

# Chiropractic Services: On-site Health Center Analysis

## Executive Summary

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## Abstract

Chiropractic care offered at an on-site health center could reduce the economic and clinical burden of musculoskeletal conditions. A retrospective claims analysis and clinical evaluation were performed to assess the influence of on-site chiropractic services on health care utilization and outcomes. Patients treated off-site were significantly more likely to have physical therapy ( $P < 0.0001$ ) and outpatient visits ( $P < 0.0001$ ). In addition, the average total number of health care visits, radiology procedures, and musculoskeletal medication use per patient with each event were significantly higher for the off-site group (all  $P < 0.0001$ ). Last, headache, neck pain, and low back pain-functional status improved significantly (all  $P < 0.0001$ ). These results suggest that chiropractic services offered at on-site health centers may promote lower utilization of certain health care services, while improving musculoskeletal function.

## Background and Aims

Musculoskeletal problems are a considerable economic and clinical burden on both employees and employers. On-site chiropractic care, therefore, could have substantial value given the convenience and quality of care provided by on-site health centers. The objective of this study was to determine the influence of on-site chiropractic care on healthcare utilization and associate-reported outcomes.

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## Methods

A retrospective claims analysis of Cerner associates (employees) who received chiropractic care at an on-site health center ("on-site group") or off-site community-based chiropractic offices ("offsite group") at least once during 2010 was performed. Health care utilization differences between groups were evaluated by the likelihood of having at least one health care event (i.e., health care visit, radiology procedure, musculoskeletal medication use) and the number of events per associate with an event. The effectiveness of care was evaluated for the on-site group through functional-assessment questionnaires appropriate to their care at each visit: the Headache Disability Index (HADI), the Neck Pain Disability Index (NPDI) and the Oswestry Low Back Pain Questionnaire (OLBQ).

## Results

In total, 309 and 858 associates comprised the on-site and off-site groups, respectively. The on-site group was younger ( $P < 0.005$ ) and had fewer females ( $P < 0.05$ ).

Associates in the off-site group were significantly more likely to have at least one physical therapy visit ( $P < 0.0001$ ) and outpatient visit ( $P < 0.0001$ ).

The average total numbers of health care visits, radiology procedures and musculoskeletal medication use per associate with each event were significantly higher for the off-site group (all  $P < 0.0001$ ).

Healthcare utilization trends:

- Associates in the off-site group were more likely to have an outpatient visit ( $P < 0.0001$ ), but the average number of outpatient visits was similar between groups for those who had at least one visit.
- The average number of X-rays per associate with an X-ray was significantly higher among those in the off-site group ( $P < 0.001$ ), but the likelihood of having an X-ray was similar between groups.
- Associates in the on-site group have lower odds of having a physical therapy visit, and the average number of visits was also lower among those who had a visit.

## Find the full-text article

Krause CA, Kaspin L, Gorman KM, Miller RM. Value of chiropractic services at an onsite health center. *Journal of Occupational and Environmental Medicine*, in press, 2012.

Significant reductions in the HADI, NPDI, and OLBQ scores were observed (all P < 0.001), suggesting the cohort experienced substantial improvements in functional status for headache, neck pain, and low back pain, respectively.

	Mean on-site chiropractic visits	Mean score change (SD; 95% CI)	P-value
<b>HADI</b> (n = 12)	11	<b>-19%</b> (10.32%; 12.24% - 25.56%)	< 0.001
<b>NPDI</b> (n = 40)	9	<b>-14.6%</b> (7.85%; 12.06% - 17.09%)	< 0.001
<b>OLBQ</b> (n = 74)	8	<b>-14.5%</b> (11.1%; 11.92% - 17.05%)	< 0.001

### Limitations

This analysis has some limitations that should be addressed. First, the association between on-site chiropractic care and reduced healthcare utilization may be due to underlying characteristics of the groups, not necessarily treatment differences. Second, health care utilization differences may be due to conditions that cannot be treated by chiropractors and the full benefit of offering chiropractic services on-site may have been obscured.

Third, the study duration spanned the first year that chiropractic care was offered at the on-site health center and an extended follow-up duration may further distinguish utilization differences between the groups.

In addition, over time, it is expected that on-site chiropractic services will become more widely used and a greater pool of data will be available for more granular analyses. Last, functional assessments (e.g., HADI, NPDI, and OLBQ) were administered only during associates onsite chiropractic visits, not at off-site care.

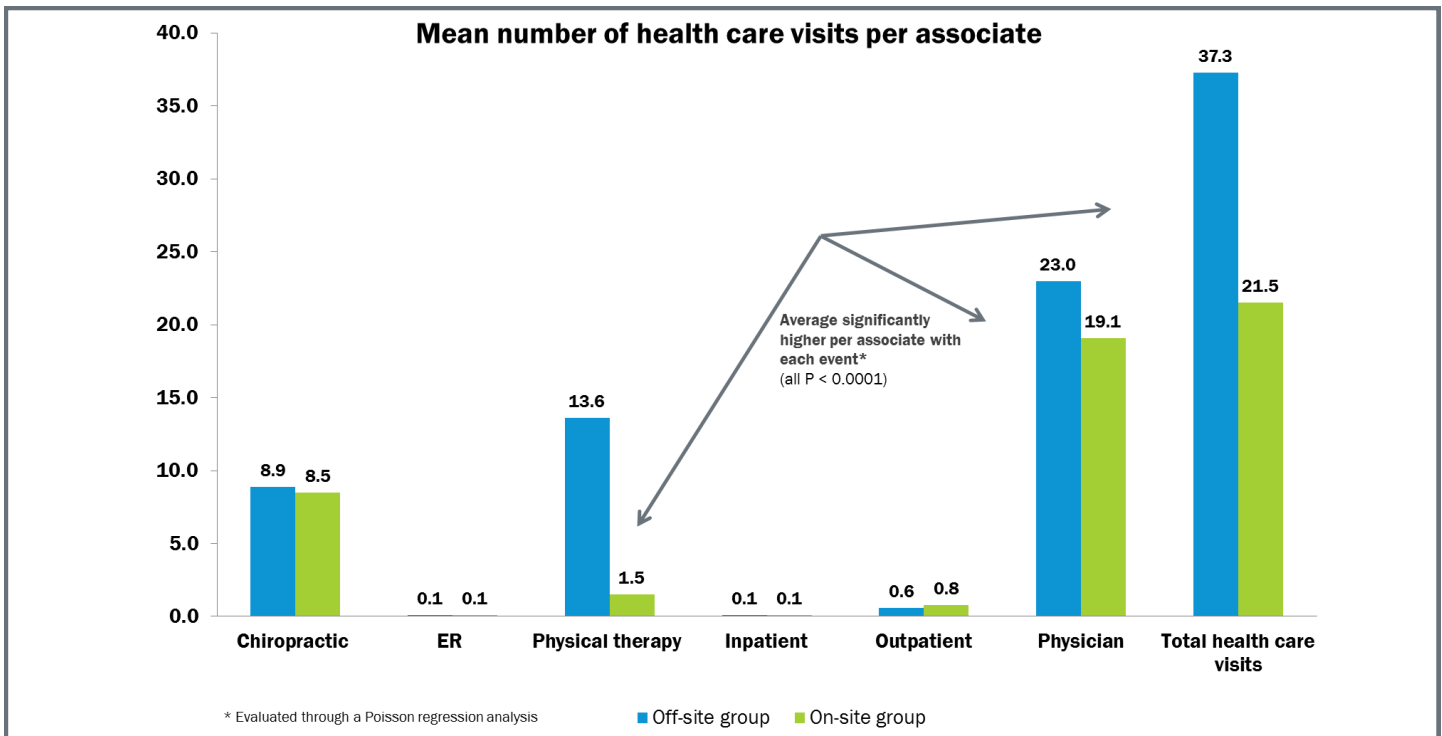
### Conclusions

These findings confirm that on-site chiropractic services are associated with lower healthcare utilization and improved functional status of musculoskeletal conditions. Given the on-site health center's focus on providing quality, effective and

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holistic care, the improved outcomes found in this study may be due to a greater adherence to evidence-based practices and integration with other health services on-site than off-site. The improved functional status indicates potential for reduced indirect costs, including absenteeism, presenteeism and productivity losses, with on-site chiropractic services. Additionally, direct cost savings may result through lower rates of healthcare utilization.

The results of this study support the value of chiropractic services offered at onsite health centers. Future research into potential indirect and direct cost savings would supplement this study and further demonstrate the advantages of on-site chiropractic care.



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