

# Chapter 4

## Planning and Developing the Survey of Chiropractic Practice

The survey questionnaire forms the basis of a practice analysis and allows a profession to be analyzed according to the professional functions performed by its members. This chapter describes the procedures followed in designing the survey instrument.

In 1991, the National Board of Chiropractic Examiners (NBCE) conducted a Survey of Chiropractic Practice and published the data in the 1993 publication *Job Analysis of Chiropractic* (Christensen & Morgan, 1993). In 1998, the NBCE used a redeveloped and expanded survey instrument to conduct a new Survey of Chiropractic Practice; in 2003, the instrument was modified and reduced in length. In 2008 and 2009, the survey was completely re-designed. While this publication mainly presents the 2009 data, it also refers to the 1991, 1998, and 2003 survey data for comparison. In this chapter and the chapters that follow, all references to survey data are labeled according to the year the data were collected. For example, all data from the *Practice Analysis of Chiropractic 2010* are labeled as the 2009 survey data to accurately reflect when the data were obtained.

This chapter reviews the steps followed to develop the current survey form during 2008 and 2009. For details about development of the earlier Survey of Chiropractic Practice, one may read the 1993, 2000, and 2005 reports.

### Job Inventory

In developing the various job/practice analysis survey instruments, the authors frequently used the job inventory approach, also called a Functional Job Analysis (FJA). The FJA approach was first proposed by Fine and Wiley in 1971 (as cited in Knapp & Knapp, 1995) and has been used by the U.S. Employment Service since 1977 to categorize occupations.

The first step taken in conducting a FJA is defining the purpose and goals of the occupations. A trained job analyst then identifies what must be done to accomplish the purpose and goals, by determining what the worker does (i.e., processes or procedures used to perform a task) and how it is done (i.e., physical, mental, interpersonal skills required during the processes and procedures). Job

information is obtained through interviews with job incumbents and supervisors and direct observation of job-related activities. The goal of FJA is to analyze an occupation in terms of the degree to which it deals with data (e.g., numbers, narrative information), people (e.g., customers, co-workers), and things (e.g., computers, machinery) (Knapp & Knapp, 1995, p. 97).

These essential components were incorporated into the various forms of the NBCE job and practice analysis survey instruments.

As previously stated in this report, testing guidelines presented in the *Uniform Guidelines on Employee Selection Procedures* (Adoption of Four Agencies of *Uniform Guidelines on Employee Selection Procedures*, 1978) and by the private testing community indicate that licensure and certification test plans should be based upon a job/practice analysis documenting the characteristics of a profession as defined by the customary practices of its members.

The NBCE conducted the first Survey of Chiropractic Practice in 1991 to document the content for a potential practical examination, to provide documentation for a special purposes (post-licensure) examination test plan, and to further assess the emphasis given to the Part III examination content. The purpose of the current Survey of Chiropractic Practice (2009) is to further assess the content and emphasis for Part III and Part IV examinations, the Special Purposes Examination for Chiropractic (SPEC), and to document trends and developments in the profession.

### Rating Scales

Rating scales, which are generally part of job analysis survey instruments, are important in the final analysis of the survey data. Ratings of frequency of task performance, amount of time spent engaged in a task, and the importance or criticality of a task, knowledge, or skill are the most commonly used scales on practice analysis surveys (Knapp & Knapp, 1995). Five and 6-point scales (with values ranging from 0 to 4 or 0 to 5) are frequently used in job/practice analyses and were used in the present study. Major issues addressed with 5- and 6-point scales include:

- Providing an efficient method of obtaining and processing data. In a large study with thousands of participants, it would be virtually impossible to manage unique responses from each individual.
- Matching the accuracy of a respondent's ability to provide accurate clinical information data with the scale on which the data are recorded. For example, practitioners were asked to recall the frequency with which they performed various professional functions and assess the risk to a patient when an activity was omitted or poorly performed. In both instances, the 5- and 6-point scales approximately matched the accuracy of practitioners' recollections.

- Increasing the likelihood of response by developing an instrument which could be completed within 45 to 60 minutes. The 5- and 6-point scales met this requirement. If individuals had been asked to provide unique responses that were not linked to a scale, this would have required additional time on the part of the respondent and undoubtedly would have lowered the response rate.

## Components of a Practice Analysis

The following is a list of procedures and/or activities followed in conducting the 2009 Survey of Chiropractic Practice:

- Forming a Practice Analysis Steering Committee.
- Forming a Practice Analysis Advisory Committee.
- Meeting of the Advisory Committee.
- Obtaining lists of licensed chiropractors in all 50 states and in the District of Columbia.
- Randomly selecting licensed chiropractors in all 50 states and the District of Columbia to complete the survey.
- Preparing a draft Survey of Chiropractic Practice.
- Field testing the Survey of Chiropractic Practice and revising as appropriate.
- Preparing the final form of the Survey of Chiropractic Practice.
- Placing the Survey of Chiropractic Practice on the NBCE web site.
- Mailing all selected individuals a postcard notifying them of their selection and asking them to complete the survey online.
- Calling all selected individuals who had not completed the survey online.
- Printing the Survey of Chiropractic Practice in a machine-scorable format and mailing the survey to those who had not completed the survey online.
- Calling all selected individuals who had not completed a survey.
- Collecting, machine scoring, compiling the computer data, and analyzing the survey data.
- Calling and requesting non-responders to complete an online survey to assess potential response bias.
- Writing the report of the *Practice Analysis of Chiropractic 2010*.
- Publishing a report of survey findings under the guidance of the Steering Committee.

## Practice Analysis Steering Committee

The first elements deemed critical to the success of a practice analysis were the participation and cooperation of experienced practitioners, educators, and state examining board members. The NBCE created the Practice Analysis Steering Committee to guide the project. This committee was comprised of members of the Board of Directors of the National Board of Chiropractic Examiners, with Dr. Oliver Smith as Committee Chairperson:

### Practice Analysis Steering Committee

Oliver Smith, D.C., Chair

Robin Lecy, D.C.

Lawrence O'Connor, D.C.

Norman Ouzts, D.C.

The primary responsibilities of the NBCE Practice Analysis Steering Committee were to ensure the following:

- The content of the questionnaire, by nature or intent, was not biased or offensive to any respondent on the basis of personal characteristics such as gender or ethnicity.
- The Survey of Chiropractic Practice adequately and fairly represented procedures utilized, and activities and tasks performed by practicing chiropractors in the United States.
- The randomly selected chiropractor would, by completing the questionnaire, be able to indicate
  - the frequency and perceived risk associated with specific activities performed in practice;
  - adjunctive procedures used in practice.
- The data obtained from the questionnaire would provide demographic characteristics of practitioners and chiropractic patients and also provide information concerning the work environments, experience, and orientation of practitioners.
- The demographic data obtained from the survey could be used to study subgroups of respondents.

## Practice Analysis Advisory Committee

In addition to forming a steering committee to oversee the entire practice analysis project, the NBCE also created a 24-member Practice Analysis Advisory Committee, including national representation. This committee was comprised of representatives from private practice, chiropractic educational institutions, the National Board of Chiropractic Examiners, and from state examining boards. The committee members represented diverse viewpoints within the profes-

sion including representation by gender, ethnic/racial background, practice experience and geographic area. The committee was asked to participate in a Practice Analysis Workshop.

## **Practice Analysis Workshop**

Valid and effective tests used as part of required licensure assessments must be designed from knowledge and skill-based objectives that are relevant to the practice-based responsibilities of the profession. During a Practice Analysis workshop, the Advisory Committee was requested to identify the professional functions performed by licensed chiropractors, document the “best practices” methods of completing the tasks, identify the most critical tasks, and develop objectives that would be used as the foundation of the NBCE Parts III and IV tests.

Of the 24 workshop participants, 16 were practicing chiropractors and 8 were chiropractors familiar with practice tasks and who were serving as educators or test developers. All workshop participants had a stake in developing the competencies of individuals in the chiropractic profession. Participants took part in an intensive 3-day workshop led by an experienced facilitator.

## **Practice Analysis Workshop Results**

Soon after the completion of the Practice Analysis workshop, the facilitator provided a detailed report of workshop results that included the following:

- A list of the professional tasks performed by chiropractors.
- Process maps that documented the subtasks performed when completing each of the identified tasks, inputs to the subtasks, and outputs produced during the performance of the task.
- A list of the critical tasks and subtasks, along with objectives that will serve as the foundation of the NBCE Parts III and IV examinations.
- The final practice role description as approved by the workshop participants:

The Doctor of Chiropractic who obtains an NBCE Certificate of Attainment possesses the knowledge and skills necessary to apply for licensure to practice independently in any U.S. jurisdiction. The doctor of chiropractic is held responsible for providing primary contact, portal of entry health care including assessment, diagnosis, case management, and promoting public health and well-being within the scope and standards of practice as defined by their licensing authority.

The responsibilities of a licensed doctor of chiropractic may include, but are not limited to:

- Obtaining a relevant case history and review of systems.
- Performing appropriate physical, neuromusculoskeletal and chiropractic examination procedures.

- Performing and/or ordering appropriate diagnostic imaging and interpreting the results.
- Performing and/or ordering appropriate clinical laboratory tests and special studies and interpreting the results.
- Correlating clinical findings to arrive at a clinical impression and a working diagnosis.
- Applying appropriate chiropractic adjustive/manipulative treatment procedures.
- Applying techniques and procedures that are supportive of or adjunctive to chiropractic care.
- Maintaining appropriate documentation for all areas of practice.
- Promoting healthy lifestyles and wellness.

## Review of Literature

Literature pertaining to the protocol of conducting a job analysis survey was reviewed. Additionally, literature pertaining to chiropractic and other professions was considered in the preparation of the survey instrument and in the collection of the data. The bibliography at the end of this report contains a list of literature reviewed.

## The Field Test

A pilot or field test of the Survey of Chiropractic Practice was designed to provide useful data to determine the questionnaire's effectiveness in gathering information on chiropractic practice.

The major points of interest in the field test were:

- Relevance of the survey to chiropractic practice;
- Consistent with the outcomes of the Practice Analysis Advisory Committee Workshop;
- Appeal of the questionnaire to the doctors chosen to participate (e.g., would doctors complete and return the questionnaire to the NBCE);
- Clarity of instructions;
- Ease of filling out the questionnaire.

In addition, the field test provided an opportunity for the NBCE to set up the internal organization necessary to put the survey online, produce and distribute the hardcopy questionnaires, receive online results, process the completed hardcopy questionnaires, and merge the data.

NBCE chiropractic consultants completed the online version and provided feedback.

## **The Survey of Chiropractic Practice (2003 and 2009)**

Copies of the final 2003 and 2009 survey forms as distributed to the randomly selected population of licensed chiropractic practitioners throughout the United States appear in Appendix D and Appendix E of this report.

## **The Collection and Analysis of the Survey Data (2009)**

Data from the online responses and the hardcopy responses were merged. A Kodak Digital Science 3500 Scanner was used to electronically capture data from the printed survey forms. Once captured, the 2009 data were analyzed utilizing the most current edition of SPSS and SAS — a comprehensive set of programs ideally suited for the computations necessary to analyze and report the Practice Analysis.

## **The Publication of the *Practice Analysis of Chiropractic 2010***

This report of the survey results was prepared by representatives of the NBCE staff and titled *Practice Analysis of Chiropractic 2010*.

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