 90% of chiropractic patients have headache, neck and back pain as chief presenting complaints - 50-60% have acute or chronic back pain.[4 5]

5. In the western world 80% of the population will experience disabling low-back pain during their lives. At any given time 6.8% of the adult U.S. population is experiencing a bout of back pain that has been continuing for more than two weeks.[6]

30% of WCB claims by injured workers are for back pain (more than twice the percentage of any other complaint) and, because of the acknowledged poor medical management of this complaint and the huge cost of chronic cases, these 30% of claims generate 60% of total WCB compensation costs.[7]

6. In 1985 U.S. workers compensation boards disbursed $6 billion for low-back pain.[8] The estimated total annual cost of back pain in the U.K. in 1982 was £1,000 million.[9]

7. No one knows the true cost and, as the manager of a large U.S. insurance association has confessed, "the insurance industry should be and is being criticized for an obvious lack of statistical data on the costs of back related injuries. What we have, however, is scary".[10]

8. The high cost of medical management of low-back pain is a major subject in the scientific literature in recent years, which reveals:

a) Surgery and chemonucleolysis have been subject to high failure rates and unacceptable costs, and are now used rarely, with under 1% of patients.[11]

b) Bedrest, which promotes 'illness behaviour' and huge compensation costs has now been proven ineffective. It has been a general medical first response to back pain. It is being outspokenly rejected by leaders in medicine – most notably in recent months by

Gordon Waddell, in work which won the 1987 Volvo Prize for spinal clinical research.[11] (See professional notes).

c) The basic approach to treatment now recommended is on a chiropractic model – early active treatment to restore spinal function and prevent onset of illness behaviour.

C. Acute Back Pain

9. Research from chiropractic[12 13] and medicine[14 15] reports a greater than a 90% success rate with skilled specific spinal manipulation for treatment of acute back pain. There is such broad acceptance of effectiveness with acute pain that the major research effort has been directed at chronic back pain.

10. A prominent finding of great importance with respect to cost is the speed of relief. This has been confirmed by recent research in both England[16] and the United States[17]. In the U.S.study, from the University of North Carolina:

a) There were 54 patients with acute low-back pain, one group with duration of pain under two weeks, the other with pain from 2-4 weeks.

b) The purpose of the study was to compare two active forms of manual therapy – mobilization ("use of insufficient force to move the facet joints" – i.e. moving the vertebra more slowly through a lesser range of movement as commonly practised by physiotherapists) with spinal manipulation (by a medical physician, but using the controlled low-amplitude high-velocity thrust basic to chiropractic practice - the physician claimed his technique was the "one used by chiropractors").

c) Outcome was monitored by questionnaire immediately after treatment and every three days for two weeks.

d) "The vast majority" of patients in both treatment groups "improved dramatically" over the two weeks follow-up period.

However, the group that had suffered acute back pain for slightly longer – the patients with pain for 2-4 weeks – did much better with manipulation than mobilization. Speed of response was commented on particularly. The advantage of manipulation "was most striking midway through the first week" and was statistically significant.

11. Accordingly chiropractic spinal adjustive techniques, are effective and, since they produce a generally quick response, are also cost-effective. This is both in terms of both direct costs (treatment) and indirect costs (compensation, lost production, lost opportunity).

D. Chronic Low-Back Pain

12. While there is no real debate concerning cost-effectiveness with acute pain, there has been concerning chiropractic treatment of chronic low-back pain. That is rapidly being laid to rest by recent research arising from the new era of cooperation between chiropractic and medicine.

13. Compelling evidence of effectiveness and cost-effectiveness comes from Kirkaldy-Willis, an orthopaedic surgeon, and Cassidy, a doctor of chiropractic, who have been researching chiropractic treatment of chronic low-back and leg pain for the past 10 years. Their striking results have been published in a number of prominent texts[18 19] and journals[20 21]. Consider the population of 171 patients examined by consulting chiropractors in a hospital setting and found to have posterior joint syndrome and/or sacroiliac joint syndrome:[20]

a) These were patients who had been *totally disabled* by chronic low-back pain ("constant severe pain") *for an average of 7.6 years*.

b) Over that period they had proved unresponsive to a wide variety of medical treatments. No details of cost are given – obviously direct and indirect costs will have been substantial.Patients were now being referred, or re-referred, to the hospital back pain clinic for further investigation with a view to initial or further surgery.

c) Following a "2-3 week regime of daily chiropractic manipulation", **87%** returned *"to full function with no restrictions for work or other activities"*.

d) Importantly, that success rate was maintained at 12 months follow-up. Additionally, no patient was made worse.

Quite simply workers compensation and insurance fund managers should be swept off their feet by those figures from internationally respected researchers. They should be establishing studies in their own jurisdictions to see if they can repeat such startling success with such an intractable problem.

14. Interesting evidence is now emerging from the United States, as the health care system reacts to years of unacceptable cost increases and is producing new health care partnerships and delivery systems.

15. In a trial study[22] Silverman, a Florida chiropractor, was sent a consecutive series of 100 patients with persistent low-back or neck pain by AV-MED, a large South Florida health maintenance organization (HMO). Faced with fixed funding per patient, and prohibitive rates and costs of surgery, Dr. Herbert Davis, AV-MED's medical director, agreed to a study wherein the next 100 patients requiring hospital evaluation with a view to surgery would first be sent for chiropractic evaluation and, if appropriate, care. Comments are:

a) The patients had already been seen by 1.6 MDs on average.

b) 2% had already been hospitalized.

c) 12% had been confirmed medically as requiring surgery.

d) Chiropractic care consisted of spinal adjustment supplemented with physical therapy modalities, remedial exercise programs and advice.

e) Average number of visits per patient was 12.1, *average cost per patient $326.76*.

f) This was total cost – there were no referred costs for outside diagnostic investigations, other health care practitioners, or hospitalization.

g) No patient, including the 12 medically diagnosed as needing surgery, required surgery.

International Meetings

Cervical Spine and Upper Extremity
April 27-30, 1988
Nashville Tennessee
Contact:
ACA, Combined Council Forum
1701 Clarendon Blvd.
Arlington VA 22209
(703) 276-8800

Chiropractic USA
June 16-19, 1988
Las Vegas Nevada
Contact:
The American Chiropractor
P.O. Box 350
LEO Indiana 46765.
(219) 423-1432

International Chiropractic Congress
October 2-9, 1988
Sydney, Australia
Contact:
John Sweaney, D.C.,
Australian Chiropractors' Association
459 Great Western Highway,
Faulconbridge
N.S.W. 2776, Australia.

American Back Society: Spring Symposium
May 12-14, 1988
Orlando, Florida (Disney World)
Contact:
A.B.S.,
2647 East 14th Street, Suite #401,
Oakland, California, 94601
(415) 536-9929

Spinal Disorders 1988: Current Solutions
June 26 to July 1, 1988
Gothenburg, Sweden
Contact:
Alf L. Nachmeson, M.D.,
Department of Orthopaedics
Sahlgren Hospital
S-413 45 Gothenburg, Sweden.

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may be the most harmful treatment ever devised and a potent cause of iatrogenic disability. There is cl[illegible]vidence ... that activity is not harmful and ac[illegible]rehabilitation not only restores function but also reduces pain"

d) "The deleterious effects of bedrest" include:

- Inhibiting healing
- Demineralization of bone and 3% loss of muscle strength per day.
- Decreased physical fitness.
- Increased psychologic distress and depression.
- Progressive loss of work habit
- Increased difficulty in starting rehabilitation.

Meanwhile the helpful effects of early activity include:

- Promotion of bone and muscle strength
- Improved disc and cartilage nutrition
- Increased systemic endorphin levels bringing reduced sensitivity to pain
- Avoidance of psychological problems.

e) "Modern medicine can successfully treat many serious spinal diseases and persisting nerve compression but has completely failed to cure the vast majority of patients with simple low-back pain".

Medical management has been such a failure that it has turned this physical entity into a major socio-economic problem – low-back *disability*. There has been "over-emphasis on pain alone, over-d[illegible]lence on a diagnosis of disc prolapse, and ove[illegible]prescription of rest" and these may be viewed as "a major cause of iatrogenic disability".

f) "We must change our whole approach to low-back disorders ...(considering) low-back disability as an illness rather than low-back pain as a disease. With low-back pain there must be a "biopsychosocial concept of illness".

g) Interesting statistics reported relate to back incapacities in the U.K. since the 1950s. In 1954/55 episodes of incapacity per 1000 persons per year were 21.7 for men and 8 for women. By 1980/81 these had risen to 58.2 for men and 44.7 for women. In the same period days of sick certification per 1000 rose from 506 to 1882 (about 350%) for men and 329 to 1062 (about 500%) for women.

Waddell recently spent time working in Oman, helping to introduce new western orthopaedic services. This has influenced his thinking. He found low-back pain as common in Oman as anywhere else, but no one was disabled, no-one stopped daily life or went to bed. Once western medicine was introduced they did – there was now *disability*.

Waddell does not mention, or indicate experience with, chiropractic or osteopathy or spinal m[illegible]nulation.

C[illegible]nments on Waddell's views are:

a) He claims that "every scientific study has shown remarkably little difference between every conceivable treatment for low-back pain".

b) While everyone acknowledges the importance of psychological factors in chronic low-back pain, he may swing too far in that direction. None of the 194 references to his article include the work of Cassidy or Kirkaldy-Willis – which would persuade him to be more cautious in discarding physical causes after negative medical findings.

U.S. Medicine Agrees

'Where is the Pain Coming From' Mooney, V. Spine (1987) 12(8):754-759. **PN2**

Mooney, an orthopaedic surgeon from the University of Texas Health Sciences Center, Dallas, is the Past President of the International Society for Study of the Lumbar Spine. This paper is based upon his presidential address to the Society in Dallas in 1986. Mooney is in substantial agreement with Waddell saying:

"Basic studies and clinical experience suggest that mechanical therapy is the most rational approach to relief of (chronic low-back pain). ... Prolonged rest and passive physical therapy modalities no longer have a place in the treatment of the chronic problem". Other comments and quotes:

a) He has for some years accepted an active physical approach to back problems, but has relied on spinal manipulation and exercise programs from Robin McKenzie, the New Zealand physiotherapist.

b) "There is no evidence to support the fact that ergonomic efforts have changed the incidence of back injuries".

"In the U.S. in the decade from 1971 to 1981 the numbers of those disabled from low-back pain grew at a rate 14 times that of the population growth. This is a greater growth of medical disability than any other. Yet this growth occurred in the very decade when there was an explosion of ergonomic knowledge, labour-saving mechanical-assistance devices, and improved diagnostic equipment. We apparently could not find the source of the pain".

c) Mooney's view is that most back pain originates from the disc.

Scoliosis

'Correction of Progressive Idiopathic Scoliosis Utilizing Neuromuscular Stimulation and Manipulation: A Case Report' Aspegren D. and Cox J. JMPT (August 1987) 10(4): 147-156. **PN3**

Here is a literature review and detailed case report demonstrating "an excellent clinical result" in the treatment of progressive adolescent idiopathic scoliosis.

Treatment comprised combined use of chiropractic adjustment and transcutaneous neuromuscular stimulation (TNS) to increase the flexibility of the curve. Prior to treatment curvature was progressing at the rate of 1° per month over nine months – treatment stopped the curvature at 27° and reversed it to 17° over three months of care.

The Finger Splint, Spine, and Rat

'The Effect of Immobilization of the Spine of Rats', Vuroinen J. and Rokkanen P. (1987) Acta Orthop Scand 58:458 **PN4.**

A local MD refers most patients with back injuries to chiropractors he knows. On occasion he splints the little fingers of reluctant patients – on removal of the splint a week later the finger is stiff, and he explains that the spinal joints suffer a similar fate if not given timely chiropractic adjustment.

This came to mind on reading a research abstract from Finland concerning external fixation of spines of rats. Immobilization was from L2 to L5 in 143 rats.

Immobilization rapidly caused stiffness of the lumbar spine. After 16 weeks of compressive immobilization no spinal movement at all was found. By 8 weeks there had been 40% loss of lamellar bone – the bone loss increased up to 60% after 24 weeks.

It looks as if proper function is important after all.

The Cost of Medical Referrals

'Physician Referrals in a Competitive Environment – An Estimate of the Economic Impact of a Referral' Glenn. J. et al JAMA (October 9, 1987) 258(14):1920-1923. **PN5**

The authors note that referrals have "strategic

continued on insert page 2.

Quote of the Month

"The public doesn't give a hoot about D.D. Palmer, Motion Palpation, Activator, a Hi-Lo adjusting table, whether a subluxation is hypomobile or a fixation or how well you did in your neurophysiology exam.

When it comes to their health – or anything else - people are interested in only one thing: FEELING GOOD.

You and I have been trying to promote chiropractic when we would be better off promoting health. People don't care about chiropractic, but they care a lot about health. You may think that they are one and the same thing, but the public does not. ..... take a new direction in your practice. We have all given this direction lip service. It is philosophically and historically an inherent part of chiropractic, but somehow it got lost in the musculo-skeletal shuffle of the last 25 years. Years ago, when chiropractors talked of health maintenance, as opposed to treating disease all the time, they were too far ahead of the crowd to be listened to. So we changed our tune to fit the prevailing biomedical model. Now the problem is that chiropractors have "forgotten" much of their basic philosophy. This vis medicatrix naturae philosophy has now been discovered by other healing disciplines and is heralded as a new wave and they have labelled it holism. D.D. must be spinning in his grave.

What I am suggesting that we do is remember our roots – it's all there. Have you ever read D.D. Palmer?"

'Health Promotion and The Wellness Business', John Whitney, D.C.

business implications" and "larger system-wide effects (that) can be easily overlooked", yet note that theirs is the first review of the economic consequences of physician referral to be published in the literature. Points are:

- This study followed 225 patients referred from rural family practices in Missouri to a university based hospital during the first four months of 1982, 1983, 1984.
- 110 of the 225 were treated in hospital, at an average cost of $6,792. The average cost per referral for all 225 patients was $2,944 (i.e. $3,000) during the first six months after referral.
- The authors conclude that "3,000 per referral is a conservative estimate" and speculate that urban referral patterns and costs would be higher.
- These are 1982/1984 figures. Inflation alone would double those figures to $6,000 per referral in January 1988.

The percentage of patients seen in rural family practice who are referred – a figure which would have been most interesting – is not given. However, reference is made to studies in the U.S. in the mid-70s implying 80 million referrals annually at that time.

Pregnancy and Back Pain

"Low-back Pain in Pregnancy' Fast A et al (1987) Spine 12(4):368-371. PN6

A study of 200 New York women indicates:

- 56% of women suffer low-back pain during pregnancy.
- Onset of pain, not surprisingly, is most frequent during the 5th to 7th months.
- No pattern was found to the pain. One in two with low-back pain experienced pain radiating to the legs – half to both half only to left or right. For one-third the pain increased as the day wore on, whereas in another one-third pain increased during the night and disturbed sleep. (So there is more to the pain than weariness). There was no correlation between these findings and a number of variables studied – weight gain by mother, age of mother, the baby's weight, number of previous pregnancies.
- There was an interesting ethnic distribution. Blacks and Orientals were evenly distributed in the pain and no pain groups. Caucasians were significantly over-represented in the back pain group, whereas Hispanics experienced significantly less pain than others.

Next Issue: A fact sheet on chiropractic – a two-sided insert suitable for distribution to other professionals.

29. However for most patients in the modern world there are more important issues of cost-effectiveness. Time is money. Wasted time is lost income, other expense, and frustration. This is where chiropractic excels, and is certainly a major reason for the rapid growth of the profession to 45,000 - the third largest primary health care profession in the world after medicine and dentistry - in a climate where the medical profession has many advantages in market terms.

30. Let us contemplate the patient with, say, migraine or chronic neck/back pain whose problem is now disrupting work and lifestyle:

a) On consulting a chirporactor:
- All necessary investigations including x-ray examination, are done on one occasion at one location. Most chiropractors take an urgent case within a day.
- A diagnosis can be established and, if appropriate treatment commenced that day or the next.
- Subsequent treatments require relatively brief appointments, with minimum interruption to lifestyle. Because chiropractors have had to be market sensitive and offer service, hours suit patients well and need not interrupt work at all.

b) On consulting a family physician:
- The patient has to attend at least one other place, often more - to collect medication, be x-rayed, or be seen by a specialist or paramedical.
- Delays in completion of these steps may take weeks -depending, for example, upon availability of an orthopaedic specialist, physical therapy services, etc.
- Meanwhile no concrete plan of treatment is in place.
- Upon any failure to respond to first line of action (e.g. bedrest and analgesics for backache) there is further referral and delay.

Overall chiropractic care remains cost-effective despite third party influences.

E. Conclusion

31. There are patients who do not respond to chiropractic treatment. For some this will be because the real source of difficulty proves not to be the spinal subluxation or dysfunction that is the target of treatment.

All treatments are ineffective with some patients. De-compression surgery, disc surgery, and chemonucleolysis sometimes fail because the stenosis or disc herniation is likewise not the source of the symptoms, which may be facet or sacroiliac strain amenable to chiropractic care.[29]

32. However, given the reality that all treatments sometimes fail, the rational approach is to start with the treatment that is most broadly safe and cost-effective. It is only upon failure of this that one should consider more invasive and expensive investigations and treatments.

On these principles and the above evidence chiropractic care is a logical first line in treatment, especially for acute and chronic musculoskeletal pain. As we have seen AV-MED and the University Hospital, Saskatoon, the first North American health maintenance organization and hospital to look at the matter seriously, agree.

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h) At six months follow-up 86% had used no further chiropratic or medical services.

i) AV-MED advised an average cost of neck/back surgery at the time as $20,000. *Accordingly AV-MED considers it saved approximately $225,000 (medical and surgical costs, less cost of chiropractic care) on the 12 confirmed surgical cases alone.*

Following the trial AV-MED established a corporate policy *requiring all patients to receive chiropractic assessment before referral to hospital for back and neck pain.*

16. Impartial clinical evidence of cost-effectiveness is emerging from U.S. hospitals now that many hospitals have chiropractors on staff.

In the recently decided Wilk Case Dr. Per Freitag, a Chicago orthopaedic surgeon, gave testimony comparing the progress of hospitalized back pain patients in the two hospitals at which he is a consultant, the John F. Kennedy Hospital in Chicago where patients receive combined chiropractic and medical management, and the Lutheran General Hospital in Park Ridge, which has no chiropractors on staff.

He reported that with chiropractic care at JFK the term of hospitalization of his orthopaedic patients was cut by half. "An average of .... six or seven days in hospital (at JFK). At Lutheran General Hospital the same type of orthopedic patients spend an average of 14 days".[23]

17. There are two points to be made here:

a) Hospital bed costs are reduced by 50%

b) Overall costs are reduced by far more because of the consevative low cost nature of chiropractic care. A number of costly examinations and surgeries will have been avoided by sending these patients first to conservative chiropractic care. (See Silverman (para 15 above), and Kirkaldy-Willis and Cassidy (para 13)).

18. In the United Kingdom Breen reported a survey of British chiropractic practice in 1977.[4] Data was obtained over a one year period. Specific information on cost was reported.

a) 1595 patients (53.4%) presented with low-back pain. One in two had chronic back pain (complaint for over 1 year), one in three had experienced back pain for over 5 years, and only one in four was seen within 3 months of onset of pain.

b) The 'average patient' from this group made a preliminary visit for examination and assessment including x-rays, and then 6 treatment visits – 7 visits total.

c) Costed on chiropractic fees at May 1976 (when survey results were analyzed) the total cost for chiropractic care per patient in this largely chronic sample was approximately £35.
On fees as at January 1988 the average cost is approximately £120.

d) These results are consistent with those reported in Canada by Kirkaldy-Willis and Cassidy (para 13 above).

Comparison figures from medicine are not available. However, this is evidently cost-effective management of acute and chronic low-back pain.

Workers Compensation Costs

19. WCB studies relate to both acute and chronic low-back pain. There is an injury, but this is often a re-injury or aggravation of an advancing degenerative problem. United States WCB studies have been performed in Florida (1960) Iowa (1969), Oregon (1971), California (1972) and Wisconsin (1978). All favour chiropractic, and suggest a 45-50% saving in health care costs for low-back pain when the treatment is chiropractic rather than medical.

20. Methodology used in the studies has varied. The most thorough study is that in Wisconsin in 1978[24] concerning which:

a) It was performed by an experienced researcher from the University of Wisconsin. The methodology is fully described, and demonstrably thorough.

b) The study deals with all injuries diagnosed as back strain or sprain under the Wisconsin WCB during 1977, and compares those treated by a chiropractor and those by a medical doctor. Thus fractures and other more serious cases treated by medicine which would have biased the study are excluded.

c) The average compensation periods for time off work were 13.2 days for chiropractic cases versus 21.8 days for medical cases – *40% saving in compensation costs.*

d) The average health care costs were $145.64 per chiropractic case, $267.68 per medical case - *a 46% saving.*

e) These results are consistent with the outcomes of the other studies mentioned, including the large California study done by Richard Wolf, MD, a specialist in occupational medicine.[25]

21. Given the staggering cost of low-back pain to WCBs – and thus employers, and thus all of us who buy their services and products - and this evidence, WCBs should be making far greater use of the chiropractic profession.

Failure to do so represents gross inefficiency. Sadly it also represents, as those who deal with WCBs know, the victory of medical politics over patient and employer interests.

C. Neck Pain/Migraine/Headache

22. The following case, an appeal to a Canadian WCB,[26] illustrates well the cost-effectiveness of chiropractic treatment for chronic neck pain:

a) Mr. C. suffered severe strain and sprain type neck injuries in a motor vehicle accident. He received medical care for seven months without improvement. This included consultations with a general practitioner, a specialist in physical medicine and two neurosurgeons, extensive use of medication, four months of intensive physiotherapy treatment, and use of a surgical collar.

His condition worsened throughout. Both neurosurgeons recommended neck surgery.

b) Mr. C. considered chiropractic treatment, but by letter

medical specialists' advice was that surgery was necessarry and "we feel very strongly that you should not have your neck manipulated ... by anyone".

c) The patient elected to try chiropractic care which, starting with a complex problem now seven months old, reduced all significant symptoms and returned the patient to work within five months.

d) The full cost of chiropractic care was $802.20. This represented a fraction of the cost of medical care rendered before the chiropractic treatment and the proposed neck surgery.

e) Surprisingly the WCB resisted payment of the cost of chiropractic treatment. An appeal was successful with the appeal authority expressly commenting that the chiropractic care was both effective and cost-effective.

f) In a generous gesture the specialist in physical medicine was prepared to acknowledge by letter that "time has shown that (the patient's) decision not to have surgery was perhaps a wise one".

23. The leading trial of chiropractic adjustment for migraine,[27] performed by chiropractic and medical researchers in Australia, confirmed earlier studies in finding clear evidence of effectiveness. Cost-effectiveness was not expressly considered or reported, but is evident from these facts:

a) Of 85 patients in the trial 30 were randomly assigned to the chiropractic treatment group. They had an average age of 40.5 years and an *average duration of regular migraine attacks of 17.3 years*.

b) The treating chiropractors were free to give chiropractic adjustment, or manipulation, as considered necessary but not more than twice a week during the two month treatment phase. Patients in fact received an *average number of 7.5 treatments* or less than one per week.

c) The trial established the effectiveness of chiropractic treatment on all measures reported - complete cure, frequency of attack, mean duration, mean disability and mean intensity of pain. 7 of the 30 (24%) were cured completely.

d) On follow-up at 20 months it was found that patients who improved under chiropractic care were those who maintained their cure or continued to improve.[28]

Consider these patients, especially the 7 (24%) cured after 17.3 years of frequent disabling attacks of migraine.

- The direct health care cost was approximately $200 in terms of current chiropractic fees (chiropractic consultation, and 7.5 treatment visits).
- There were no additional health care costs for the patient or spiralled into the system - for medication or hospital and other specialist services.
- However, in real economic terms the indirect costs/savings are even more significant to both the patients and society. These include avoidance of all the personal costs and inconveniences of continuing disability, and lower lost income/compensation/lost production for time off work.

D. Prevention and Health Promotion

24. Economists say it is impossible to find convincing evidence of the cost benefits of health care aimed at prevention or wellness - whether by chiropractors, dentists, family physicians or others. In the absence of such evidence they assume the cynical posture that prevention is an 'add-on' – it merely increases health care consumption and cost.

25. All experts are dangerous, and this is a case in point. Health promotion and preventive care, which form the basis of the chiropractic model of health care, are now increasing greatly in public demand and government programs despite what economists say. In North America large corporations, seeing the savings, are leading the way.

26. Leaving aside specific occupational health programs, chiropractic care contributes in three distinct areas:

i) Treating objective spinal dysfunction, known as subluxation, prior to subjective symptoms (pain) and onset of disability.

ii) Where there is pain and injury, continuing active treatment beyond relief of pain - which is merely part recovery - until there is restoration of normal function

iii) Treating the whole person, emphasizing homeostasis -the ability of the body to heal itself under balanced conditions of lifestyle. This model of health care emphasizes the patient's responsibilities in diet, rest, posture, exercise - the things basic to continuing good health that are so often forgotten in what U.S. Noble Prize winner Saul Bellow calls this 'posthuman' era of urgency, technology, and lost wisdom.

27. Consider the cost-effectiveness of this model of health care in treating society's most costly complaint, low-back pain. The real cost, both to the individual and society, arises from lack of prevention, lack of early skilled active intervention to restore proper musculoskeletal function, and delay which allows onset of psychological problems that compound the underlying physical cause.

Waddell has just won his Volvo Prize for counselling medicine to change its management model from "over-emphasis on pain alone, over-dependence on the diagnosis of disc prolapse, and over-prescription of rest" to a main theme of "rehabilitation and restoration of function" that approximates the traditional chiropractic model.[11]

E. The Patient's Perspective

28. The cost of an examination, treatment, drug purchase, or other health product is of obvious importance to the patient. Third party payments often distort this aspect of cost-effectiveness. Chiropractic or optometric services may be more cost-effective than medical alternatives, but government or private insurance benefits may alter this for the patient in the most obvious 'out-of-pocket' sense.

References:*see insert page 2.*

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