

New Information and Trends in Chiropractic Practice

1991 through 2014

- The proportion of practicing chiropractors who have a bachelor's, master's or Ph.D. degree has risen steadily from 53.7% in 1991 to 78.8% in 2014.
- Both the quantity and quality of chiropractic research have increased substantially since the first NBCE survey in 1991, permitting doctors of chiropractic to use empirical evidence to help guide their treatment of patients.
- The typical practitioner now spends more than a quarter (26.3%) of his or her work time documenting patient care; this amount has almost doubled since 1998 (13.8%).
- Virtually all chiropractors report providing health promotion and wellness care in addition to spinal and extremity adjustments.
- Half of practicing doctors of chiropractic (50.1%) have their own radiographic equipment; the percentage was 59.4% in 2009. The portion of chiropractors with radiographic equipment who use digital imaging has more than doubled in 5 years — from 11.6% in 2009 to 28.1% in 2014.
- A smaller proportion of chiropractors now report working more than 50 hours weekly — 10.2% in 1991 and 6.1% in 2014.
- The percentage of female doctors of chiropractic has essentially doubled — from 13.3% in 1991 to 27.1% in 2014.
- Doctors of chiropractic reported co-management of a greater proportion of health conditions with other professionals in 2014 than in 1998; this suggests an increasingly integrated approach to patient care.
- One in fifteen (6.7%) chiropractors responding to the 2014 survey reported that they were employed under contract to provide chiropractic care to active or retired military personnel. This is a substantial increase from 2009, when it was 4.4%.
- Both the frequency and the risks of professional functions were rated very consistently in 2014 and in 2009; this is a useful indicator of the uniformity with which chiropractic occupational tasks are performed.
- One in six (14.6%) chiropractors reporting in 2014 described their practice location as a rural small town or a rural area; the percentage was 15.9% in 2009.
- More than four of five chiropractors (83.0%) described their work role as the sole proprietor or a partner of a chiropractic practice; only 13.5% reported being an associate or employee.

PRACTICE ANALYSIS of Chiropractic 2015

*A project report, survey analysis, and summary
of the practice of chiropractic within the United States*

Produced by the
National Board of Chiropractic Examiners
901 54th Avenue, Greeley Colorado
(970) 356-9100
www.nbce.org

January 2015



Editorial Staff

Mark G. Christensen, Ph.D., *Project Director, Author and Editor*

John K. Hyland, D.C., M.P.H., *Co-author and Assistant Editor*

Christine M. Goertz, D.C., Ph.D., *Co-author and Researcher*

Martin W. Kollasch, D.C., Ph.D. (c), *Co-author and Assistant Editor*

Bruce L. Shotts, D.C., Dipl Ac, M.S., *Assistant Editor*

Nancy L. Blumlein, *Production Coordinator*

Jeannette M. Johnson, *Assistant Production Coordinator*

Alison A. Day, M.S., *Design and Final Production*

Margaret M. Smith, *Data Analysis*

This study was approved for human subjects' research by the Institutional Review Board of Palmer College of Chiropractic.

IRB Assurance Number: X2013-11-11-C

Library of Congress Cataloging-in-Publication Data

Christensen, Mark G., Hyland, John K., Goertz, Christine M., and Kollasch, Martin W.

Practice Analysis of Chiropractic 2015

A project report, survey analysis, and summary of chiropractic practice in the United States.

Includes bibliographical references and index.

ISBN 978-0-9844740-1-1

©2015 National Board of Chiropractic Examiners, All Rights Reserved.

No portion of this book may be reproduced in any manner without prior written approval from the National Board of Chiropractic Examiners.

Acknowledgements

The National Board of Chiropractic Examiners (NBCE) wishes to express appreciation to Mark Christensen, Ph.D., and the editorial staff, who helped guide the NBCE *Practice Analysis of Chiropractic 2015* project from its inception. The NBCE would also like to acknowledge the significant contributions of Paul Townsend, D.C., for his assistance in developing the initial survey form and Greg Crawford, D.C., for his work in the development of the diagnosis and management scales used in the survey forms. We appreciate the helpful participation of Christine Goertz, D.C., Ph.D., and the staff at the Palmer Center for Chiropractic Research; in particular Nicole Homb, D.C., M.S., William Reed, D.C., Ph.D., Elissa Twist, D.C., M.S., and Robert Vining, D.C. Also of assistance was Dana Lawrence, D.C., M.Med.Ed., M.A., at the Institutional Review Board of Palmer College of Chiropractic. Paul Morin, D.C., is gratefully acknowledged for his assistance in reviewing and editing the many components that make up this report. Appreciation is also extended to the more than 1,540 chiropractors who responded to the 2014 Survey of Chiropractic Practice.

In addition, thanks are expressed to Sandi Wakeman for her role in obtaining the state lists of licensed chiropractors, carefully refining the lists to exclude those not residing in each state, tracking the written survey responses, scanning the written surveys to enable machine scoring, and various other follow-up efforts. The NBCE also extends thanks to Nancy Blumlein and Jeannette Johnson for their assistance with the writers and reviewers at various stages of the production of the manuscript. We thank Alison Day for her talents and efforts in the design and readability of this report; she patiently worked through numerous drafts before the final production.

The NBCE recognizes Tony Golobic for his computer assistance in placing the survey on the internet, tracking survey completion, and compiling the final survey responses. In addition, Margaret Smith is recognized for her computer assistance in tracking survey results and analyzing survey data. Gratitude is also expressed to Joanne Monath for her assistance in coordinating the follow-up telephone campaign.

To all of you we owe a debt of gratitude. Thank you.



Donna L. Craft, D.C., President
National Board of Chiropractic Examiners

This publication is presented on behalf of

The National Board of Chiropractic Examiners

Officers and Board of Directors

Donna L. Craft, D.C., *President*

Paul N. Morin, D.C., *Vice President*

Salvatore D. LaRusso, D.C., *Treasurer*

Steven R. Conway, D.C., J.D., *Secretary*

Daniel M. Côté, D.C.

Farrell I. Grossman, D.C.

Lawrence O'Connor, D.C.

LeRoy F. Otto, D.C.

Norman E. Ouzts, Jr., D.C.

Gary R. Pennebaker, D.C. (deceased)

Ronald B. Tripp, Jr., D.C.

Martin W. Kollasch, D.C., Ph.D. (c), *Executive Vice President*

Preface

To ensure that the assessment of chiropractic students and doctors of chiropractic accurately represents what chiropractors do in practice, it is necessary to conduct a practice analysis of chiropractors around the nation. The study results also provide legislators, insurance representatives, educators, and the general public with an overview of chiropractic's growing importance and effectiveness as a healthcare profession.

This survey report contains data collected in 1991, 1998, 2003, 2009, and 2014 by the National Board of Chiropractic Examiners (NBCE). Contained herein are important survey findings that reveal practitioner and patient demographics, patient health issues, and treatment procedures common to the chiropractic profession nationwide. This book also contains recent reports of research investigating chiropractic's efficacy in the treatment of a wide variety of health concerns and provides descriptions and explanations of how this large-scale survey of U.S. chiropractors was conducted and reported.

Like the previous four practice analyses conducted in 1991, 1998, 2003, and 2009, this most recent analysis presents the findings in a clear, organized format; such a presentation can only be achieved by the significant efforts of many people. These individuals include: private chiropractic practitioners, statisticians, editors, and NBCE staff members. Special thanks must also be given to the chiropractors who responded to the survey so that an accurate and representative picture of the profession might emerge.

A commitment to excellence by our nation's chiropractors and by the National Board of Chiropractic Examiners is a distinguishing mark of our profession and expands public awareness of the importance of chiropractic in this nation's healthcare system.



Martin W. Kollasch, D.C., Ph.D. (c), Executive Vice President
National Board of Chiropractic Examiners

Introduction

The chronology of tests and measurements can be traced to the beginning of recorded history. Early writings describe processes including rituals that gauged the knowledge, wisdom, physical endurance, or bravery of ancient peoples.

At one time or another, through one form or another, human beings have always devised methods to assess the knowledge, skills, and abilities of those seeking to meet recognized standards. As society has become more complex and specialized, and as the consequences of assessment decisions have become more significant, with procedures and results increasingly scrutinized, strict guidelines for obtaining reliable and valid test results have emerged. Today, these guidelines are established and refined by individuals, testing organizations, and the United States government.

In its role as the national and international testing agency for the chiropractic profession, the National Board of Chiropractic Examiners adheres to recognized standards that require the preparation and administration of fair, uniform, and valid tests. Specifically, testing guidelines clearly state that, “Typically, some form of job or practice analysis provides the primary basis for defining the content domain” (American Educational Research Association, American Psychological Association, National Council on Measurement in Education, 2014, p. 182).

Organization of the Report

While compiling data for the *NBCE Practice Analysis of Chiropractic*, the authors were committed to providing comprehensive and accurate documentation of every aspect of the practice analysis project. Repeatedly surfacing during the compilation process was the reminder that the readers of this report will include individuals with varying degrees of familiarity with the fields of chiropractic and/or testing. This prevailing awareness affected the construction of the report in both content and format.

At every step, the authors presented the relevant data, then stepped back to assess whether the body of information offered previously in the text was sufficient to afford and facilitate comprehension by a full range of readers. In many cases, the authors resolved this question by including clarifying background information.

Additionally, entering into the decision to include some passages of text was the need to acquaint readers with licensed practitioners of chiropractic, who provided the data upon which the practice analysis report is based. Thus, the authors have attempted to present an objective and well-rounded picture of present-day chiropractors and their practices. Also addressed is the historical background of the profession and current information including educational requirements for becoming a chiropractor.

The information is often presented as a general overview, followed by a more detailed topical discussion presented chronologically. The editors have attempted to convey information through visual means where appropriate. A glossary of terms can also be found at the end of this report.

The first two chapters serve to familiarize the reader with the chiropractic profession and its practitioners, including the personal, educational, and professional criteria these individuals met in becoming *licensed practitioners of chiropractic*. Also presented is research addressing the efficacy of chiropractic health care.

Chapter 3 provides background information relative to occupational licensing. Here, readers are given general information concerning licensure and certification testing and some legal aspects that shape regulatory agency requirements.

In Chapter 4, we present the procedures necessary to have project validity. This chapter discusses the organization and design of the final survey form used in the practice analysis project.

Chapter 5 describes the methods and factors utilized in compiling the survey mailing list, tracking all components, tabulating the data, etc. A number of the many steps taken to encourage a higher rate of response are presented in this chapter.

Chapter 6 provides an overview of the respondent chiropractors and their practice characteristics. Included is a summary of conditions, treatments, and professional activities within chiropractic practice. The subsequent chapters provide a detailed breakdown of the characteristics of the “typical” chiropractic practitioner (Chapter 7) and the “typical” chiropractic patient, patient conditions and chiropractic management of those conditions (Chapter 8) as indicated by the survey response data.

The final chapter of the *Practice Analysis of Chiropractic 2015* report (Chapter 9) summarizes the response data relative to professional functions, knowledge, and treatment procedures performed by the practitioners participating in the survey.

The appendices include a copy of the 2014 Survey of Chiropractic Practice and lists of survey participants and organizations mentioned in this publication. Also included in the appendices are the American Chiropractic Colleges’ Chiropractic Paradigm and its Chiropractic Scope and Practice. The appendices are followed by a bibliography, a glossary of terms, and an index.



Mark G. Christensen, Ph.D., Director of Testing
National Board of Chiropractic Examiners

Table of Contents

Chapter 1

The Chiropractic Profession	1
In the United States.....	1
Outside the United States.....	1
Principles of Chiropractic	4
Chiropractic Case Management.....	5
Chiropractic Requisites	6
Education.....	7
Specialization	9
National Board Examinations.....	10
International Board of Chiropractic Examiners.....	11
Ethics and Boundaries Assessment Services	11
State or National Licensure/Registration.....	11
Federation of Chiropractic Licensing Boards	12
Reimbursement for Chiropractic Services	13
Sports Chiropractic.....	13
Conclusions	14

Chapter 2

Chiropractic Research.....	15
Introduction.....	15
Clinical Effectiveness.....	16
Back Pain	16
Efficacy of Manipulation versus Sham or No Treatment	16
Efficacy of Manipulation versus Usual Care or Other Interventions	16
Efficacy of Adding Chiropractic Treatment to Standard Medical Care	17
Efficacy of Numbers of Sessions.....	18
Recommendations from Guidelines.....	18
Summary of Evidence	18

Neck Pain.....	19
Efficacy of Manipulation versus Sham or No Treatment	19
Efficacy of Manipulation versus Usual Care or Other Interventions	19
Efficacy of Combined Manipulation Therapies versus Manipulation Alone	19
Recommendations from Guidelines.....	20
Summary of Evidence.....	20
Headache	20
Efficacy of Numbers of Sessions.....	21
Recommendations from Guidelines	21
Summary of Evidence.....	21
Extremity Conditions.....	22
Upper Extremity.....	22
Lower Extremity	22
Non-musculoskeletal Conditions.....	22
Cost Analysis Research	23
Cost Assessment	23
Summary of Evidence	24
Adverse Events & Safety	25
Mild and Moderate Adverse Events	25
Rare but Serious Adverse Events	25
Summary of Evidence	26
Patient Satisfaction.....	26
Summary of Evidence	27
Basic Science Research	27
Anatomy and Biomechanics	27
Neurophysiology.....	28
Conclusions	29

Chapter 3

Standards for Occupational Performance	31
Registration, Licensure, and Certification	31
Licensure Requirements.....	32
National Testing Organizations.....	32
The Inspector General Report.....	32

Standards of Testing.....	33
Definition of Terms.....	33
Validity	33
Reliability.....	34
Setting Cut Scores or Passing Scores.....	35
Cut Scores' Effect on State Regulatory Boards	35
Test Validity.....	36
Test Reliability.....	36
Summary	37

Chapter 4

Planning and Developing the Survey of Chiropractic Practice

Job Inventory	39
Rating Scales.....	40
Components of a Practice Analysis	41
Review of Literature.....	42
The Survey of Chiropractic Practice (2014)	42
The Collection and Analysis of the Survey Data (2014)	42
The Publication of the <i>Practice Analysis of Chiropractic 2015</i>	42

Chapter 5

Administering the Survey of Chiropractic Practice

Survey Results by State	43
Defining and Calculating Standard Error	43
Selection Process.....	44
Pre-Notification	45
Distributing and Tracking the Survey.....	45
Increasing the Rate of Response	45
Identifying Active Full-time Practitioners	46
Conducting the Survey of Non-Respondents.....	46
Survey Response Results	47
Determining Percentages from Responses on 5-point Scales.....	47
The Weighting Factor.....	47
Sampling Design and Response by State.....	49

Chapter 6

Overview of Survey Responses	55
The “Typical” Chiropractor	55
Routine Activities and Procedures	56
Patient Conditions	57
Frequency of Professional Functions	62
Perceived Risk Associated with Professional Functions.....	66
Importance of Professional Functions.....	67
Treatment Procedures.....	71
Interprofessional Referrals and Weekly Patient Care	72
The “Typical” Patient.....	73

Chapter 7

The Chiropractic Practitioner.....	77
Personal Demographics	78
Gender.....	78
Ethnic Origin	78
Level of Non-Chiropractic Education.....	79
Post-Graduate Diplomate Status	79
Chiropractic Colleges Represented	80
The Chiropractic Work Environment	82
Hospital and Military Practice.....	82
Practice Location by Community Size and Use of Radiography	82
Patient Workload, Gender, and Ages	82
Interprofessional Referrals	84
Experience and Orientation	85
Years in Practice.....	85
Components of Chiropractic Practice	85
Practice Setting and Work Role	86
Survey Concerning Chiropractic Assistants	87

Chapter 8

Patient Conditions	89
Introduction.....	89
Chief Complaint & Primary Etiology.....	89
Conditions	91
Neurological Conditions	91
Discussion	92
Articular/Joint Conditions	93
Discussion	93
Muscular Conditions	95
Discussion	95
Skeletal Conditions.....	96
Discussion	96
Respiratory Conditions.....	97
Discussion	97
Gastrointestinal Conditions.....	98
Discussion	98
Dermatological Conditions.....	99
Discussion	99
Renal/Urological Conditions	100
Discussion	100
Cardiovascular Conditions.....	101
Discussion	101
Endocrine/Metabolic Conditions.....	102
Discussion	102
Female and Male Reproductive Disorders	103
Discussion	103
Eye, Ear, Nose, and Throat Conditions.....	104
Discussion	104
Childhood Disorders	105
Discussion	105
Miscellaneous Conditions	106
Discussion	106
Diagnosis and Management of Conditions.....	107

Chapter 9

Professional Functions and Treatment Procedures.....	111
Scales.....	111
Frequency and Risk Assessment of Professional Functions.....	112
Case History	113
Physical and Orthopedic/Neurologic Examinations	113
Imaging, Laboratory, and Other Diagnostic Studies	115
Analysis of Diagnostic Studies.....	117
Diagnosis and Case Management	118
Communication and Documentation.....	118
Initial Patient Care	120
Continued Care.....	121
Health Promotion/Wellness Care	122
Adjunctive Care.....	124
Passive Adjunctive Care.....	124
Active Adjunctive Care.....	126

Appendix A

Association of Chiropractic Colleges (ACC).....	127
Chiropractic Paradigm	127
1.0 Preamble	127
2.0 ACC Position on Chiropractic.....	128
3.0 The Chiropractic Paradigm.....	128
Purpose.....	128
Principle.....	128
Practice	129
Foundation.....	129
Impacts	129
4.0 The Subluxation	129
Chiropractic Scope and Practice.....	130
1.0 Introduction	130
2.0 Defining Chiropractic Scope	131

3.0 Defining Chiropractic Practice.....	131
A. Diagnostic	131
B. Case Management.....	131
C. Health Promotion.....	132

Appendix B

Survey of Chiropractic Practice 2014	133
--	-----

Appendix C

List of Survey Participants	147
-----------------------------------	-----

Appendix D

Organizations Mentioned in Practice Analysis 2015	157
---	-----

Bibliography

Bibliography	159
--------------------	-----

Glossary

Glossary	169
----------------	-----

Index

Index	191
-------------	-----

List of Tables

Chapter 1

The Chiropractic Profession	1
Table 1.1 Countries in Which Chiropractic is Recognized as a Health Profession.....	2-4
Table 1.2 Steps Leading to Chiropractic Practice	7
Table 1.3 First Year Coursework	8
Table 1.4 Second Year Coursework.....	8
Table 1.5 Third Year Coursework.....	9
Table 1.6 Specialty Training Programs.....	9
Table 1.7 NBCE Pre-licensure Examinations.....	10
Table 1.8 Optional NBCE Examinations	11

Chapter 5

Administering the Survey of Chiropractic Practice	43
Table 5.1 Response by State	50-53

Chapter 6

Overview of Survey Responses	55
Table 6.1 Years in Practice.....	56
Table 6.2 Patient Conditions by Frequency	57-61
Table 6.3 Frequency of Professional Functions.....	62-65
Table 6.4 Professional Functions Having Significant Risk.....	66
Table 6.5 Professional Functions Having Little Risk	67
Table 6.6 Professional Functions Having Highest Importance.....	68
Table 6.7 Professional Functions Having Significant Importance.....	69
Table 6.8 Professional Functions Having Moderate Importance.....	70

Chapter 7

The Chiropractic Practitioner.....	77
Table 7.1 Ethnic Origin	78
Table 7.2 Post-graduate Diplomate Status	80
Table 7.3 Chiropractic Colleges Represented.....	80-81
Table 7.4 Number of Patients Per Week.....	82
Table 7.5 Years in Practice.....	85
Table 7.6 Practice Setting.....	86
Table 7.7 Role in Practice Setting.....	87
Table 7.8 Duties of Chiropractic Assistants Who Provide Patient Care.....	88

Chapter 8

Patient Conditions	89
Table 8.1 Neurological Conditions	92
Table 8.2 Articular Joint Conditions	94
Table 8.3 Muscular Conditions	95
Table 8.4 Skeletal Conditions	96
Table 8.5 Respiratory Conditions.....	97
Table 8.6 Gastrointestinal Conditions.....	98
Table 8.7 Dermatological Conditions.....	99
Table 8.8 Renal/Urological Conditions	100
Table 8.9 Cardiovascular Conditions	101
Table 8.10 Endocrine/Metabolic Conditions	102
Table 8.11 Reproductive Disorders.....	103
Table 8.12 Eye, Ear, Nose, and Throat Conditions.....	104
Table 8.13 Childhood Disorders	105
Table 8.14 Miscellaneous Conditions	106

Chapter 9

Professional Functions and Treatment Procedures.....	111
Table 9.1 Case History.....	113
Table 9.2 Physical and Orthopedic/Neurologic Examinations	114
Table 9.3 Imaging, Laboratory, and Diagnostic Studies.....	115-116
Table 9.4 Analysis of Diagnostic Studies.....	117
Table 9.5 Diagnosis and Case Management	118
Table 9.6 Communication and Documentation	119
Table 9.7 Initial Patient Care.....	120-121
Table 9.8 Continued Care	122
Table 9.9 Health Promotion/Wellness Care.....	123
Table 9.10 Percentage of Chiropractors Using Health Promotion and Wellness Care Procedures	124
Table 9.11 Percentage of Chiropractors Using Passive Adjunctive Procedures (2009)	125
Table 9.12 Percentage of Chiropractors Using Active Adjunctive Procedures (2009)	126

List of Figures

Chapter 6

Overview of Survey Responses	55
Figure 6.1 Components of Chiropractic Practice	57
Figure 6.2 Number of Patients per Week (2014).....	72
Figure 6.3 Patient Age (2014)	73
Figure 6.4 Chief Complaint (2003).....	74
Figure 6.5 Etiology of Patient Condition (2003).....	75

Chapter 7

The Chiropractic Practitioner.....	77
Figure 7.1 Hours Worked Per Week	77
Figure 7.2 Practitioner Gender	78
Figure 7.3 Non-chiropractic Education	79
Figure 7.4 Percent of Patients by Age	83
Figure 7.5 Frequency of Patient Referrals (2009)	84
Figure 7.6 Components of Chiropractic Practice	86

Chapter 8

Patient Conditions	89
Figure 8.1 Percent of Patients With Chief Complaint (2003)	90
Figure 8.2 Etiology of Patient Conditions (2003)	90
Figure 8.3 Conditions for Which Chiropractors Made the Diagnosis in the Majority of Cases	107
Figure 8.4 Conditions Which Chiropractors Treat Solely in the Majority of Cases	108
Figure 8.5 Conditions Which Chiropractors Co-manage in the Majority of Cases	109

Chapter 9

Professional Functions and Treatment Procedures..... 111

Figure 9.1 Rating Scales Used in Assessing the Frequency, Risk, and Importance
of Chiropractic Functions 112

Appendix A

Association of Chiropractic Colleges (ACC)..... 127

Figure A.1 The ACC Chiropractic Paradigm 127

Figure A.2 ACC Chiropractic Scope and Practice..... 130

Glossary

Glossary Figure 1 Range of Motion 186