



# Survey of US Chiropractor Attitudes and Behaviors about Subluxation

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## ABSTRACT

**Objectives:** This paper provides new information that describes chiropractors' professional identity relative to their concept of subluxation in chiropractic practice and education.

**Methods:** We performed a pragmatic, descriptive, cross-sectional survey of state-board licensed chiropractors in the US during 2002-03 to assess their attitudes and behaviors about their use of "subluxation" in practice. We did not define nor specifically operationalize, *a priori*, the term "subluxation", but instead allowed each individual doctor of chiropractic to self-define the concept "subluxation" in their survey responses.

**Results:** Of all US state-board licensed DCs (N=67,217), 5,931 were surveyed. Nearly 50% of those surveyed responded. Many surveyed chiropractors generally agreed that their chiropractic education and clinical approach is "subluxation-centered", that the concept of "subluxation" is important to their clinical care decisions, and that they use the term "subluxation" when communicating with patients, other healthcare providers, and third-party payors.

**Discussion/Conclusion:** Based upon those surveyed, chiropractors seem to embrace "subluxation-based" terms as well as other clinical approaches to describing their care for chiropractic patients. Understanding the complex nature of chiropractic approaches to health care provision may carry implications for current initiatives to advance evidence-based chiropractic practice and clinical training, enhance successful and comprehensive biopsychosocial management of the multicausal and complex health concerns of chiropractic patients, and improve overall delivery of optimal integrative health care. Further inquiry on this topic should focus methodological and conceptual attention to differentiating how contemporary chiropractors self-define and clinically apply the concept of subluxation. (*J Chiropr Humanit* 2008;15:19-26)

**Key Indexing Terms:** Chiropractic; Subluxation; Health Occupations

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## INTRODUCTION

An ongoing discourse focuses on the term "subluxation" as a concept that has been central to chiropractic professional identity, philosophy of chiropractic, and chiropractic history. Within the general spirit and framework of hypothetico-deductive scientific method, we collected descriptive

observational data about the application of subluxation in contemporary chiropractic practice. In-depth epistemological exploration or analysis, such that differentiating between “subluxation” as a dynamic, kinetic, neurophysiological “vertebral subluxation complex” or as a static ‘bone out of place’ creating nerve interference that are unique to the discipline of chiropractic, or as an anatomical “partial dislocation” as traditionally defined in medicine,<sup>1,2</sup> is beyond the scope and purpose of this study.

The purpose of this paper is to report findings from a survey of US chiropractors regarding their attitudes and behaviors relative to the concept of “subluxation”, as they self-define the term, in contemporary chiropractic clinical practice and education. We also discuss potential implications of these findings to an evolving chiropractic professional identity within the context of a biopsychosocial model for health care provision and integrative health care delivery.

## METHODS

We surveyed US chiropractors in 2002-03 using a scientifically rigorous and complex survey methodology. This survey of chiropractor attitudes and behaviors toward subluxation, was embedded within a more encompassing multi-topic survey endeavor consisting of 36 distinct survey instrument components that were combined in various permutations to create 38 versions of a survey set that was distributed to 3 separate survey cohorts within a non-replacement sampling frame, and we have reported our study methods in more detail elsewhere.<sup>3</sup>

In addition to basic demographic data, we asked chiropractors to rate their agreement with the statements presented in Table 1 in

order to ascertain the extent to which the concept of subluxation guides their clinical decisions or their communications with patients, other healthcare providers, or third-party payers. We also asked the extent to which the chiropractor combined a “subluxation-based” clinical approach with other “non-subluxation-based” clinical approaches for the care of patients in their chiropractic practice, using the diagram-prompted query format included in Appendix 1 of this report. We pre-validated our survey questions by pilot-testing on all representatives drawn from the leadership rosters of the Congress of Chiropractic State Associations (COCSA), Federation of Chiropractic Licensing Boards (FCLB), and National Board of Chiropractic Examiners (NBCE).

We drew our randomized survey sampling frame (n=5,931) from a master list of all US state-board licensed DCs (N=67,217), and employed 3 mailings plus phone follow-up of non-respondents, to yield an eventual mail survey response rate of approximately 50% and an overall contact rate of approximately 60%, a rate comparable to that of other surveys of busy professionals.<sup>4-8</sup> We analyzed our survey data using SPSS for Windows version 12.0 (SPSS Inc, Chicago, IL). This study was reviewed and approved by the Palmer College Institutional Review Board.

## RESULTS

Similar to the demographics reported in other US surveys of the chiropractic profession, the respondents to our 2002 survey also reflected a majority white (approximately 90%) and male (approximately 80%) constituency, engaged in fulltime practice (85%). Most surveyed DCs provided care at a single practice location (90%), as a solo practitioner

(approximately 70%). On average, our surveyed chiropractors were 46 years old and in practice for 16 years. Survey respondents were graduates of the following chiropractic colleges: Palmer, both schools (28%), Life, both schools (14%), Logan (9%), National (9%), New York (7%), Cleveland, both schools (7%), Northwestern (6%), LACC (6%), Western States (4%), Texas (4%), Parker (3%), Sherman (2%), and Bridgeport (less than 1%). Further specifics of our survey respondent demographics have been reported in more detail elsewhere<sup>3</sup> and are therefore reported more briefly here (e.g. in this report we have collapsed separate categories for “Palmer-Davenport”, “Palmer-West”, and “Palmer-unspecified” schools into a single category “Palmer College” representing both Palmer schools existing at the time of the survey, as we also collapsed for this report Life and Cleveland colleges).

As reported in Table 1, most surveyed chiropractors generally agree that their chiropractic education and clinical approach

was “subluxation-centered”, that the concept of subluxation is important to their clinical care decisions, and that they use the term “subluxation” when communicating with patients, other healthcare providers, and third-party payors. Forty eight percent of chiropractors report that their chiropractic college education was predominantly subluxation-based, while 41% of chiropractors state that their continuing education within the past year was predominantly not subluxation-based (see Table 2).

The data reported in Figure 1 suggest a more complex picture regarding how chiropractors specifically apply the concept of subluxation in actual clinical practice. Most chiropractors typically reported that over 75% of their clinical approach to addressing musculoskeletal or biomechanical disorders such as back pain was “subluxation-based”. Conversely, most chiropractors also reported that less than 20% of their clinical approach was “subluxation-based” for patient complaints

	Strongly Agree	Moderately Agree	Slightly Agree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1. The detection and resolution of subluxation guides my clinical care of patients.	45%	25%	15%	5%	4%	6%
2. My most important clinical decisions are about subluxation.	34%	25%	18%	7%	7%	9%
3. Generally, I consider my clinical approach to be "subluxation-centered".	36%	23%	17%	7%	5%	12%
4. Generally, my <b>chiropractic college education</b> was "subluxation-centered".	28%	25%	16%	9%	9%	13%
5. I use the term "subluxation" when discussing or explaining a patient's condition to them.	39%	25%	12%	6%	7%	11%
6. I use the term "subluxation" when communicating information about my patient's condition with <b>healthcare providers</b> such as: MDs, physical therapists, podiatrists, etc.	26%	20%	19%	9%	10%	16%
7. I use the term "subluxation" when communicating information about my patient's condition with <b>3rd party payors</b> .	32%	20%	19%	7%	8%	14%

**Table 2: Percent of chiropractor’s education and practice reported to be subluxation-based.**

	Less than 40% Subluxation-based	40% -to- 60% Subluxation-based	More than 60% Subluxation-based
Chiropractic College Education	25%	27%	48%
Chiropractic Continuing Education (CE) During Past Year	41%	24%	35%
Total Current Chiropractic Practice	21%	20%	59%

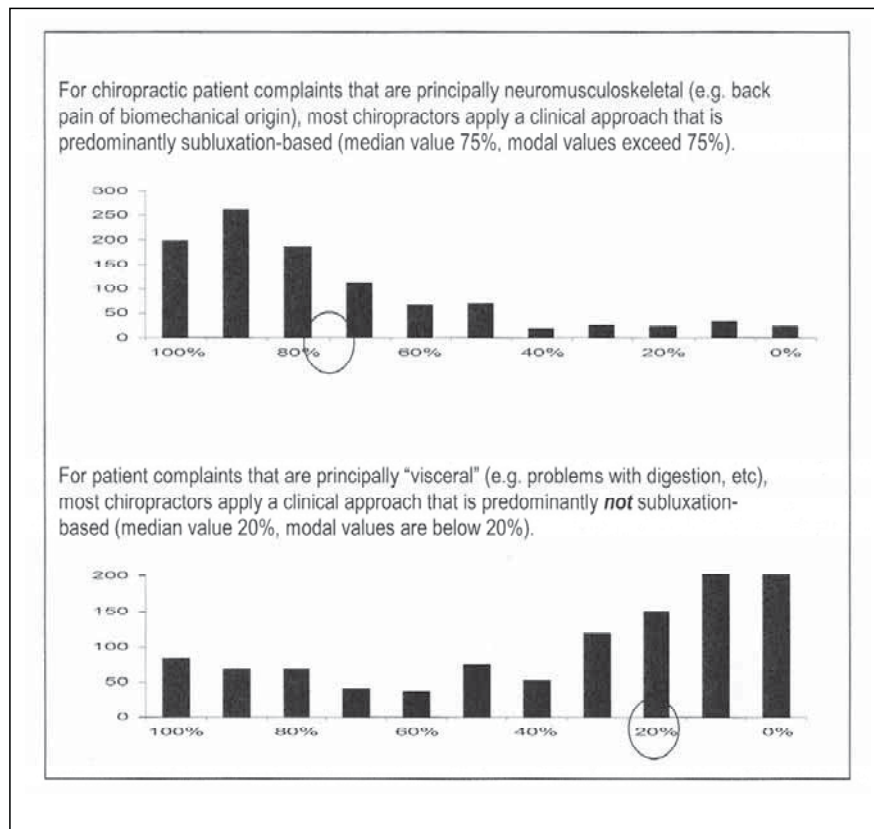
deemed to be principally problems with circulation, digestion, or similarly “visceral” in nature.

## DISCUSSION

The results from our survey of chiropractor attitudes about subluxation seem to be in both accordance and discordance with survey results as recently reported by

McDonald et al.<sup>9</sup> Both of the surveys were conducted during the same general timeframe (2002-03) and employed similar methodologies of pre-validating survey items via pilot-testing, and an original mailing followed up with 2 reminder mailings to non-responders. The two surveys differed on important dimensions that could also partly account for some of the differences between our respective study

**Figure 1. Extent to which chiropractors apply a subluxation-based clinical approach to patient health complaints, by type of complaint.**



findings. McDonald et al surveyed chiropractors from Canada, Mexico, and the US, sampling from a North American distribution mailing list. We restricted our survey to only US chiropractors, and sampled from a master list of all US state-board licensed DCs. As well, the two studies differed with respect to how the subluxation queries were specifically constructed and operationalized within each survey.

Findings from both surveys indicate that a majority of the chiropractors we surveyed find clinical utility in, and it is possible that they may favor retaining professionally, the general concept of subluxation or vertebral subluxation complex in chiropractic practice. In our survey, over 70% of chiropractors report that subluxation is important to their clinical decisions and guides their clinical care of patients. McDonald et al.<sup>9</sup> report that over 88% of their surveyed chiropractors favor retaining in the profession the term vertebral subluxation complex .

Findings from the two surveys appear to diverge markedly, however, regarding chiropractor attitudes about the connection between subluxation and “visceral” disorders. McDonald et al<sup>9</sup> report that a strong majority (over 75%) of their surveyed chiropractors believe that subluxation is a significant contributing factor to 50% or more of visceral disorders. In stark contrast, most of our surveyed chiropractors seem to believe that a subluxation-based clinical approach may have limited utility for addressing visceral disorders, and greatly favor non-subluxation-based clinical approaches for such conditions (Fig 1). The two studies differed significantly as to how the subluxation queries were specifically formulated and posed to survey participants, which could readily account for the apparent differences in our respective findings. A

diversity of chiropractic opinion regarding the connection between subluxation and visceral disorders may be reasonable and perhaps even expected, given that multi-causal models of disease and dysfunction have now become fairly well established in the health sciences, widely accepted amongst most clinical disciplines, and are taught in accredited chiropractic colleges. A given chiropractor, at a given point in time, may even express varied opinions regarding the presumed connection between subluxation and visceral disorders, depending on the state of currently available evidence and understanding about the specific nature of the visceral disorder in question, the extent to which other possible contributing factors are known or suspected, and the extent to which the available scientific evidence or clinical experience may offer reasonable options for chiropractic or other care for that particular visceral disorder in that particular patient. That is, we suggest that disparate patterns of chiropractor opinion on the presumed utility of subluxation-based clinical approaches for biomechanical pain disorders vs. visceral disorders may also reflect to some degree, an evidence-based assessment by practicing chiropractors which has been appropriately informed by the extent of currently available evidence or their direct clinical experience. We echo the call for more effort devoted to developing an evidence base of all clinical entities treated in chiropractic clinical practice and for better documentation of common locally symptomatic subluxations as well as subluxations that may cause more distant neurophysiological effects.<sup>10</sup>

We also note another commonality between our study and the McDonald et al study: we did not define nor specifically operationalize, *a priori*, the term “subluxation” for our surveyed chiropractors. Rather, we left it for each individual chiropractor to self-

define the concepts “subluxation”, “subluxation-centered”, and “subluxation-based clinical approach” in their responses. Neither we, nor McDonald, can interpret or infer from our limited findings how our surveyed chiropractors self-defined the concept of subluxation, whether as a dynamic, kinetic, complex, physiological phenomenon, or as its more typically allopathic usage of a static, anatomical “partial dislocation”, or perhaps even some other conceptual definition altogether. Future focused study along this line of inquiry would be needed to reveal such subtleties and further clarify possible variation in chiropractor attitudes and behaviors regarding the entity, and the presumed clinical utility, of subluxation in contemporary chiropractic health care.

Other limitations of this study we note: we limited our survey sampling frame to only those Doctors of Chiropractic licensed in the US. Based on data gathered in our survey phone follow up, nonrespondents to our mail survey may have disproportionately represented those chiropractors closer to retiring from practice and those having a propensity to disengagement from collective actions of the chiropractic profession (our comparison of survey respondents to nonrespondents has been reported in systematic detail elsewhere<sup>3</sup>). We did not define nor specifically operationalize, *a priori*, the term “subluxation”, but instead allowed each individual chiropractor to self-define the concepts, thus if we had provided a definition, it is possible the responses may have been different. As well, we did not operationalize our survey queries nor collect our survey data in such a manner as to allow for statistically robust inferential testing of more focused hypotheses, such as the possible relationship or interaction between a given chiropractor’s perception of subluxation, and their educational

background, age, years in practice, or state scope of practice, to name just a few. Future study along this line of inquiry may also be warranted to explicitly test such hypotheses of potential interest.

## CONCLUSION

Comprehensive, biopsychosocial approaches to care of the chiropractic patient have added utility for addressing a multitude of complex multi-causal health disorders. Our survey findings lend support to the notion that the typical doctor of chiropractic is not a simplistic ideologue in their clinical approach. Rather, our findings support and we respect the suggestion that contemporary practicing chiropractors are capable of reconciling complex notions of health, well-being, and dysfunction, by tailoring specific care for specific disorders in specific patients.<sup>11</sup> An agenda for further advancing chiropractic as a clinical discipline and chiropractic as a valued health care choice should also include attention to developing more fully all clinical skill sets that are requisite to successful delivery of a comprehensive biopsychosocial approach to health care. In particular, chiropractic research, education, and practice should emphasize the appropriate integration of cross-disciplinary approaches to address the emotional and mental health, as well as the physical health needs, of those patients who utilize chiropractic health care.

Finally, our study findings may offer insights for engaging effective discourse within the chiropractic profession, by reinforcing the idea and confirming the existence of a temperate “moderate majority” in the profession. We submit that a moderate majority of chiropractors likely possesses a well-considered and complex, balanced yet encompassing, pattern of ideas, held values and expressed preferences. We

agree as well with calls that the time has come to advance our chiropractic professional discourse beyond the contrived dichotomies and polarized polemics of our past,<sup>12,13</sup> and to temper the rhetoric and intensify our professional focus on the underlying shared values, purpose, and identity, that will move us most successfully into our future.

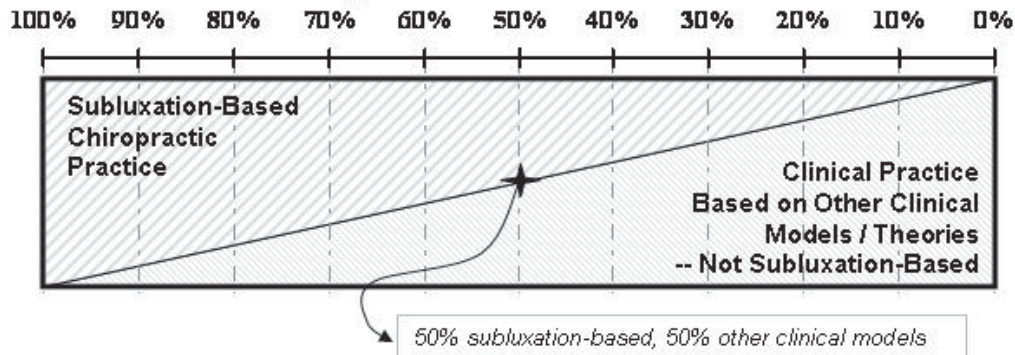
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## Appendix I: From the Survey of Chiropractors 2002-03, Graphically-Prompted Queries on Subluxation

The following diagram illustrates a continuum of chiropractic clinical practices that may or may not combine a **subluxation-based** approach with other **non-subluxation-based** approaches to patient care.

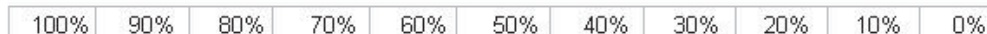
On this continuum, the far left end of the scale represents a chiropractic clinical practice that is 100% and only subluxation-based. The far right of the scale represents a chiropractic practice that is 0% subluxation-based. In between these two polar extremes, are those practices that use some mix of both subluxation-based and other clinical approaches.



**Note:** If you practice in a group chiropractic or multidisciplinary office, the following questions are asked only about YOUR individual practice/patients, and NOT about the entire group.

Using the diagram above as a reference, please circle on the scale below each question to indicate...

1. The approximate percent of your **total current chiropractic practice** that is subluxation-based.



2. The approximate percent of your clinical approach to chiropractic care that is subluxation-based, for your patients' complaints or conditions that are **musculoskeletal disorders of biomechanical origin**, e.g. back pain, neck pain, rib or joint pain, or NMS-related headache.



3. The approximate percent of your clinical approach to chiropractic care that is subluxation-based, for your patients' complaints or conditions that are mainly "**visceral**", e.g. problems with circulation, respiration, digestion, immune function, etc.



4. The approximate percent of your total **chiropractic college education** that was subluxation-based.



5. The approximate percent of your **total chiropractic continuing education (CE) during the past year** that was subluxation-based.

