JOB ANALYSIS OF CHIROPRACTIC

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

Published by the NATIONAL BOARD OF CHIROPRACTIC EXAMINERS
901 54th Avenue • Greeley, Colorado • (303) 356-9100
1993
National Board of Chiropractic Examiners

Officers and Board of Directors

Paul M. Tullio, D.C., Chairman of the Board

Frank G. Hideg, Jr., D.C., President
Donald D. Ross, D.C., Vice President
Louis P. Latimer, D.C., Treasurer
Richard E. Carnival, D.C., Secretary
James J. Badge, D.C.
Roger E. Combs, D.C.
D. Brent Owens, D.C.
Jay H. Perreten, D.C.
Titus Plomaritis, D.C.
Carroll H. Winkler, D.C.
Horace C. Elliott, Executive Director

Editorial Staff

Mark G. Christensen, Ph.D., Author and Editor
D.R. Delle Morgan, Co-author and Assistant Editor

Contributing Writers
Paul D. Townsend, D.C.
Yvonne D. Sieve

Graphics/Design
D.R. Delle Morgan

Statistical Support
James zumBrunnen, M.S.

© 1993 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
Table of Contents

Acknowledgments ........................................................................................................... v
Preface ...................................................................................................................................... vi
Introduction .......................................................................................................................... vii

Chapter 1 - The Chiropractic Profession
  Principles of Chiropractic ................................................................................................. 2
  Chiropractic Case Management ......................................................................................... 2
  Chiropractic Requisites ...................................................................................................... 3
    Education ............................................................................................................................ 3
    Specialization ................................................................................................................... 5
    National Board Exams ..................................................................................................... 6
    State or National Licensing ............................................................................................. 7

Chapter 2 - Studies Documenting the Efficacy of Chiropractic
  The New Zealand Commission of Inquiry ....................................................................... 9
  The Wilk vs. AMA Lawsuit ............................................................................................... 11
  Additional Studies on Chiropractic .................................................................................. 12
  The International Role of Chiropractic ............................................................................. 13
  Applications for Chiropractic Care .................................................................................... 13
  Cost-Effectiveness of Chiropractic Care .......................................................................... 16

Chapter 3 - Public Accountability for Occupational Performance
  Licensure and Certification ............................................................................................... 19
  Licensing Requirements .................................................................................................... 19
  National Testing Organizations ......................................................................................... 20
  The Inspector General Report ......................................................................................... 20
  Standards of Testing .......................................................................................................... 20
  Definition of Terms ........................................................................................................... 21

Chapter 4 - Planning and Developing the Job Analysis Survey
  Job Inventory ...................................................................................................................... 23
  Task Statements ................................................................................................................ 23
  Rating Scales ...................................................................................................................... 24
  The Practical Exam Feasibility Study ............................................................................. 25
  Components of a Job Analysis ......................................................................................... 26
    Job Analysis Steering Committee .................................................................................. 27
    National Advisory Committee ....................................................................................... 28
    Review of Literature ....................................................................................................... 29
    The Practice Model Log ................................................................................................. 29
  Interim Survey Form ......................................................................................................... 30
  Draft Survey of Chiropractic Practice .......................................................................... 30
  Field Test ............................................................................................................................ 30
  Survey of Chiropractic Practice ...................................................................................... 31
  Printing of the Questionnaire .......................................................................................... 31
  Distribution of the Survey Forms ...................................................................................... 32
  Collection and Analysis of the Survey Data ..................................................................... 32
  Publication of the Job Analysis Report ............................................................................ 32

Chapter 5 - Administering the Job Analysis Survey
  Standard Error ................................................................................................................... 33
  Selection Process ................................................................................................................ 34
  Pre-notification .................................................................................................................. 34
  Survey Distribution and Tracking .................................................................................... 35
  Increasing the Rate of Response ....................................................................................... 36
  Identifying Active Full-time Practitioners ....................................................................... 36
  Reliability of Results ......................................................................................................... 36
  Survey Response Results ................................................................................................. 37
<table>
<thead>
<tr>
<th>Chapter 5 - Administering the Job Analysis Survey (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Weighting Factor ..................................................... 38</td>
</tr>
<tr>
<td>Sampling Design and Response Rate by State ....................... 41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 6 - Overview of Survey Response Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>The &quot;Typical&quot; Chiropractor ............................ 47</td>
</tr>
<tr>
<td>The &quot;Typical&quot; Patient ..................................... 47</td>
</tr>
<tr>
<td>Conditions ..................................................... 48</td>
</tr>
<tr>
<td>Diagnosis and Case Management ....................... 48</td>
</tr>
<tr>
<td>Summary of Routine Chiropractic Activities .......... 49</td>
</tr>
<tr>
<td>Respondent Comments ........................................ 49</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 7 - The Chiropractic Practitioner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary Criteria ............................. 51</td>
</tr>
<tr>
<td>Personal Demographics ......................... 51</td>
</tr>
<tr>
<td>Ethnic Origin .......................................... 52</td>
</tr>
<tr>
<td>Level of Education ............................... 52</td>
</tr>
<tr>
<td>Specialization ....................................... 53</td>
</tr>
<tr>
<td>Chiropractic Colleges Represented ............. 53</td>
</tr>
<tr>
<td>Respondents' Work Environment ............... 53</td>
</tr>
<tr>
<td>Practice Locations .............................. 53</td>
</tr>
<tr>
<td>Delivery of Care .................................... 54</td>
</tr>
<tr>
<td>Hospital Staff Privileges ...................... 54</td>
</tr>
<tr>
<td>Experience and Orientation ..................... 54</td>
</tr>
<tr>
<td>Total Length of Practice ....................... 55</td>
</tr>
<tr>
<td>Clinical Orientations .......................... 55</td>
</tr>
<tr>
<td>Breakdown of Time/Types of Patients .......... 56</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 8 - The Chiropractic Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex/Gender of Patients .................. 58</td>
</tr>
<tr>
<td>Age of Patients ............................. 58</td>
</tr>
<tr>
<td>Ethnic Origin .................................. 58</td>
</tr>
<tr>
<td>Patient Occupation ....................... 58</td>
</tr>
<tr>
<td>Patient Conditions ....................... 59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 9 - Practice Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating the Activities .......... 69</td>
</tr>
<tr>
<td>Case History ...................... 70</td>
</tr>
<tr>
<td>Physical Examination .......... 71</td>
</tr>
<tr>
<td>Neuromusculoskeletal Examination. 72</td>
</tr>
<tr>
<td>X-Ray Examination .................. 73</td>
</tr>
<tr>
<td>Laboratory and Special Studies. 73</td>
</tr>
<tr>
<td>Diagnosis .......................... 74</td>
</tr>
<tr>
<td>Chiropractic Technique .......... 75</td>
</tr>
<tr>
<td>Supportive Technique ............. 76</td>
</tr>
<tr>
<td>Case Management .................. 76</td>
</tr>
<tr>
<td>Treatment Procedures .......... 77</td>
</tr>
<tr>
<td>Specific Adjustive Techniques .... 79</td>
</tr>
<tr>
<td>Non-Adjustive Techniques .......... 79</td>
</tr>
</tbody>
</table>

| Epilogue .............................................. 81 |

<table>
<thead>
<tr>
<th>Appendix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice Model Log. ..................... 87</td>
</tr>
<tr>
<td>Field Test Letter ......................... 90</td>
</tr>
<tr>
<td>Pre-Survey Letter ......................... 91</td>
</tr>
<tr>
<td>Survey Cover Letter ...................... 92</td>
</tr>
<tr>
<td>Survey Instrument ......................... 93</td>
</tr>
<tr>
<td>Follow-up Postcard ....................... 109</td>
</tr>
<tr>
<td>Participant Press Release ................ 110</td>
</tr>
<tr>
<td>Listing of Participants .................. 111</td>
</tr>
<tr>
<td>Bibliography .................................. 131</td>
</tr>
<tr>
<td>Glossary of Terms ....................... 137</td>
</tr>
<tr>
<td>Index ............................................ 147</td>
</tr>
</tbody>
</table>
Listing of Figures and Tables

Figures
Steps Leading to Chiropractic Practice ..........................................................3
NBCE Test Sites ............................................................................................6
The NBCE Practical Examination Feasibility Study ......................................26
Respondent Demographics
   Full-time Respondents ..................................................................................51
   Hours per Week ............................................................................................51
   Ethnic Origin of Respondents ......................................................................52
   Highest Level of Non-Chiropractic Education ...........................................52
   Number of Practice Locations .................................................................53
   Chiropractic care outside an office setting ...............................................54
   Hospital Staff privileges ............................................................................54
   Care delegated to a Chiropractic Assistant ...............................................54
   How Long in Practice in State of Residence ..............................................54
   How Long in Practice Altogether ...............................................................55
   Orientation in First Field Practice Setting .................................................55
   Breakdown of Time/Types of Patients .......................................................56
Patient Demographics
   Patient Gender ...........................................................................................58
   Patient Age .................................................................................................58
   Patient Occupation .....................................................................................58

Tables
Sampling Design and Response Rate by State ...............................................41
Practitioner/Respondent Demographic Summary ............................................47
Summary of Reported Patient Demographics ...................................................48
Source of Chiropractic Degree ........................................................................53
Patient Demographics ....................................................................................57
Frequency of Conditions
   Presenting and Concurrent Patient Conditions .........................................59
   Articular/Joint and Neurological .................................................................64
   Skeletal, Muscular, and Cardiovascular ......................................................65
   Respiratory and Integument .......................................................................65
   Gastrointestinal, Renal/Urological, Male Reproductive .............................66
   Female Reproductive, Hematological/Lymphatic ......................................66
   Endocrine/Metabolic, Childhood Disorders, Venereal ...............................67
   EENT, and Miscellaneous .........................................................................67
Rating Scales Utilized in Assessing Activities .................................................69
Case History ....................................................................................................70
Physical Examination ......................................................................................71
Neuromusculoskeletal Examination ...............................................................72
X-ray Examinations ........................................................................................73
Laboratory and Special Studies .....................................................................74
Diagnosis .........................................................................................................75
Chiropractic Techniques .................................................................................75
Supportive Techniques ...................................................................................76
Case Management ..........................................................................................77
Treatment Procedures ....................................................................................78
Acknowledgments

The National Board of Chiropractic Examiners wishes to express appreciation to Mark Christensen, Ph.D., and members of the NBCE Steering and Advisory committees, who helped guide the NBCE Job Analysis of Chiropractic project from its inception. Appreciation is also extended to those chiropractic physicians who contributed their time, expertise, and feedback to early versions of the survey instrument, and to the more than 5,000 chiropractors who completed the final Survey of Chiropractic Practice.

In addition, thanks are expressed to Paul Townsend, D.C., for his commendable contribution to the research, development, and administration of the survey instrument. Dr. Townsend worked with the survey instrument format and design through several revisions which are outlined in this report. Special appreciation is expressed to Delle Morgan and Yvonne Sieve for their role in the writing, editing, and desktop publishing of this report; to Renée Alles for her assistance and support; and to Ray Townsend, D.C., James Bastian, D.C., Jeff Truesdall, D.C., and grammarian Miriam Marshall for their valued critiques at various stages of the production of the manuscript.

The NBCE would also like to thank the directors and staff members of the Federation of Chiropractic Licensing Boards, the American Chiropractic Association, and the International Chiropractors Association, who provided requested information pertaining to various materials presented in this report.

Frank G. Hideg, Jr., D.C., President
National Board of Chiropractic Examiners
Presented in this book are analyzed data collected in 1991 and 1992 by the National Board of Chiropractic Examiners in its **Survey of Chiropractic Practice**.

As a well-established independent testing agency, the National Board of Chiropractic Examiners (NBCE) applied proven testing industry guidelines throughout each phase of this survey project, called a job analysis. In doing so, we sought to provide the chiropractic health care field with the most credible, relevant, and accurate reference possible, one which documents chiropractic as it is defined by those who practice it as a full-time profession.

These objectives have been met through the collective effort of those involved. Members of our staff, members of the NBCE Job Analysis Steering and Job Analysis Advisory Committees, state licensing board members, chiropractic faculty, private practitioners, statisticians, editors, and a host of other professionals helped produce a survey instrument of outstanding quality. A gratifying survey response from members of the profession served to further validate the survey's statistical data base.

It is this exhaustive commitment to excellence that so often distinguishes our profession. And it is largely what distinguishes this report, making it one which may have far-reaching significance in chiropractic health care for many years to come.

Sincerely,

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

The chronology of testing and measurement can be traced to the beginning of recorded history. Such early writings describe rituals that gauged the wisdom, physical endurance or bravery of various tribal members.

At one time or another, through one form or another, mankind has always devised a means of studying the world in which we live. We observe and surmise, prove and disprove, amass and dissect. We measure, we document and we formulate principles upon which scientific and sociological changes sometimes come to be based.

Over the years, as the consequences of these studies became more weighty and the procedures and results increasingly scrutinized, strict guidelines for obtaining the maximum in testing validity and consistency were developed. Today, these guidelines are established and refined by various independent testing organizations, as well as by 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 these guidelines, which enables testing agencies to prepare and administer fair, uniform, and valid tests and measurements.

Although there could be no "right" or "wrong" answers to the survey which formed the basis of this report, the testing and measurement guidelines followed were necessary to obtain valid and reliable data. In short, only through strict adherence to government and industry guidelines can a survey project, such as this job analysis, gain the desired validity and credibility.

Organization of the Report

While compiling data from the NBCE Job Analysis of Chiropractic, the authors were committed to providing comprehensive and accurate documentation of every aspect of the job analysis project. Repeatedly surfacing during the compilation process was the reminder that the readership of the report might well include individuals with a wide range of backgrounds and purposes, and with varying degrees of familiarity with the fields of chiropractic and/or testing and measurement. 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 which had been presumed unnecessary at the outset of the project.

Additionally entering into the decision to include some passages of text was the need to acquaint the reader with the licensed practitioner of chiropractic, since it was this individual who collectively provided the data upon which the job analysis report is based. Thus, the authors have attempted to present an objective and well-rounded picture of the present-day chiropractor and his/her practice. Also addressed is the historical background of the profession, and current information including educational requirements for becoming a chiropractor.

The information was 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 in an Appendix of this report.

The first two chapters serve to familiarize the reader with chiropractic* and its practitioners, including the personal, educational, and professional criteria these individuals met in becoming licensed practitioners of chiropractic. Also presented is a description of major government inquiries and legal action conducted relative to chiropractic. In this way, the authors sought to explain why the chiropractic practitioner— and only the chiropractic practitioner— is qualified to provide the data which forms the job analysis of chiropractic.

Chapter 3 provides background information relative to the regulation of occupational licensing. Here, the reader is acquainted with licensure and certification testing, as well as the legal aspects that shape regulatory agency requirements.

In chapter 4, we find the procedures necessary to reap maximum project validity. This chapter discusses the process of planning, development, and research protocols observed in the job analysis project, from committees to field tests to the gathering of statistics and state information, and the design of the final survey.

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

Chapter 6 provides an overview of the respondent chiropractors, patient demographics, and respondent comments as written on the survey form. Included is a summary of conditions, treatments, and activities. The subsequent chapters provide a detailed breakdown of the characteristics of the "typical" chiropractic practitioner (Chapter 7) and the "typical" chiropractic patient (Chapter 8) as indicated by the survey response data.

The final chapter in the Job Analysis of Chiropractic report (Chapter 9) summa-

* "Chiropractic" is generally used as a noun, although it may appear to be an adjective in many contexts.
rizes the response data relative to the activities performed by the practitioners participating in the survey, and the perceived frequency and risk factors. Also included are various adjustive and non-adjustive procedures.

In addition to the relevant forms and correspondence, the Survey of Chiropractic Practice, glossary of terms, acknowledgments and index, included in the Appendix is a listing of survey participants. Ultimately, it was their involvement which made the Job Analysis of Chiropractic project possible.

* * *