

# The economic case for complementary care

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## Opinion

Rising health care costs have been pushing increases in health care costs for some time. Evidence is now emerging that adding or enhancing adjunctive care services can serve to reduce overall costs. Over recent years there has been a significant increase in the quantity and quality of research related to complementary medicine. Much of the evidence relates to treating chronic conditions that can be major cost drivers within health care. Furthermore, we are now seeing several companion studies establishing the economics associated with adjunctive care – studies that are indicating real savings can be achieved through increased adjunctive treatment from naturopathic doctors. This article highlights the findings from four randomized clinical trials (RCTs) conducted in partnership with a major Canadian corporation and a major union, and examines public polling data suggesting that the savings identified can be anticipated in other settings.

The genesis of the four corporate clinical trials was a joint (union/management) health and wellness committee created to improve the health of union members within the corporation. Although there was a recognition that improved employee health could relate to cost savings, this was not the initial focus. The studies examined:

- i. Cardiovascular health as measured by the risk of a cardiovascular event,
- ii. Chronic back pain,
- iii. Rotator cuff tendonitis, and
- iv. Anxiety.

The largest, and most recent of these studies, was multi-centered (Toronto, Edmonton and Vancouver) and focussed on the reduction of the risk of a cardiovascular event (myocardial infarction, stroke, etc.) among volunteer union employees whose physical examinations revealed significant risk. Over 1100 study candidates were screened; 246 were admitted to the study and randomized to one of two groups. Members of the control group were encouraged to continue to see their standard medical providers as deemed appropriate for managing their condition. Members of the active treatment group were also encouraged to continue to see their standard medical providers, but in addition they received naturopathic care consisting of some combination of lifestyle counselling, nutritional counselling, and dietary supplementation. The study showed that the group receiving naturopathic care experienced a significant risk reduction for cardiovascular events, as well as a reduction in the frequency of metabolic syndrome. The results of this study were published in the Canadian Medical Association Journal (CMAJ). [Seely et al. Naturopathic medicine for the prevention of cardiovascular disease: a randomized clinical trial. CMAJ. 2013 Jun 11;185(9):E409-16. doi: 10.1503/cmaj.120567. Epub 2013 Apr 29.]

A companion economic study published in the Journal of Occupational and Environmental Medicine determined that the

significant reduction in cardiovascular risk resulted in a net study year savings of \$1187 to the employer, and an additional \$1138 for society (all figures in Canadian dollars). Employer costs included reductions in presenteeism (lost productivity costs due to restricted duties), as well as reduced health-care expenditures. [Herman PM, Szczurko O, Cooley K, Seely D. A Naturopathic Approach to the Prevention of Cardiovascular Disease. Journal of Occupational and Environmental Medicine. 2014 Feb; 56(2):171-6.] The chronic back pain study involved workers aged 18 to 65 with a clinical diagnosis of low back pain of at least six months duration. Both the active treatment group and the control groups had bi-weekly meetings with a health provider. The control group received standard physiotherapy advice, while the active treatment group received naturopathic care consisting of exercise and dietary advice, relaxation training, and acupuncture. The study found that those receiving naturopathic treatment reported significantly lower back pain ( $p < 0.0001$ , indicating a probability of less than 1 in 10,000 that the positive finding is a random outcome) as measured by the Oswestry questionnaire. Quality-of-life was also significantly improved in the group receiving naturopathic care in all domains except for vitality. All secondary outcomes were also significantly improved in the group receiving naturopathic care: spinal flexion ( $p < 0.0001$ ), weight-loss ( $p = 0.0052$ ) and Body Mass Index ( $p = 0.01$ ). The paper was published in the Public Library of Science One on-line journal. [Szczurko O, Cooley K, Busse J, et al. Naturopathic Care for Chronic Low Back Pain: A Randomized Trial. PLoS One. 2007 2(9): e919. doi:10.1371/journal.pone.0000919].

A companion economics study determined that the impact of naturopathic care would “significantly reduce societal costs by \$1212 per participant”. As not all of the costs saved were borne by the employer, the actual return on investment to the employer for the care provided was 7.9%. [Herman P, Szczurko O, Cooley K, Mills E. Cost-Effectiveness of Naturopathic Care for Chronic Low Back Pain. Alternative Therapies in Health and Medicine. 2008 Mar-Apr; 14(2):32-9.]

The next clinical trial examined adjunctive naturopathic care for workers with rotator cuff tendinitis (duration of greater than six weeks). Participants in the adjunctive care group received dietary counseling, acupuncture, and a botanical supplement. The physical exercise intervention group received passive, active-assisted, and active range of motion exercises and matched placebo. The primary outcome measure was the Shoulder Pain and Disability Index (SPADI). Seventy-seven participants (87%) completed the trial. Final total SPADI scores decreased by 54.5% ( $P < 0.0001$ ) in the adjunctive care group and by 18% ( $P = 0.0241$ ) in the physical exercise group. SPADI scores showed statistically significant decreases in shoulder pain and disability in the adjunctive care group compared with the physical exercise group ( $P < 0.0001$ ). Significant differences between groups were also observed in pain, quality-of-life measures and shoulder extension, flexion, and abduction. [Szczurko O, Cooley K, Mills E et al. Naturopathic Treatment of Rotator Cuff Tendinitis among Canadian Postal Workers: A Randomized Controlled Trial. *Arthritis & Rheumatism (Arthritis Care & Research)*. Vol. 61, No. 8, August 15, 2009, pp 1037–1045; DOI 10.1002/art.24675.]

The remaining clinical trial examined anxiety. Both the complementary treatment group and the control group received a form of cognitive behavioural therapy, and not surprisingly both groups showed significant improvement during the study. However, the group receiving the full naturopathic care did experience significant reductions ( $p=0.003$ ) in their scores on the Beck Anxiety Index as compared to the control group participants, as well as improvements in mental health, concentration and overall quality-of-life. [Cooley K, Szczurko O, Perri D, et al. Naturopathic Care for Anxiety: A Randomized Controlled Trial. *PLoS ONE*. 2009 4(8): e6628. Doi: 10.1371/journal.pone.0006628.]

The major Canadian firm that participated in the studies felt that the findings were sufficiently significant that they sent out information pamphlets, “Naturopathic Medicine and You”, to approximately 40,000 employees and they increased their coverage for complementary health care by 50%.

The Canadian College of Naturopathic Medicine conducted four RCTs referenced above. Based upon these studies we were curious as to whether patients who were receiving care from naturopathic doctors in the community were reducing their use of other health

care resources. The College engaged Innovative Research Inc. to conduct a study of attitudes towards naturopathic medicine in Ontario. The study contacted 606 respondents through phone polling and the results are accurate within 4%, 19 out of 20 times. One of the questions that we asked in the survey was: for those reporting they were seeing naturopathic doctors ( $N=101$ ), had doing so reduced their use of other health care resources? 30% said it reduced their visits to specialists, 42% claimed it reduced their visits to their family doctor, and 29% stated that it reduced their visits to hospitals. One of the most significant results was the reduction in use of pharmaceuticals; 48% claimed a reduction and 11% stated that the reduction was “substantial”.

To further assess whether these changes could be expected in actual patient behaviour, we asked patients who were visiting the naturopathic clinic at the College how this impacted their visits to general practitioners (GPs), and 63% claimed doing so reduced their GP visits. Finally, we opened a new teaching clinic within Brampton Civic Hospital, and we asked those patients, many of whom were new to naturopathic medicine, the same questions and the results were again very similar. 77% claimed coming to the clinic reduced their visits to general practitioners; 19% reduced their visits to specialists; 14% reduced their visits to Brampton Civic Hospital, and 59% claimed it reduced their use of pharmaceuticals.

The evidence of safety for naturopathic care has always been strong, the evidence of efficacy is becoming increasingly strong, and the evidence of significant financial benefit is becoming compelling. Chronic conditions are driving significant increases in health-care costs, and these conditions can in many cases be effectively treated by health care providers who focus on nutrition and lifestyle.

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## Conflicts of interest

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