

Chapter 5: Cost of Chiropractic Compared to Family Physician

Introduction

Here we explore the cost of chiropractic care versus the cost of care provided by medical doctors, often referred to as primary care physicians (PCPs), for comparable injuries and complaints such as low back pain (LBP). There exists a general misperception that the cost of chiropractic care exceeds that of PCPs. This false notion is partially the result of comparing apples to oranges, in terms of the care provided, and partially the result of misleading billing practices on the part of PCPs. In order to better understand the root of this misperception, and ultimately to put it aside, one must examine the treatment which underlies the costs being compared.

For both chiropractors and PCPs alike, the cost of the initial visit with diagnosis is typically higher than the subsequent individual treatments which follow. However, the diagnostic tools of each provider and the differing treatment modalities employed results in a wide disparity in total costs for diagnosis and treatment between the two, even for similar complaints reported. For chiropractors, the cost of diagnosis often includes motion palpation, x-rays, and increasingly digital-motion x-rays. For PCPs, diagnostic costs may also include x-rays in addition to other advanced imaging techniques such as MRIs, CT scans, and the like.¹

Once a diagnosis has been made, both chiropractors and PCPs then plan an appropriate course of treatment in their respective scopes of care. PCPs often write prescriptions for pharmaceutical drugs (typically non-steroidal anti-inflammatory drugs or NSAIDS) as their primary or sole method of treatment, whether to decrease inflammation or to mask pain.¹ Prescription drugs may be followed by a regimen of physical therapy which, if not effective, may then lead to surgery where deemed appropriate.¹ Chiropractic treatment, by contrast, commonly employs spinal manipulative therapy (SMT), traction, heat therapy, and home exercise.

It should be pointed out that the actual cost of treatment, whether by a chiropractor or a PCP, is actually far greater than the total dollar amount billed to patients or their insurers. To measure the true costs of treatment one must look beyond just the monetary costs and examine the broader costs to both patients and society. These additional but non-obvious costs depend largely on the efficacy of the treatment plan and modalities employed. Such societal costs are not just financial, but may be physical and emotional as well. Some examples of societal costs include the length of time a patient remains in pain, his or her diminished ability to conduct daily routines, the number of lost work days, additional expenses for living assistance and home exercise equipment, the stress felt by family members providing care for their loved ones, and overall patient satisfaction. Of course, some of these societal costs are subjective and therefore cannot be quantified in objective terms. For those costs which are objectively measurable, it will be shown below that chiropractic care costs less than that provided by PCPs.

The full explanation of the cost disparity between Chiropractors and PCPs also requires the exposure of a very misleading practice used by PCPs in calculating the costs of their treatment. The cost for a month's supply of a single NSAID prescription is between \$25 and \$280.¹ PCPs prescribe NSAIDS as treatment for their patients who often fill their prescription at their local pharmacy. The pharmacy then bills the patients or their insurers for the cost of the prescription, a cost of treatment which is not attributable to the prescribing PCP, but to the pharmacy. This practice unfairly misrepresents the true costs of treatment provided by PCPs by systematically reducing the cost of care by PCPs by \$25 to \$280 for each NSAID prescription written. This form of "off-book" accounting caused a clamor in both the U.S. financial markets and the U.S. Congress when Enron and Arthur Anderson were exposed for the practice,¹ and patients and insurers should have the same reaction here.

The false apples-to-oranges comparison is further manifested in the nature of the differing treatment modalities provided by chiropractors and PCPs. Chiropractic care is physical in nature and

seeks to remedy the underlying cause of the injury or complaint. However, the treatment from PCPs is too often chemical in nature, due to their reliance primarily on pharmaceutical drugs, and thereby limited to treating symptoms only. In addition, it should be noted there are a plethora of side effects which often accompany the use of NSAIDS which range from very minor to life threatening,² and there remain questions about their overall effectiveness for treating LBP.² It is not clear whether the costs for treating any resulting side effects or complications from pharmaceutical drugs are tacked onto the costs for treating the underlying complaint, such as LBP.

Some would argue that any treatment regimen which focuses on correcting dysfunction rather than symptoms is of more value to the patient, even where the actual costs of such treatment are somewhat higher than symptom-focused treatment. Fortunately, however, that argument is not necessary as there is a great deal of research to suggest that chiropractic care is generally less costly and more efficacious than treatment provided by PCPs for similar complaints. Below is a brief survey of some of the latest research as presented on the Michigan Association of Chiropractors website³, which illustrates these points with our emphasis added:

“The Manga Report

The Manga Report is the most comprehensive analysis of low-back pain to date. Commissioned by the Ontario Ministry of Health, the report *shows chiropractic treatment is cost-effective, safe, has a high rate of patient satisfaction, and is more effective than medical treatment for low-back pain.*

The report recommends management of low-back pain be moved from medical doctors to chiropractors and found that *injured workers with low-back pain returned to work much sooner when treated by chiropractors than by medical doctors. The report also notes evidence that patients are much more satisfied with chiropractic management of low-back pain than with medical management.*

The Manga Report concluded: "There would be highly significant cost savings if more management of low-back pain was transferred from physicians to chiropractors. Users of chiropractic care have significantly lower health care costs, especially inpatient costs, than those who use medical care only."

Archives of Internal Medicine Study

A study published in the October 11, 2004 edition of the *Archives of Internal Medicine* compared 700,000 health plan members with a chiropractic benefit with 1 million members of the same plan who did not have the chiropractic benefit. The study found that *members with chiropractic coverage had lower annual total health care expenditures per member per year (\$1,463 vs. \$1,671)*. Having chiropractic coverage was associated with a 1.6% decrease in total annual health care costs at the health plan level. Also, *patients with chiropractic coverage had lower average back pain episode related costs (\$289 vs. \$399)*.

The AMI Study

In this study, a chiropractic network in which DCs performed all patient examinations, treatments, and procedures at their own discretion was constructed. Recommended follow-up visits, choice of appropriate treatment, and ancillary therapies utilized did not require approval from an MD. The original study, which focused on the years 1999-2002, found *decreases of: 43 percent in- hospital admissions per 1,000; 58.4 percent in hospital days per 1,000; 43.2*

percent in outpatient surgeries and procedures per 1,000; and, 51.8 percent in pharmaceutical costs. It noted that: "The AMI experience seems to indicate that a nonpharmaceutical/nonsurgical orientation can reduce overall health care costs significantly and yet deliver high quality care."

This study was updated in 2007, covering the years 2003-2005. *The results of the original study were confirmed, with demonstrated decreases of 60.2 percent in in-hospital admissions, 59 percent in hospital days, 62 percent in outpatient surgeries and procedures, and 85 percent in pharmaceutical costs.*

The Stano Study

This study, conducted by Oakland University Economics Professor Dr. Miron Stano, found that, when costs of advanced imaging and referrals to physical therapists and other providers were added, *chiropractic care costs for chronic patients were 16 percent lower than medical care costs.* If the study would have included hospitalization or surgical costs, two very expensive medical treatments for low-back pain, or over-the-counter medications, the savings from chiropractic would have been even greater. Additionally, *chiropractic patients showed an advantage over medical patients in pain, disability, and satisfaction outcomes.*

The Procedures Study

This study demonstrates that *chiropractic care leads to lower costs by reducing the rates of surgery, advanced imaging, inpatient care, and plain-film radiographs in patients with low-back and neck pain.* The study examined the claims data from a managed care health plan over a four-year period. The use rates of the high-cost procedures mentioned above were compared between employer groups with and without a chiropractic benefit. For patients with both low back and neck pain, the use rate of all four of these categories was lower in the group with chiropractic coverage.

The study concludes: "Among employer groups with chiropractic coverage compared with those without such coverage, there is a significant reduction in the use of high-cost and invasive procedures for the treatment of back pain."

The North Carolina Study

This study looked at more than 43,000 workers' comp. claims over a 19-year period (1975-1994) and found dramatic differences in the average treatment costs between chiropractic patients, medical patients, and patients treated by both. The analysis revealed that *the average total cost of an injured worker's claim managed by a medical doctor was \$21,774 more than claims managed by a DC. For chiropractic patients, however, average treatment costs were only \$663, roughly 18 percent of the cost of medical care, and 13 percent of the cost of combined care.*

Additionally, *injured workers treated by chiropractors experienced lost work days for an average of 33 days – 143 days less than workers seeing an MD, and more than 200 days less than workers treated by MDs and DCs, and hospital inpatient and outpatient care costs for medical patients were \$1,995 and \$2,161 more per worker, respectively, than for chiropractic patients.*

The study concluded: "It seems likely that substantial savings to the workers' compensation system would be possible if chiropractic services were increased in North Carolina."

The British Medical Research Council Study

The British Medical Research Council conducted a 10-year study that showed chiropractic care was significantly more effective than medical treatment for patients with chronic and severe pain.

The Annals of Internal Medicine Study

This study compared the effectiveness of manual therapy, physical therapy, and continued care by a general practitioner in patients with nonspecific neck pain. The success rate at seven weeks was twice as high for the manual therapy group (68.3 percent) as for the continued care group. Manual therapy scored better than physical therapy on all outcome measures. Additionally, patients receiving manual therapy had fewer absences from work than patients receiving physical therapy or continued care, and manual therapy resulted in statistically significant less analgesic use than continued care.

The Nevada Workers' Compensation Study

This study found *loss of work time under chiropractic care is less than one-third of the time lost under medical care. The study also found that the average medical cost per patient was 260 percent higher than the average chiropractic cost.*

Chiropractic Resource Organization Study

Another recent study published on the Chiropractic Resource Organization website reported *the cost of treating episodes of low-back pain was 28 percent lower in patients whose health plan provided chiropractic coverage compared to health plans without coverage. And, total health care costs were 12 percent less for patients in plans that reimbursed for chiropractic services.*

The Oakland University Study

Oakland University found "patients who received chiropractic care incurred significantly lower health care costs than patients treated solely by medical or osteopathic physicians." *Total insurance payments were 30 percent higher for patients who elected medical care only.*

The Texas Workers' Compensation Report

The Texas Chiropractic Workers' Compensation Report found *the average claim for a worker with a low-back injury was \$15,884. If a chiropractor provided at least 90 percent of the care, however, the average cost declined by more than 50 percent, to \$7,632.*

American Journal of Managed Care Study

This study found *chiropractic care was substantially more cost-effective than conventional care. The authors also concluded that properly managed chiropractic care can yield outcomes, in terms of surgical requirements and patient satisfaction, that are equal to those of non-chiropractic care, at a substantially lower cost per patient.*

The Utah Study

The Utah Study compared the cost of chiropractic care to the cost of medical care for conditions with identical diagnostic codes and found that *cost was almost 10 times higher for medical than for chiropractic claims. Also, the number of work days lost was nearly ten times higher for those who received medical care.*

The Florida Study

The Florida Study showed patients receiving chiropractic care rather than medical care had lower treatment costs by more than 50 percent.”²

Workers Compensation Research Institute Interstate Comparison

For the years 2003 and 2004 The Workers Compensation Research Institute (WCRI) conducted a 13-state comparison of medical claim costs and utilization by provider type. The provider types included Physician, Chiropractor, PT/OT, Hospital outpatient provider, and Other medical provider. The WCRI surveyed claims in which there was more than seven (7) days of lost time, and adjusted for injury and industry mix over a 12 month average. The WCRI survey results, as published on its website,² are included here with our emphasis added:

Measure	AR	CA ^a	FL	IL ^b	IN	LA	MA	MD	NC	PA	TN	TX	WI	13-State Median ^c
Physician														
Percentage of medical payments	39%	40%	33%	39%	40%	35%	35%	31%	30%	29%	40%	33%	35%	35%
Percentage of all claims	96%	95%	96%	93%	93%	97%	90%	92%	95%	93%	97%	95%	89%	95%
Average medical payment per claim	\$3,244	\$3,698	\$2,605	\$4,711	\$4,025	\$3,184	\$1,610	\$1,940	\$2,606	\$2,034	\$3,975	\$3,448	\$3,549	\$3,244
Index of per claim utilization	105	121	105	106	102	100	64	88	96	95	100	121	72	100
Average number of visits per claim	10.2	16.2	10.5	11.8	9.4	10.1	7.2	8.8	9.5	10.0	10.0	12.4	8.3	10.0
Average number of services per visit^d	2.3	2.9	2.3	2.6	2.3	2.4	1.9	2.3	2.3	2.7	2.3	2.8	2.0	2.3
Index of average prices	102	90	82	166	139	108	93	81	98	90	133	92	185	100
Average payment per visit	\$287	\$222	\$245	\$401	\$420	\$310	\$226	\$221	\$272	\$207	\$391	\$270	\$432	\$272

Chiropractor														
Percentage of medical payments	0%	10%	0%	2%	0%	1%	2%	2%	0%	2%	0%	18%	2%	2%
Percentage of all claims	3%	22%	3%	8%	2%	4%	9%	8%	2%	7%	3%	29%	12%	7%
Average medical payment per claim	\$976	\$3,929	\$809	\$2,340	\$1,187	\$1,849	\$1,136	\$1,333	\$937	\$2,030	\$974	\$5,972	\$1,592	\$1,333
Index of per claim utilization	70	279	80	118	82	n/a ^e	110	138	67	154	85	305	81	98
Average number of visits per claim	16.6	38.8	10.8	18.9	11.3	18.3	19.3	18.7	11.3	20.7	11.9	30.9	17.1	18.3
Average number of services per visit^d	2.2	3.4	3.4	3.3	3.0	n/a ^f	2.8	3.6	2.9	3.5	3.5	4.1	2.4	3.4
Index of average prices ^g	104	100	73	135	108	127	65	72	88	100	95	119	122	100
Average payment per visit	\$66	\$98	\$68	\$120	\$100	\$101	\$59	\$71	\$71	\$93	\$115	\$189	\$92	\$93
PT/OT														
Percentage of medical payments	6%	10%	7%	12%	9%	14%	9%	10%	9%	13%	10%	11%	5%	10%
Percentage of all claims	34%	52%	45%	41%	44%	50%	30%	40%	44%	39%	48%	49%	25%	44%
Average medical payment per claim	\$1,380	\$1,621	\$1,273	\$3,180	\$2,018	\$2,449	\$1,178	\$1,359	\$1,692	\$2,176	\$1,927	\$2,238	\$1,978	\$1,927
Index of per claim utilization	71	100	97	122	81	n/a ^e	91	116	104	146	87	100	62	99
Average number of visits per claim	12.5	19.6	13.8	17.7	12.8	18.7	15.5	16.8	15.2	18.3	13.7	14.8	11.8	15.2
Average number of services per visit	3.7	3.3	3.4	3.8	3.2	n/a ^f	3.6	3.8	3.7	4.2	3.7	3.5	2.7	3.6
Index of average prices ^g	100	90	69	133	121	106	68	66	90	97	111	103	147	100
Average payment per visit	\$111	\$81	\$88	\$178	\$149	\$129	\$76	\$80	\$111	\$116	\$139	\$149	\$165	\$116

Hospital outpatient provider^h														
Percentage of medical payments ⁱ	27%	19%	29%	28%	30%	32%	30%	21%	36%	31%	28%	17%	32%	29%
Percentage of all claims ⁱ	75%	48%	63%	69%	71%	71%	78%	57%	65%	79%	68%	56%	71%	69%
Average medical payment per claimⁱ	\$2,930	\$3,466	\$3,541	\$4,592	\$3,914	\$3,907	\$1,566	\$1,926	\$4,657	\$2,579	\$3,864	\$3,055	\$4,138	\$3,541
Index of per claim utilization ⁱ	100	85	77	115	118	90	78	73	103	148	103	98	100	100
Average number of visits per claimⁱ	6.8	5.3	4.4	6.9	7.0	4.3	8.4	3.8	5.4	9.2	5.5	4.2	8.4	6
Average number of services per visitⁱ	3.1	3.0	3.8	3.0	2.9	3.7	2.5	2.9	3.3	3.3	3.2	3.3	2.4	3
Index of average prices	72	112	116	130	101	131	58	79	118	54	105	103	121	100
Average payment per visitⁱ	\$414	\$679	\$783	\$667	\$559	\$911	\$186	\$514	\$866	\$279	\$686	\$699	\$490	\$667
Other medical provider^j														
Percentage of medical payments	5%	9%	9%	4%	6%	5%	6%	6%	5%	7%	4%	8%	6%	6%
Percentage of all claims	40%	52%	48%	33%	36%	39%	31%	37%	33%	41%	41%	52%	36%	39%
Average medical payment per claim	\$1,020	\$1,492	\$1,361	\$1,396	\$1,422	\$1,236	\$713	\$898	\$1,208	\$1,053	\$1,043	\$1,434	\$1,570	\$1,236
Index of per claim utilization	72	115	152	100	107	100	85	100	128	129	87	144	92	100
Average number of visits per claim	3.8	5.9	5.5	3.8	3.1	3.4	2.8	4.4	4.6	4.6	3.3	4.6	3.8	3.8
Average number of services per visit	1.9	2.2	1.9	2.2	2.1	2.0	2.1	2.7	2.2	3.1	2.2	2.6	2.0	2.2
Index of average prices	116	90	71	164	158	113	78	77	93	90	135	91	199	100
Average payment per visit	\$277	\$236	\$212	\$331	\$298	\$294	\$253	\$199	\$230	\$201	\$288	\$281	\$357	\$277

<p><i>Notes:</i> Claims with 12 months' average maturity. 2003/2004 refers to claims arising in October 2002 through September 2003, evaluated as of March 2004. Illinois' medical costs and utilization may be understated by an unknown amount due to balance billing.</p>
<p>^a For California, the number of services per visit for providers of physical medicine may be somewhat understated and prices somewhat overstated relative to other states because some physical medicine services are billed in 30 minute increments rather than the standard 15 minutes.</p>
<p>^b Average medical payments per claim are understated by an unknown amount because Illinois permits balance billing.</p>
<p>^c The 13-state median is the state ranked 7th on a given measure; the state changes depending on the measure being evaluated.</p>
<p>^d This includes billing for hot and/or cold packs (97010) which are not necessarily reimbursed in all states.</p>
<p>^e Because unique codes are used for billing physical medicine services in Louisiana, we are unable to distinguish between the relative number of services billed and the service mix intensity for physical medicine services and therefore cannot report the utilization index for these services in Louisiana.</p>
<p>^f Because not all services billed by Louisiana physical/occupational therapists and chiropractors are comparable to those in other states and they are defined too broadly to be crosswalked, we are unable to compare the number of services per visit for these services and providers. As noted, the price index relies on services where crosswalks can be accomplished.</p>
<p>^g Physical medicine codes in Louisiana are billed using state-specific PT/OT codes. While many of these codes can be directly mapped to standard physical therapy services, some cannot be. Specifically, those for therapeutic exercises and activities cannot be directly mapped. We only include those codes that can be directly mapped in the price analysis. In Louisiana, this means that the percentage of physical medicine payments that are included in the price analysis is less than the 85 to 98 percent found in other states. In Louisiana, the price analysis of the physical medicine category (and the services provided by physical/occupational therapists and chiropractors) is based on just over 52 percent of the services (mostly modalities as opposed to therapeutic activities and exercises). However, we are able to use all services for the trend analysis since the analysis is within the state over time and does not depend on comparisons to standardized codes.</p>
<p>^h For the most part, hospital outpatient services do not include payments to ambulatory surgical centers which are not consistently defined in the data, but are most often included in the nonhospital physician category. This does not include payments for hospital inpatient services.</p>
<p>ⁱ More claims receive hospital treatment in Massachusetts and Pennsylvania than in other states. This may mean that more claimants are seen in hospital settings or that more hospital billing is done even when the setting is a physician's office. The result is that there are more services in the hospital provider category in Massachusetts and Pennsylvania. Overall, injuries treated by hospital providers in Massachusetts and Pennsylvania may be less severe than those treated in other states; therefore, costs and utilization may not be comparable to other states.</p>
<p>^j Other nonhospital providers include physicians' assistants, nurses, counselors, medical equipment suppliers, etc.</p>
<p>Measures:</p>
<ul style="list-style-type: none"> • Percentage of medical payments: The sum of payments to each provider type or for each service group, divided by the sum of total medical payments.
<ul style="list-style-type: none"> • Percentage of all claims: The proportion of all claims with medical bill data with at least 1 service rendered by the provider type.
<ul style="list-style-type: none"> • Average medical payment per claim: The sum of medical payments to each provider type, divided by the number of claims involving the provider type.
<ul style="list-style-type: none"> • Index of per claim utilization: Measures the relative utilization compared to other states. The median state = 100. An index of 120 means that the states utilization is 20 percent higher compared to the median state and an index of 80 means that the state's utilization is 20 percent lower compared to the median state. The utilization measures the volume of services provided as well as the relative resource intensity of the services provided per claim.
<ul style="list-style-type: none"> • Average number of visits per claim: The total number of visits to each provider type, divided by the number of claims involving the provider type or service group.
<ul style="list-style-type: none"> • Average number of services per visit: The total number of services paid to each provider type, divided by the total number of visits involving the provider type or service group.
<ul style="list-style-type: none"> • Index of average prices: The index measures average unit prices paid relative to the median state. The median state = 100. If a state's index is 80, this means that prices are on average 20 percent lower than the median state; if a state's index is 120 this means that the prices are on average 20 percent higher than the median state.
<ul style="list-style-type: none"> • Average payment per visit: The sum of payments made for each unique date of service (visit).
<p><i>Key:</i> n/a: not available; physician: medical doctor or doctor of osteopathy; PT/OT: physical or occupational therapist. Other providers include nurses, physicians' assistants and other specific providers not included in the list above.</p>

The WCRI survey contains many stunning observations which require special mention. Those observations are highlighted here:

- The 13-state median cost of chiropractic care was less than all other provider types (except for “Other medical providers,” a category which includes physician’s assistants, nurses, counselors and medical equipment suppliers);
- The 13-state median cost of care provided by Physicians and Hospital outpatient providers was nearly triple that of Chiropractors (\$3,244 and \$3,541 vs. \$1,333, respectively);
- The 13-state median shows that Chiropractors provided more treatment visits than all other provider types, and nearly doubled that of Physicians (18.3 treatments by Chiropractors vs. 10 treatments by Physicians);
- The 13-state median shows that Chiropractors provided more services per visit than all other provider types except PT/OT (3.4 by Chiropractors vs. 3.6 by PT/OT), but Chiropractors still provide the most services overall when multiplied by the number of treatment visits;
- The 13-state median shows that Chiropractors had the lowest payment per treatment of all the provider types surveyed.

The WCRI Interstate Comparison can be easily summarized in the following way:

Chiropractors provide the most treatment at the lowest cost.

Conclusion

The collection of research presented above should cure even the most misinformed or skeptical of readers of the misperception that the cost of chiropractic care exceeds that provided by PCPs. The research above hails from a variety of institutions and geographic locations. Included were studies published in respected research journals and conducted by universities, independent researchers, non-profit organizations, and even state workers compensation agencies. The studies themselves were conducted in all corners of the United States, and one from Britain. Despite this variety of organizations and locations, all the studies reached a single, consistent conclusion: Chiropractic care costs less than the care provided by PCPs for similar complaints, even without considering the misleading accounting that does not include the cost of medications ordered by the PCP.

The findings above are not limited however to just the financial costs of care but also concern some of the other costs paid by both patients and society. Several studies found that patients had greater satisfaction with chiropractic care over medical care. This finding is likely explained by many of the other positive results of chiropractic care found by the various studies. A number of studies reported dramatic decreases in lost work days, hospital admissions, length of hospital stays, pharmaceutical prescriptions, and surgeries for patients treated by chiropractors compared to those treated by PCPs.

Despite the financial, personal, and societal discounts that chiropractic care is shown to provide, there is yet another measurement which arguably holds the greatest value to patients. It is the efficacy of chiropractic care which is truly most valuable. The effectiveness of chiropractic care to alleviate patients’ pain and get them back to their work and their lives is the source of chiropractic care’s greatest cost-savings to both patients and insurers. It is of great value to insurers because it keeps costs down, and an even greater value to patients because their suffering is relieved with substantially less financial hardship.

References:

1. Richard G. Fessler, MD, PhD, “Low Back Pain (LBP): Diagnostic Steps,” SpineUniverse, <http://www.spineuniverse.com/displayarticle.php/article2688.html>. Accessed April 2008.
2. Richard G. Fessler, MD, PhD, “Low Back Pain (LBP): Treatment and Recovery,” SpineUniverse, <http://www.spineuniverse.com/displayarticle.php/article2689.html>. Accessed April 2008.
3. Michigan Association of Chiropractors, <http://www.chiromi.com/about.htm>. Accessed April 2008.