

# 1998 William M. Mercer Limited Study of Chiropractic Claims in Employer Benefit Programs

## Background

In recent years, the Canadian health care system has been under increasing pressure to become more efficient and reduce costs. This has resulted in governments downloading costs from one level of government to another and from government to employers' pocketbooks. Employers have been under similar pressure to reduce health care costs, often by either becoming more efficient in how they use health care dollars or by limiting coverage. Few employers are willing to increase employer sponsored health coverage without evidence for positive health outcomes and/or improved bottom line costs.

Given this environment, the Canadian Chiropractic Association (CCA) felt that it was very important to conduct some basic research on employer paid chiropractic coverage in Canada. This research would help the CCA in strategic planning and be used as a discussion document with both insurers and employers. William M. Mercer Limited was asked to conduct this research in three stages. The first stage was to gather high-level chiropractic data from insurers and employers. The second stage explored the availability and quality of detailed data; in particular, drug, health and disability data for targeted employers. The last stage collected and analyzed retrospective drug, health and disability data from employers willing and able to provide this information. Since the study was a retrospective analysis, it was understood that the analysis could only determine correlations or relationships, not cause and effect.

## Major themes

Based on the research completed, three major themes emerged:

- 1 Little basic Canadian research on employer paid chiropractic usage exists.
- 2 Employers generally do not maintain comprehensive employer paid health care information sufficient to do in-depth historical analysis.

- 3 Employers and insurers are keenly aware of the confidentiality issues surrounding employee data.

## Results

The commentary that follows reviews important facts and relationships from the research. The results of the research are broken down into insurer analysis and employer analysis.

### Insurer analysis

We received total "book of business" data from the top four insurance companies in Canada. We believe this data represents the majority of the Canadian insured health business. Based on this data it appears that chiropractic claim costs represent on average 1–3% of total employer health benefit costs (about \$5 to \$15 per employee per year).<sup>1</sup> Chiropractic costs vary by province due to differences in provincial reimbursements. Quebec chiropractic costs are relatively high as a percentage of total private health care sector. We suspect this may in part be due to the absence of provincial coverage. Ontario costs are relatively low due to historical restrictions on private reimbursement of chiropractic claims.

Further, musculoskeletal claims represent about 25–30% of all disabilities. If disability claims represent 4–8% of pay, then musculoskeletal claims represent an average cost of \$350 to \$850<sup>2</sup> per employee per year. From our study, we believe that many employers and insurers are not fully aware of the relationship between the costs of chiropractic care and the costs of musculoskeletal disabilities.

### Employer analysis

After approaching employers who showed interest in the research project, we collected comprehensive health care data from three large employers covering over 40,000 employees and approximately 22,000 dependents.

The employer data confirmed the findings of the insurer

research related to the cost of chiropractic care and the percentage of musculoskeletal claims.

### **Utilization**

Previous studies indicate that about 10–15%<sup>3</sup> of the population see a chiropractor in any one year. Our research appears to support this utilization rate. Nationally, about 7% of eligible study participants submitted at least one claim for chiropractic services during the year. Outside of Ontario 13% submitted claims, while fewer than 3% submitted claims in Ontario. Adjusting for the reimbursement restrictions in Ontario, about 10–15% of the people in this study visit a chiropractor at least once per year.<sup>4</sup>

### **Drugs**

From the data shown in Appendix A, it appears that people who use chiropractors also have higher drug costs. However, the data in Appendix B shows that once people have accessed a chiropractor, the targeted drug costs go down.

Since chiropractors do not prescribe drugs, this initial correlation (in Appendix A) of high drug costs cannot be interpreted to be as a result of chiropractic care. A more likely interpretation is that people who have below average health and using drugs, access chiropractic care more often than the average healthy employee. One wonders if the drug costs would show greater and sooner savings if all employees had access to chiropractic coverage from day one.

Also, there may be a connection (but not statistically significant by our numbers) between the usage of musculoskeletal related drugs and chiropractic claims. People claiming under \$100 of chiropractic care also claim more musculoskeletal related drugs than those not claiming chiropractic care. However, these specific musculoskeletal drug claims seem to be reduced for heavier chiropractic users (Appendix C). Reductions in musculoskeletal drug claims coincident with heavy chiropractic usage is an important finding and should provoke further study.

### **Short term disability**

There appears to be an interesting relationship between

people who go to a chiropractor and the chance of claiming short term disability (STD). As Appendices D and E show, employees that see a chiropractor tend to have a greater probability of remaining at work. However, for those that are off work and on STD, the duration off work tends to be longer. Similar to the findings above, it is likely that those employees, who have below average health and are on STD, are accessing chiropractic care more often than the average healthy employee.

### **Long term disability**

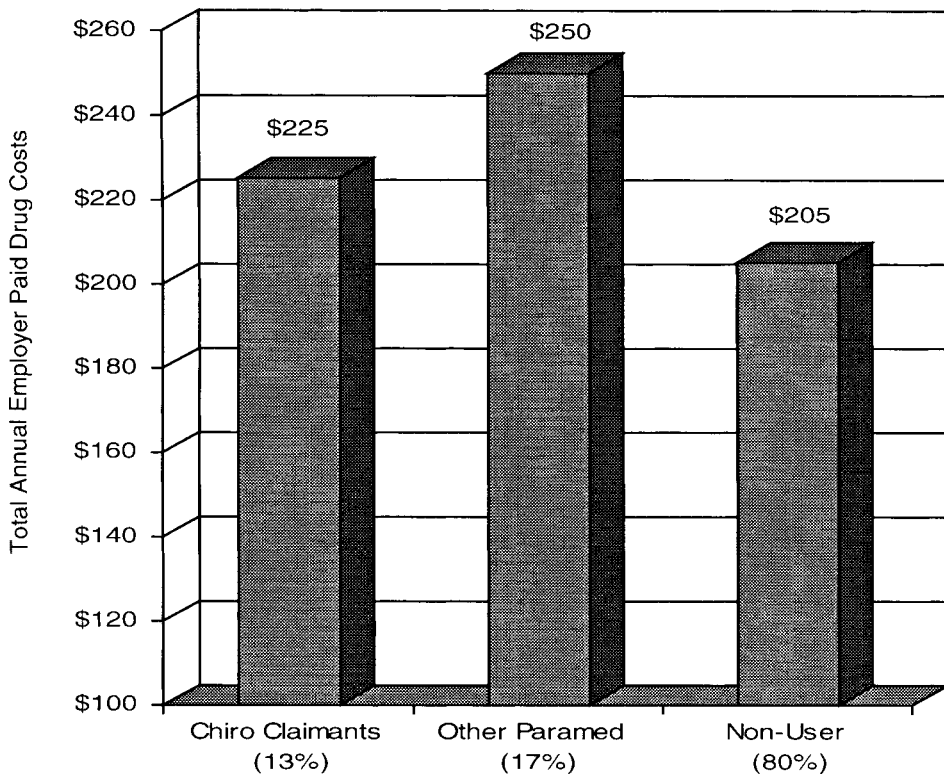
With respect to long term disability (LTD), the duration of musculoskeletal related disabilities are approximately 20% shorter for those employees who went to either a chiropractor or a musculoskeletal related paramedical<sup>5</sup> practitioner (Appendix F). This is an important finding of the study.

There appears to be a correlation (albeit, not statistically significant by our numbers) between going to a chiropractor and shorter duration on LTD. It would be interesting to see if this finding is true for a larger more credible group, since it would have a significant impact on both disabled employees and employer costs.

### **Footnotes**

- 1 Based on approximately \$500 per year in health care costs per employee.
- 2 Based on a salary of \$35,000 per year (eg.  $\$35,000 \times 25\%$  musculoskeletal  $\times 4\%$  – \$350). This yearly cost is higher for higher paid workers.
- 3 For example, 1997 report in the Canadian Journal of Public Health found an 11% utilization level.
- 4 Only 3% of employees in the Ontario sample submitted eligible chiropractic expenses (i.e. after OHIP had been exhausted). From OHIP statistics and results of this study outside Ontario, we were able to extrapolate the number of Ontario employees who would have seen a chiropractor at least once.
- 5 Other musculoskeletal related paramedical includes physiotherapists, massage therapists and acupuncturists. The majority of the costs in the paramedical relate to physiotherapists.

### Appendix A Annualized Drug Costs (Outside Ontario)<sup>1</sup>

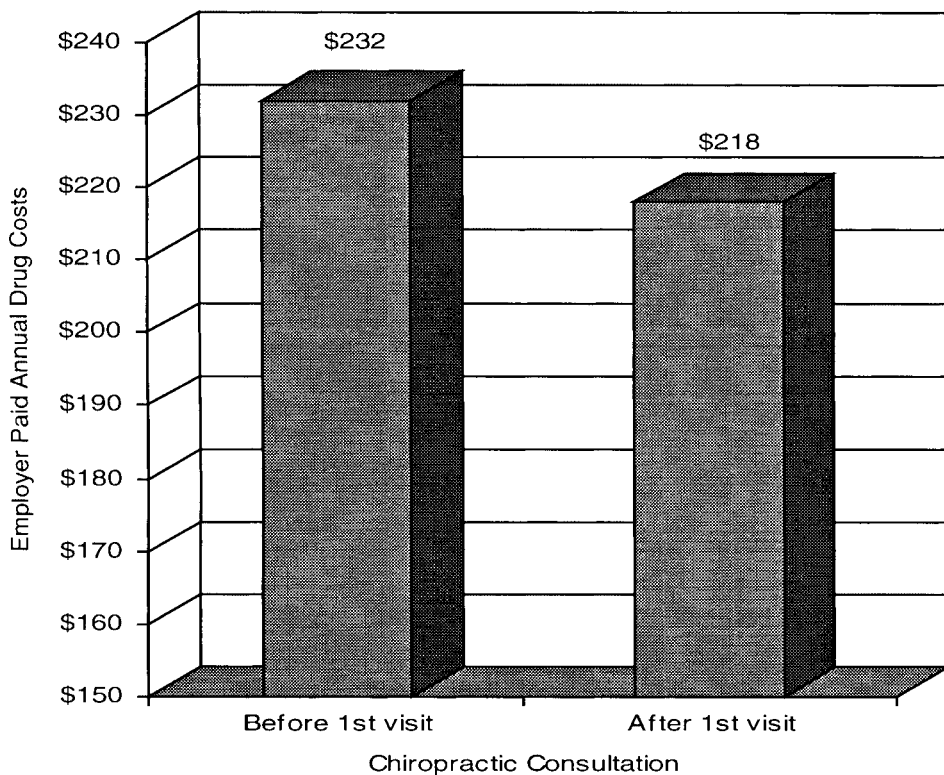


- Employer paid average annual drug costs are greater for those also claiming for paramedical services, including chiropractic
- Claimants who have seen a chiropractor have lower drug costs than those consulting other paramedicals
- Only Non-Ontario data has been used
  - Since the majority of Non-Ontario data is from 1st dollar coverage, we are able to pick up chiropractic costs from 1st visit (instead of after provincial legislation runs out – or after approx. 22 visits in Ontario)
- Based on a sample of 15,000 claimants<sup>2</sup>

<sup>1</sup> Includes 5 claimants from Alberta

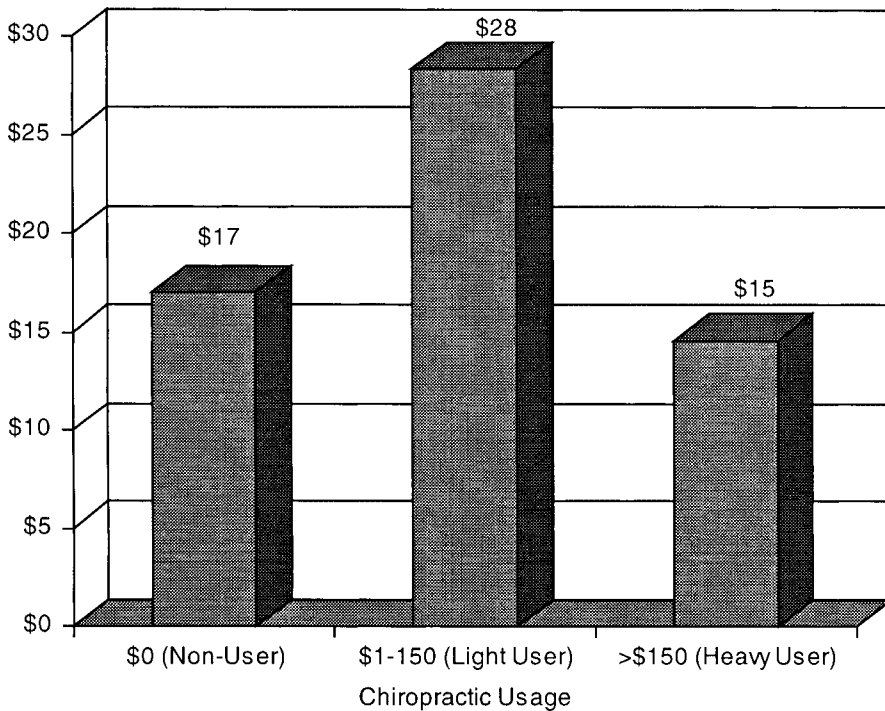
<sup>2</sup> Percentage represents the percent of the study sample.

### Appendix B Drug Costs Before and After Chiropractic Visit (Outside Ontario)



- Employer paid annual drug costs 6% lower after an individual's first visit to a Chiropractor
- Typically, employer paid drug benefits increase annually by 4% for a fixed group of drugs
- Only Non-Ontario data has been used
  - Since the majority of Non-Ontario data is from 1st dollar coverage, we are able to pick up chiropractic costs from 1st visit (instead of after provincial legislation runs out – or after approx. 22 visits in Ontario)
- This observed drug cost reduction (at least 10%–6% reduction plus at least 4% for inflation effect), after consultation with a chiropractors, is an interesting trend, but the sample is too small to make it statistically significant
- Based on a sample of 500 claimants using more than \$100 in Chiropractic services

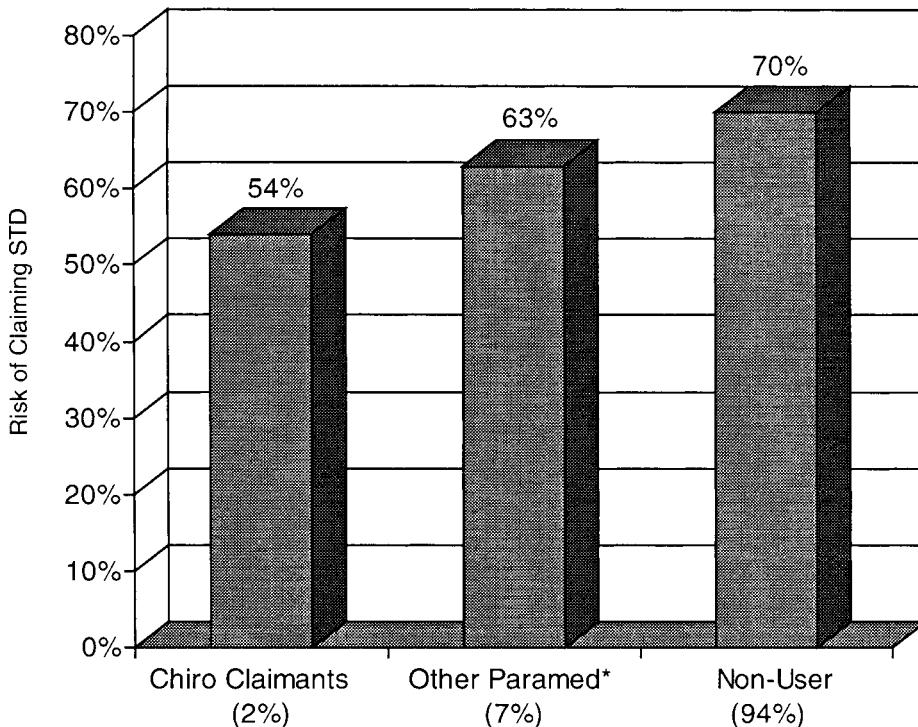
**Appendix C  
Annualized Drug Costs (Outside Ontario) Relevant Drugs Only\***



Non-User = 88% of total sample  
 Light-User = 8% of total sample  
 Heavy-User = 4% of total sample

- Total dollars spent on musculoskeletal drugs increase for light users of chiropractors
- However, annual employer paid drug costs decrease for heavy users of chiropractic, though only slightly less than for employees not claiming any chiropractic
- Only Non-Ontario data has been used
  - Since the majority of Non-Ontario data is from 1st dollar coverage, we are able to pick up chiropractic costs from 1st visit (instead of after provincial legislation runs out – or after approx. 22 visits in Ontario)
- Based on a sample of 15,000 claimants
  - \*Targeted drugs include:
    - Skeletal Muscle Relaxants
    - Analgesics & Antipyretics
    - Anti-inflammatories
    - Opiate Agonists
    - Ulcer Therapy Drugs
    - Other drugs including Elavil, Flunarizine, Aventyl, Methotrexate, Plaquenil, Inderal, Pizotiline

**Appendix D  
Probability of Claiming STD (All Diagnoses)**

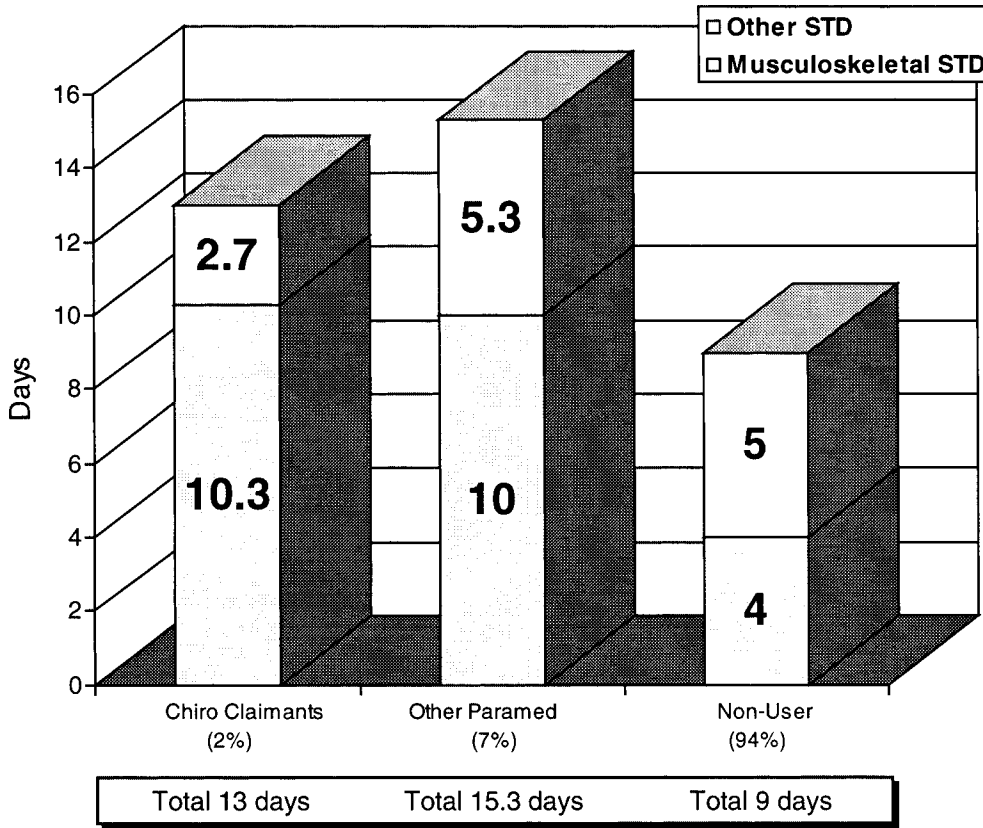


\*Other musculoskeletal related paramedical includes physiotherapists, massage therapists and acupuncturists. The majority of the costs in the paramedical relate to physiotherapists.

Note: Percentage represents the percent of the study sample.

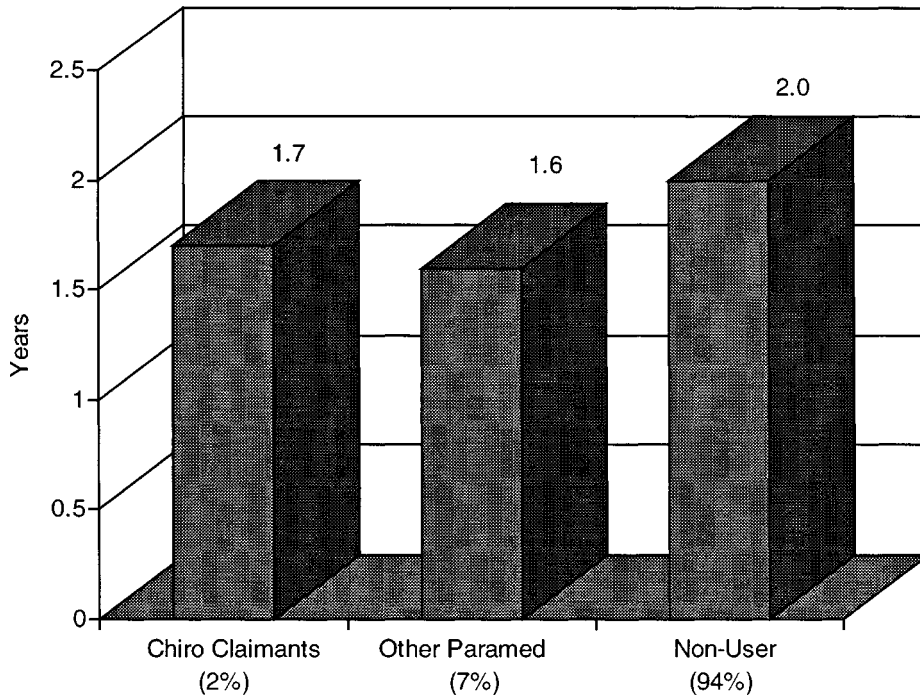
- Users of chiropractors have a higher probability of staying at work than non users (they use STD less)
- Based on a sample of 6,800 Ontario employees over a 3 year period
- Thus 5.4 out of 10 employees who consult a chiropractor will claim STD, vs. 7 out of 10 who do not utilize any chiropractic or paramedical services

**Appendix E  
Annualized Number of Days on STD**



- Users of chiropractic or other paramedical services have a longer duration of STD than those that have never had a paramedical claim.
- Duration on STD was 2.3 days shorter for non-musculoskeletal claims and 0.3 days longer for musculoskeletal claims for those consulting a chiropractor vs. other paramedicals.
- Based on a sample of 6,800 Ontario employees over a 3 year period

**Appendix F  
Duration of LTD (Musculoskeletal Causes Only)**



- Chiropractic users have a 15% shorter duration of LTD than non-users
- Based on a sample of 119 Musculoskeletal LTD claimants over a 3 year period
- Sample is not large enough to be statistically significant. But this is an interesting finding and worthy of further investigations with larger samples

Percent of Total Sample with Musculoskeletal LTD Claims