JOB ANALYSIS OF CHIROPRACTIC IN AUSTRALIA AND NEW ZEALAND

A project report, survey analysis,
and summary of the practice of chiropractic
within Australia and New Zealand

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* * *

Graphics/Design
D.R. Delle Morgan and Sally R. Fetters

Statistical Support
James zumBrunnen, M.S.

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Frank G. Hideg, Jr., D.C., President
National Board of Chiropractic Examiners

PREFACE

" ... we sought to provide the chiropractic profession in Australia and New Zealand with the most credible, relevant, and accurate reference possible, one which documents chiropractic as it is practiced as a full-time profession."

Presented in this *Survey of Chiropractic Practice in Australia and New Zealand* are analyzed data collected by the United States National Board of Chiropractic Examiners (NBCE), assisted by the Australasian Council for Chiropractic Education (ACCE) and the School of Chiropractic and Osetopathy at the Royal Melbourne Institute of Technology (RMIT University).

As a well-established independent testing agency, the 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 profession in Australia and New Zealand with the most credible, relevant, and accurate reference possible, one which documents chiropractic as it is practiced as a full-time profession.

These objectives have been met through the collective effort of many individuals. Members of our staff, members of the NBCE Job Analysis Steering and Job Analysis Advisory Committees, members of the ACCE, RMIT and private practitioners, statisticians, editors, and other professionals. A gratifying survey response from members of the profession served to further validate the survey's statistical data base.

It is this commitment to excellence that distinguishes our profession, and makes this report one which may have far-reaching significance in chiropractic health care in Australia and New Zealand 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, humankind 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 studies have become 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 and national governments throughout the world.

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. In its role as a national and international testing agency for the chiropractic profession, the National Board of Chiropractic Examiners (NBCE) in the United States adheres to these guidelines, which enable testing agencies to prepare and administer fair, uniform, and valid tests and measurements.

In addition to the NBCE job analyses performed in United States, Australia, and New Zealand, a similar study was also conducted by the NBCE in Canada, at the request of the chiropractic leadership in that country. The NBCE funded, conducted and reported the *Job Analysis of Chiropractic* projects as a service to the chiropractic profession.

Organization of the Report

While compiling data from the NBCE *Job Analysis of Chiropractic in Australia and New Zealand*, 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 registered practitioner of chiropractic, since it was this individual who provided the data upon which the job analysis report is based. Thus, the authors and editors have attempted to present an objective and well-rounded picture of the present-day chiropractor and his/her practice. Also addressed are the historical background of the profession and current information including academic requirements for becoming a registered chiropractor.

Readers will note that this publication is separated into four main sections, as indicated by vertical tab headings along the page edges. **Section I** contains general information relative to both Australia and New Zealand, and to the profession of chiropractic. **Section II** focuses on survey response data from Australia and its states. **Section III** addresses response data specific to New Zealand. **Section IV** includes the Epilogue and Appendices.

Throughout the publication, information was presented chronologically in general terms, followed by a more detailed topical discussion. Information was conveyed through visual means where appropriate.

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 *registered practitioners of chiropractic.* Also presented briefly is a summary of major government inquiries, studies, or rulings conducted in recent years relative to chiropractic. By providing the information in these chapters, the authors demonstrate 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 registration in Australia and New Zealand. The reader is acquainted with registration and certification testing, as well as the legal aspects that shape regulatory

* "Chiropractic" is generally used as a noun, although it may appear to be an adjective in many contexts.

agency requirements. In addition, a brief summary of the chiropractic registration requirements for each state/territory is presented.

In chapter 4 are the procedures followed in the development of the survey instrument. 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 data, and to 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. Additionally, a number of steps were taken to encourage a high rate of response which enhances the validity of study data. These steps are presented in this chapter.

Chapters 6-9 provide an overview of the Australian respondent chiropractors, their corresponding patient demographics, and respondent comments as written on the survey form. Included is a summary of characteristics of the "typical" chiropractic practitioner and patient. Also addressed in these chapters are conditions, adjustive and non-adjustive treatment techniques, and activities performed by the practitioners, their estimation of frequency of performance, and their perceived risk to patient welfare should the activity be omitted or performed poorly.

Chapter 10 presents a breakdown of Australian survey data by state and territory. Except where indicated, the data in Chapter 10 appear in *unweighted* form.

Chapters 11-14 follow the same format for New Zealand as Chapters 6-9; however, all of the New Zealand data are unweighted.

Included in the Appendices are relevant forms and correspondence, the Survey of Chiropractic Practice as administered in Australia and New Zealand, a glossary of terms, an index, and a listing of both Australian and New Zealand survey participants.

* * *

Chapter 1
The Chiropractic Profession

Chiropractic is one of health care's fastest growing professions, partly because of its remarkable effectiveness, and partly because chiropractic typifies a growing trend toward natural, drugless, and nonsurgical methods of treatment.

Principles common to chiropractic can be found in the writings of Hippocrates (460-370 BC), Galen (130-200 AD), and even in ancient manuscripts of the Egyptians, Hindus, and Chinese. Examples of manual medicine appeared in the seventeenth and eighteenth centuries when "bonesetters" were used to treat sprains and dislocations.

Chiropractic's place in modern health care is largely attributed to Daniel David Palmer, a Canadian who founded the first chiropractic college in Davenport, Iowa in the U.S.A. in 1895. Palmer's son, Bartlett, succeeded him in the development and growth of the chiropractic profession.

The Chiropractic Philosophy

Chiropractic offers a natural, conservative, medication-free, and non-invasive approach to the restoration and maintenance of health. The original chiropractic philosophy began with the principle that an individual's health is determined largely by the nervous system and that interference with this system impairs normal functions and lowers resistance to disease.

Chiropractic is also based on the premise that the body is capable of achieving and maintaining health through its own natural recuperative powers, provided it is given proper food, water, adequate rest, exercise, clean air, adequate nutrition, and a properly functioning nervous system. The Australasian Council for Chiropractic Education (ACCE), the accrediting agency for chiropractic and osteopathic programs in Austalia and New Zealand, adopts its definition of chiropractic from the European Chiropractors' Union:

"... a discipline of the scientific healing arts concerned with the pathogenesis, diagnosis, therapy and prophylaxis of functional disturbances, pathomechanical states, pain syndromes and neurophysiological effects related to the statics and dynamics of the locomotor system, especially of the spine and pelvis."

The ACCE defines the practitioner of chiropractic in somewhat simpler terms, as a member of the healing arts professions who "gives particular attention to the relationship of structural and neurological aspects of the body in health and disease and is educated in the basic and clinical sciences as well as in related health subjects."

Chiropractic Case Management

Doctors of Chiropractic (DCs) address various physiological and biomechanical aspects of health, including structural, spinal, musculoskeletal, neurological, vascular, nutritional, emotional, somatic, and environmental relationships. The study of chiropractic includes the mechanisms involved in compression, stretching, irritation, and resulting aberrant reflex pathways of the nervous system.

Case management of these problems may include, but may not be limited to, such procedures as adjustment and manipulation of the spinal column, and/or joints and adjacent tissues of the human body. In many cases, spinal X-rays, and other diagnostic procedures are used to identify the source of a patient's complaint, along with physical examination and questions concerning medical history, dietary habits, and lifestyle.

Central to chiropractic is the corrective structural adjustment or manipulation of spinal vertebrae or pelvic segments which have become displaced and/or have restricted movement, possibly with signs of neurological and/or vascular involvement. Several terms are used by chiropractors to describe this concept, most commonly *joint dysfunction* and/or *spinal subluxation*. The causative factors of these joint dysfunctions (static or dynamic) include various types of stresses or congenital anomalies.

The manual correction of joint dysfunction requires highly developed psychomotor skills to deliver a precise corrective adjustment. By manually adjusting vertebrae into their normal physiological relationship, interference with the nervous system is thus relieved, and normal mobility and comfort are reestablished.

Chiropractic methods have evolved over time; studies documenting these methods have indicated that, in addition to orthopedic conditions such as backache, headache and whiplash, conditions that involve organs and internal glands of the body might also respond to chiropractic adjustments (Plaugher 1993). In many instances, modern chiropractic care includes the supplementing of spinal adjustments with a variety of extremity joint adjustments or certain physiotherapeutic modalities, exercise, and nutritional counseling.

International Recognition of Chiropractic

As of this writing, there are approximately 1,281 practicing chiropractors located in Australia , and approximately 105 practicing chiropractors located in New Zealand. Over half of the practicing chiropractors worldwide have graduated since 1977.

Australia is the largest island continent in the world. A member of the British Commonwealth, Australia covers an area of approximately three million square miles in the Southern Hemisphere. It is comprised of six states and two territories of widely varying populations. These are (in order of decreasing population): New South Wales, Victoria, Western Australia, Queensland, South Australia, Tasmania, Australian Capital Territory (a federal territory within New South Wales) and Northern Territory.

New Zealand is an island nation which lies southeast of Australia. New Zealand is made up of two large and several small islands, covering approximately 103,736 square miles. New

Zealand is also a member of the British Commonwealth. New Zealand, along with Australia, the South Pacific islands of New Guinea, the Malay Archipelago, and other adjacent islands are referred to as Australasia.

Chiropractic is officially recognized and legally practiced in all eight Australian states and territories, as well as in New Zealand. Chiropractic legislation in both countries requires that practitioners of chiropractic be registered with the appropriate regulatory agency. In addition to Australia and New Zealand, chiropractors are legally recognized or are allowed to practice without official sanction in the following nations:

Belgium	Germany	Japan	Spain
Belize*	Greece	Jordan	Sweden
Bermuda	Guam	Liechtenstein	Switzerland
Brazil	Guatemala	Mexico	The Netherlands
Canada	HongKong	Nambia*	United Kingdom
Colombia	Iceland	Norway	United States
Cyprus	Iran	Panama	U.S. Virgin Islands
Denmark	Ireland	Peru	Venezuela
Ecuador	Italy	Puerto Rico	Zimbabwe
Finland	Jamaica	South Africa	

* Legislation pending

The Australia-New Zealand Health Care System

A 1990 survey of adult residents in the Perth metropolitan area estimated that one in every three adult respondents had received chiropractic treatment sometime during his/her lifetime. In addition, one in every five had received chiropractic treatment in the past five years. The most common reason for visiting a chiropractor was back pain. Similar studies show that back pain affects up to 30% of the population at any given time and will afflict up to 80% of individuals at least once in their lifetimes.

Chiropractors in both Australia and New Zealand are by law registered as primary contact, broad diagnostic scope practitioners, with a therapeutic scope limited to adjustment, manipulation and, in most jurisdictions, the use of physiological therapeutics. Since practitioners are recognized as primary contact caregivers, they can administer patient treatment without prior referral.

While registration of health professionals is controlled at the state or territorial level in Australia, expenditure for public health is administered nationally in both countries. Public health care in Australia is administered by Medicare, a universal health care system which utilizes private health practitioners. Under this form of health care, the government provides essential medical services through a public hospital system at no direct cost to residents. Approximately 35% of the population additionally subscribes to some form of private health insurance.

All private insurance health funds cover chiropractic services. Additionally, in most jurisdictions, workers' compensation and transport accident insurance laws include provisions for payment of chiropractic services. It is recommended by the Medicare Benefits

Review Committee that chiropractors' services be covered when limited to the management of musculoskeletal conditions. Conditions outside these provisions are the responsibility of the patient.

Upon application, Commonwealth funds may also be dispersed to a limited number of appointments of chiropractors in public hospitals and/or community health centers. No appointments have been made to date. The public hospital system is said to deliver a high quality of health care, as well as to excel in areas of specialized medical research.

In New Zealand, health care is essentially government funded, but a part-user payment system has resulted in many people using private health insurance. In New Zealand a government funded workers' compensation scheme administered by the Accident Compensation Corporation operates as a health care insurer for any accident or injury sustained during work or recreational activties.

Chiropractic Requisites and Education

In general, there are four major steps an individual must complete in order to become a practitioner of chiropractic in Australia or New Zealand (Figure 1.2): 1) successfully complete a minimum of five years of university education or equivalent; 2) graduate from a chiropractic college; 3) pass the required ACCE examination or equivalent exam recognized by the regulatory boards (not required by Australian and certain international graduates), and; 4) obtain registration from the appropriate regulatory board(s).

Registered Australian or New Zealand chiropractors in most jurisdictions are entitled to use the courtesy title of "doctor". The chiropractor is engaged in the treatment and prevention of disease as well as in the promotion of public health and welfare. As such, doctors of chiropractic must meet stringent testing, educational, and performance standards before being registered to practice.

A doctor of chiropractic's training generally requires a minimum of five years of college study. Government inquiries (described in the following chapter), as well as independent investigations by medical practitioners, have affirmed that today's chiropractic undergraduate training is of equivalent standard to medical training in all pre-clinical subjects (Chapman-Smith, 1988).

According to the international *1992-1993 Chiropractic College Directory*, the

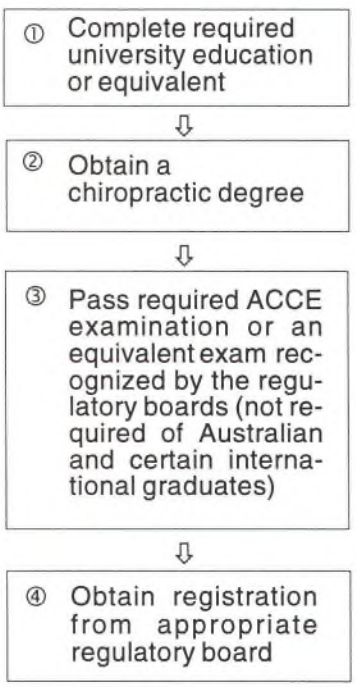

FIGURE 1.2
Steps Leading to Chiropractic Practice

academic background of 83.1% of the students entering chiropractic college was in life science/biology. The remaining 16.9% had studied liberal arts, business, economics, physical science, engineering, and education.

In Australia and New Zealand, the primary accrediting agency for the chiropractic profession is the Australasian Council for Chiropractic and Education (ACCE). The ACCE is recognized by the Australian Health Ministers Advisory Committee as the official body representing the interests of chiropractic and osteopathic education.

Established in 1976 as the Australasian Council on Chiropractic Education, the ACCE was incorporated under the Companies Act (1962) as a limited liability company. As such, it is overseen by a board of directors and advised by a Commission on Accreditation, a Commission on Professional Competency, and a Commission on Postgraduate Awards. The ACCE maintains international reciprocity with chiropractic accrediting agencies such as the U.S. and the Canadian Council on Chiropractic Education (CCCE) and the European Council on Chiropractic Education (ECCE).

To ensure that high standards in chiropractic education are maintained, all accredited chiropractic colleges must meet certain requirements. Criteria address curriculum, staff qualifications, staff-student ratio, library holdings, facilities, school governance, administration, and financial stability. At this time, accredited chiropractic colleges exist in Australia, Canada, Denmark, France, Japan, the United States, the United Kingdom, and South Africa.

The chiropractic curriculum typically consists of either four or five academic years.

Courses which a first-year chiropractic student can expect to study are the following:

- anatomy I
- chiropractic science I
- biomechanics I
- biosciences
- chemistry
- clinical practicum I

Second-year chiropractic students can expect to study the following:

- anatomy II
- biochemistry
- physiology II
- diagnosis
- chiropractic science
- microbiology & pathology I
- clinical practicum II

Third-year students' coursework includes the following:

- chiropractic science III
- biomechanics III
- diagnosis & management I
- microbiology & pathology II
- physiology III
- radiology
- clinical practicum III

Fourth and fifth-year students' coursework includes the following:

- chiropractic science IV
- diagnosis & management II & III
- social sciences
- clinical practicum IV & V

RMIT UNIVERSITY

The Royal Melbourne Institute of Technology (RMIT University) School of Chiropractic and Osteopathy was established in 1981 (known as Phillip Institute of Technology until 1993). Now in its second century, RMIT is recognized as one of Australia's leading universities. Its faculty and students are involved in a wide range of applied research and development programs. Around 38,000 individuals attend classes at one or more of its three campuses.

The RMIT School of Chiropractic and Osteopathy in Bundoora is one of two colleges accredited by the ACCE. Graduates of RMIT's School of Chiropractic and Osteopathy receive either a bachelor of applied science (chiropractic) degree, or a bachelor of applied science (osteopathy) degree. The RMIT program meets or exceeds international standards established for the chiropractic profession.

In addition to specific regional entrance requirements, RMIT School of Chiropractic and Osteopathy applicants must hold the Victorian Certificate of Education (considered to be comparable to one year of junior college in the U.S. system) or its equivalent, and must have completed the prerequisite subjects of English, chemistry, biology, mathematics or physics. Applicants must undergo a pre-admission interview or provide a suitable report from an acceptable regional chiropractic organization which must demonstrate suitable knowledge and motivation.

Macquarie University - Sydney

Macquarie University, located in the northwestern suburbs of Sydney, was established in 1964, and is a member of the Association of Commonwealth Universities. The postgraduate chiropractic program offered by the Macquarie Centre for Chiropractic through the School of Biological Sciences is accredited by the ACCE.

The course is designed to provide first-year students with clinical literacy, and second-year students with access to applied clinical work. In each year, the student is exposed to direct classroom instruction for about 34 hours per week. Additionally, students undertake a clinical assignment.

Specializations

Acting on the recommendation of its Commission on Postgraduate Awards, the Australasian Council for Chiropractic Education has, to date, admitted five chiropractors to the status of *Fellow* of the Australasian College of Chiropractic Science, and two to the status of *Fellow* of the Australasian College of Chiropractic Radiology.

The standards, disciplines and mechanisms for future specialty certification in chiropractic are currently under consideration by professional and other committees in Australia and New Zealand. Postgraduate specialty-type education via a Master of Applied Science by coursework and minor thesis is available at RMIT University in the following streams: Chiropractic Pediatrics, Sports Chiropractic, Musculoskeletal Management, and Acupuncture.

Chapter 2
Recent Studies Focusing on Chiropractic

As related in Chapter 1, chiropractic is (as of this printing) legally recognized or allowed to be practiced without official sanction in approximately 39 countries. Varying degrees of investigation into the appropriateness and efficacy of chiropractic treatment preceded the official stance of these countries.

The New Zealand Commission of Inquiry

A particularly significant study of chiropractic, which is a forerunner to the research studies highlighted in this chapter, was conducted by the New Zealand Commission of Inquiry. In its 377-page report to the House of Representatives, the Commission states that its report followed an extended (two-year) inquiry which at that time was "probably the most comprehensive and detailed independent examination of chiropractic ever undertaken in any country." Excerpts from the Commission's report follow:

> "We entered into our inquiry in early 1978. We had no clear idea what might emerge. We knew little about chiropractors. None of us had undergone any personal experience of chiropractic treatment. If we had any general impression of chiropractic it was probably that shared by many in the community: that chiropractic was an unscientific cult, not to be compared with orthodox medical or paramedical services. We might well have thought that chiropractors were people with perhaps a strong urge for healing, who had for some reason not been able to get into a field recognised by orthodox medicine and who had found an outlet outside the fringes of orthodoxy.
>
> "But as we prepared ourselves for this inquiry it became apparent that much lay beneath the surface of these apparently simple terms of reference. In the first place, it transpired that for many years chiropractors had been making strenuous efforts to gain recognition and acceptance as members of the established health care team. Secondly, it was clear that organised medicine in New Zealand was adamantly opposed to this on a variety of grounds which appeared logical and responsible. Thirdly, however, it became only too plain

> that the argument had been going on ever since chiropractic was developed as an individual discipline in the late 1800s, and that in the years between then and now the debate had generated considerably more heat than light.
>
> "By the end of the inquiry we found ourselves irresistibly and with complete unanimity drawn to the conclusion that modern chiropractic is a soundly-based and valuable branch of health care in a specialised area..."

Specific conclusions of the Commission's report, based on investigations in New Zealand, the United States, Canada, the United Kingdom, and Australia, were as follows:

- Modern chiropractic is far from being an "unscientific cult."
- Chiropractic is a branch of the healing arts specialising in the correction by spinal manual therapy of what chiropractors identify as biomechanical disorders of the spinal column. They carry out spinal diagnosis and therapy at a sophisticated and refined level.
- Chiropractors are the only health practitioners who are necessarily equipped by their education and training to carry out spinal manual therapy.
- General medical practitioners and physiotherapists have no adequate training in spinal manual therapy, though a few have acquired skill in it subsequent to graduation.
- Spinal manual therapy in the hands of a registered chiropractor is safe.
- The education and training of a registered chiropractor are sufficient to enable him to determine whether ... the patient should have medical care instead of or as well as chiropractic care.
- Spinal manual therapy can be effective in relieving musculo-skeletal symptoms such as back pain, and other symptoms known to respond to such therapy, such as migraine.
- In a limited number of cases where there are organic and/or visceral symptoms, chiropractic treatment may provide relief, but this is unpredictable, and in such cases the patient should be under concurrent medical care if that is practicable.
- Although the precise nature of the biomechanical dysfunction ... and ... the

precise reasons why spinal manual therapy provides relief have not yet been scientifically explained, chiropractors have reasonable grounds based on clinical evidence for their belief that symptoms of the kind described above can respond beneficially to spinal manual therapy.

- Chiropractors do not provide an alternative comprehensive system of health care, and should not hold themselves out as doing so.

- In the public interest and in the interests of patients there must be no impediment to full professional cooperation between chiropractors and medical practitioners.

Recommendations for Australian Medicare Benefits

Subsequent to the New Zealand Inquiry, the Australian Federal Minister of Health requested that a committee be formed to consider extending the scope of (government-funded) Medicare benefits for certain services, including chiropractic.

The Committee accepted all of the findings of the New Zealand commission, and also noted the "significant shift in the last decade in attitude ... towards the issue of scientific research" in chiropractic. It also recommended funding for chiropractic in hospitals and other public institutions, and endorsed greater philosophical unity in chiropractic.

Sweden's Commission on Alternative Medicine

Another noteworthy study was conducted in 1987 by the Swedish government's Commission on Alternative Medicine. It reached conclusions consistent with the New Zealand and Australian studies and also stated that:

- Chiropractors with the Doctor of Chiropractic degree should become registered practitioners and be brought within the national insurance system.

- The university-level training of DCs is equivalent to Swedish medical training.

- DCs have competency in differential diagnosis and should be regulated on a primary care basis.

- Measures to improve cooperation between chiropractors, registered medical practitioners and physiotherapists are vital to the public interest.

The Manga Report

Among the most recent major studies conducted to assess the most appropriate use of available health care resources was one entitled *The Effectiveness and Cost-Effectiveness of*

Chiropractic Management of Low-Back Pain. This was an outcomes study reported in 1993 and funded by the Ontario Ministry of Health. It was conducted in hopes of sharing information about ways to reduce the incidence of work-related injuries and to address cost-effective ways to rehabilitate disabled and injured workers.

The study was conducted by three health economists led by University of Ottawa (Canada) Professor Pran Manga, Ph.D. The 216-page report of the study is commonly referred to as the Manga Report.

"Evidence from Canada and other countries suggests potential savings of hundreds of millions annually," the Manga Report states. "The literature clearly and consistently shows that the major savings from chiropractic management come from fewer and lower costs of auxiliary services, fewer hospitalizations, and a highly significant reduction in chronic problems, as well as in levels and duration of disability."

The Manga Report, summarized below, overwhelmingly supported the efficacy, safety, scientific validity, and cost-effectiveness of chiropractic for the treatment of low-back pain. Additionally, it found that higher patient satisfaction levels were associated with chiropractic care than with medical treatment alternatives:

- Scientifically valid clinical studies support the fact that chiropractic spinal manipulation is "more effective than alternative treatments for LBP (low-back pain). Many medical therapies are of questionable validity or are clearly inadequate."

- "There would be a highly significant cost savings if more management of LBP was transferred from physicians to chiropractors. Evidence from Canada and other countries suggests potential savings of hundreds of millions annually. The literature clearly and consistently shows that the major savings from chiropractic management come from fewer and lower costs of auxiliary services, fewer hospitalizations, and a highly significant reduction in chronic problems, as well as in levels and duration of disability."

- "There is no clinical or case-control study that demonstrates or even implies that chiropractic spinal manipulation is unsafe in the treatment of low-back pain. Some medical treatments are equally safe, but others are unsafe and generate iatrogenic complications for LBP patients ... The literature suggests that chiropractic manipulation is safer than medical management of low-back pain."

- "While it is prudent to call for even further clinical evidence of the effectiveness and efficacy of chiropractic management of LBP, what the literature revealed ... is the much greater need for clinical evidence of the validity of medical management of LBP. Indeed, several existing medical therapies of LBP are generally contraindicated on the basis of

the existing clinical trials. There is also some evidence in the literature to suggest that spinal manipulations are less safe and less effective when performed by non-chiropractic professionals."

- "There is an overwhelming body of evidence indicating that chiropractic management of low-back pain is more cost-effective than medical management ... The evidence includes studies showing lower chiropractic costs for the same diagnosis and episodic need for care."

- "There is good empirical evidence that patients are very satisfied with chiropractic management of LBP and considerably less satisfied with physician management. Patient satisfaction is an important health outcome indicator and adds further weight to the clinical and health economic results favouring chiropractic management of LPB."

The Manga Report concluded with various recommendations including fully integrating chiropractic services into the health care system, shifting policy to encourage and prefer chiropractic services for most patients with low-back pain, employing chiropractors in tertiary hospitals, and extending hospital privileges to chiropractors.

Other Studies on Chiropractic

In addition to the studies previously cited, many other studies have explored chiropractic treatment. These have focused on the effectiveness of chiropractic treatment for back pain, for work-related injuries, and for other disorders. The following is a brief summary of some of these studies:

- A four-phase study conducted in the early 1990s by RAND, one of America's most prestigious centers for research in public policy, science and technology, explored many indications of low-back pain. In the RAND studies, an expert panel of researchers, including medical doctors and doctors of chiropractic, has completed three studies of chiropractic in the United States, with a fourth study currently underway.

  -- The first study, a population-based estimate concerning the use of chiropractic services, reported in the *American Journal of Public Health* that "chiropractors deliver a substantial amount of health care to the U.S. population, and there are significant geographic variations in the rate and intensity of use of chiropractic services" (Shekelle 1991).
  -- The second study, "Spinal Manipulation for Low-Back Pain,"

published in the *Annals of Internal Medicine*, affirmed that spinal manipulation is of benefit to some patients with acute low-back pain (Shekelle and Adams 1992).

The RAND reports marked the first time that representatives of the U.S. medical community went on record stating that spinal manipulation is an appropriate treatment for certain low-back conditions.

- In Australia, a 12-month study conducted by the Australian Centre for Chiropractic Research at RMIT University included all work-related low-back pain claimants. Individuals were identified who received care either from a chiropractor or a medical practitioner. The results indicated that:
  - -- When chiropractic management was chosen, fewer claimants required compensation, and fewer compensation days were taken.
  - -- When medical management was chosen, the average payment per claim was greater, and a greater number of patients regressed to chronic status (Ebrall 1992).

- "Family Physicians, Chiropractors, and Back Pain," is the title of an article published in the *Journal of Family Practice* (November 1992), addressing a comparative United States study of patients of family physicians and chiropractors. The article stated that "the number of days of disability for patients seen by family physicians was significantly higher (mean 39.7) than for patients managed by chiropractors (mean 10.8)" (Curtis and Bove 1992). A related editorial published in the same issue of the *Journal of Family Practice* stated that family physicians should accept the fact that:

  "... spinal manipulation is one of the few conservative treatments for low-back pain that have [sic] been found to be effective in randomized trials. The risks of complications from lumbar manipulation are also very low" (Cherkin 1992).

  The latter conclusion is supported by a study published by the *Chiropractic Journal of Australia* which reported that "a descriptive analysis of obtainable literature on complications from low-back SMT (spinal manipulation treatment) from 1911 to 1991 indicates that, on the average, less than one case per year occurs" (Terrett and Kleynhans (1992).

- A study of spinal manipulation involving 283 patients with chronic low-back and leg pain was conducted at a "specialized university back pain clinic reserved for patients who have not responded to previous

conservative or operative treatment" located at the University of Saskatchewan in Saskatoon, Saskatchewan. In this study, which involved research conducted by both a medical doctor and a chiropractor, all patients were initially classified as totally disabled. Daily spinal manipulations were administered, and the effects of this treatment were assessed at one month and at three months. Results revealed that 81% of the patients became symptom-free or achieved a state of mild intermittent pain with no work restrictions (Kirkaldy-Willis, Cassidy 1985).

- A Canadian study of 744 patients with neck and back pain who had been referred from hospitals, private practice specialists, general practitioners, and chiropractors analyzed the effectiveness of chiropractic manipulation. The results revealed that 36% of the patients recovered (became symptom-free with no work restrictions), 34.5% became much improved (mildly symptomatic and able to function normally), 7.3% slightly improved (possible activity restrictions), 21.6% showed no change, and 0.6% became worse. The study also revealed that "post-surgical patients do very well under chiropractic care, and in fact at this center, patients are routinely referred back to us three months after surgery for maintenance care" (Potter 1977).

- The Back Pain Clinic at the Royal University Hospital in Saskatoon, Saskatchewan, reviewed literature pertinent to "Side Posture Manipulation for Lumbar Intervertebral Disk Herniation." The authors of the study concluded that "the treatment of lumbar intervertebral disk herniation by side posture manipulation is both safe and effective" (Cassidy et al. 1993).

- A study reported in the *British Medical Journal* included 741 patients between the ages of 18 and 65 who suffered from chronic or severe back pain and who sought care in chiropractic and hospital out-patient clinics. After two years of patient monitoring, researchers concluded that "for patients with low-back pain in whom manipulation is not contraindicated, chiropractic almost certainly confers worthwhile, long-term benefit in comparison with hospital out-patient management" (Meade et al. 1990).

- Researchers conducted a study of workers' compensation cases in Florida and concluded that "a claimant with a back-related injury, when initially treated by a chiropractor versus a medical doctor, is less likely to become temporarily disabled, or if disabled, remains disabled for a shorter period of time; and claimants treated by medical doctors were hospitalized at a much higher rate than claimants treated by chiropractors" (Wolk 1988).

- From a survey of those receiving care from health maintenance organizations (HMOs) in Washington state it was concluded that "... patients of chiropractors were three times as likely as patients of family physicians to report that they were satisfied with the care they received for low-back pain ... Chiropractic patients were also more likely to have been satisfied with the amount of information they were given and to believe their doctor was concerned about them" (Cherkin and MacCornack 1989).

- The *Journal of Manipulative and Physiological Therapeutics*, published in the United States, reported results of a study of women between the ages of 20 and 49 with a history of dysmenorrhea (painful menstruation): "SMT may be an effective and safe nonpharmacological alternative for relieving the pain and distress of primary dysmenorrhea, at least for a short period of time after treatment" (Kokjohn et al. 1992).

- A number of United States clinical studies cite success rates ranging from 72% to 90% for the treatment of headaches utilizing spinal manipulation therapy. For example, a study reported in the American Chiropractic Association's *Journal of Chiropractic* reported that 74.6% of patients with recurring headaches, including those experiencing migraines, were either cured or experienced reduced symptomatology associated with their headaches after receiving chiropractic manipulation. Most importantly, the success rate was maintained two years after treatment ended (Wight 1978).

A number of studies have documented the effectiveness of chiropractic treatment for a variety of other conditions including soft tissue injuries and visceral disorders (Plaugher 1993; Lewit 1985; and Korr 1978).

Other Studies on the Cost-Effectiveness of Chiropractic

Historically, chiropractors have promoted chiropractic management of back pain as a cost-effective approach to alleviating this condition. The following studies support this assertion:

- A study conducted in the United States involving 395,641 patients with one or more of 493 neuromusculoskeletal conditions was undertaken to compare the health care costs of patients who have received chiropractic treatment to those treated solely by medical or osteopathic physicians. The results showed that "patients receiving chiropractic care experienced significantly lower health care costs ... (with)

total cost differences on the order of $1000 over the two-year period ..." The report concluded that "... these preliminary results suggest a significant cost-saving potential for users of chiropractic care." The report of the study also suggests the need to re-examine insurance practices and programs relative to chiropractic coverage (Stano 1993).

- The Florida study on workers' compensation claims, previously cited in reference to back pain, found that "the estimated average total cost of care, computed across all the major categories of treatment cost, was substantially higher for medical patients compared with chiropractic patients..." The authors of the study concluded that chiropractic care is more cost-effective in the treatment of work-related back injuries than standard medical care (Wolk 1988).

- A 1988 workers' compensation study conducted in Utah assessed the total cost per case of chiropractic care versus medical care for conditions with identical diagnostic codes. The results indicated that costs were significantly higher for medical claims than for chiropractic claims. In addition, the number of work days lost for those receiving medical care was nearly 10 times higher than for those who received chiropractic care (Jarvis, Phillips, and Morris 1991).

- A comparison of the cost of chiropractic care versus the cost of medical care for various health conditions (predominantly low-back pain, spinal-related sprains, strains, dislocations, arthritis, and disc disorders), revealed that "chiropractic is a lower cost option for several prominent back-related ailments ... If chiropractic care is insured to the extent other specialists are stipulated, it may emerge as a first option for patients with certain medical conditions. This could very well result in a decrease in overall treatment costs for these conditions" (Dean and Schmidt 1992).

- A review of data from over two million users of chiropractic care in the United States was reported in the *Journal of American Health Policy.* Initial analysis indicated that "chiropractic users tend to have substantially lower total health care costs" and "chiropractic care reduces the use of both physician and hospital care" (Stano et al. 1992).

- A workers' compensation study conducted in Oregon (1990) evaluated the loss of working time incurred by chiropractic (DC) and medical (MD) claimants with disabling low-back work-related injuries. Authors of the study concluded that "the median time loss days for cases with comparable clinical presentation (severity) was 9.0 for DC cases and

11.5 for MD cases. Chiropractic claimants had a higher frequency of return to work with one week or less of time loss." (Nyiendo 1991).

- A study, published in 1992, compared the cost-effectiveness of chiropractic care to medical care in the Commonwealth of Virginia. The report of the study indicated that chiropractic:
  -- has minimal cost-increasing effects on insurance and may in fact reduce insurance costs.
  -- provides important therapeutic benefits at economical costs.

  This study also recommended that chiropractic care be a widely available form of health care, and noted that it is a growing and widely used component of the health care sector (Schifrin 1992).

Utilization and Public Opinion Surveys

Additional studies have assessed the utilization and acceptance of chiropractic services. A few of these studies are described in subsequent paragraphs:

- A survey in the province of Ontario (Canada) revealed that a majority of MDs in family practice (62%) were referring patients to chiropractors. Nearly half of these MDs (42.3%) had been referring patients for the past 1-5 years, with the referral rate being slightly higher among MDs who had graduated before 1960 (60%) and between 1960 and 1980 (65%) than for those who had graduated in the past 10 years (53.8%). In addition, the study revealed that 9.5% of these MDs had received chiropractic care themselves (Patel-Christopher 1990).

- A Gallup poll conducted in the United States and reported in March of 1991 examined the attitudes and behaviors of both users and nonusers of chiropractic services. Of the users of chiropractic services:
  -- 90% felt chiropractic treatment was effective;
  -- more than 80% were satisfied with their treatment;
  -- nearly 75% felt most of their expectations had been met during their visits;
  -- 68% would see a chiropractor again for treatment of a similar condition;
  -- 50% would likely see a chiropractor again for other conditions.

Of the non-users of chiropractic services:

-- 62% indicated they would see a doctor of chiropractic for a problem applicable to chiropractic treatment;

-- 25% reported that someone in their household had been treated by a chiropractor, and nearly 80% of those were satisfied with that treatment.

- A 1985 survey of North Dakota residents, also conducted by the Gallup Organization, indicated that awareness and use of chiropractic services in the state were very high. Nearly 100% of the residents had heard of chiropractors, and almost half of the residents (49%) reported that they had been examined or treated by a chiropractor at some time. One in six residents (17%) had seen a chiropractor in the past year.

Government Actions and Legal Inquiries

In recent years, various governments have begun requiring that health professionals provide guidelines for use in assessing the appropriateness of care. Some of the most recent developments in this area appear below.

The Mercy Guidelines

In an attempt to address this requirement, 35 chiropractors in North America were invited to participate in a conference held in early 1992 at the Mercy Center in Burlingame, California. A publication released in early 1993 entitled, *Guidelines for Chiropractic Quality Assurance and Practice Parameters,* related the proceedings of that conference.

The CCA Clinical Standards of Care

During April 1993, the Canadian Chiropractic Association sponsored a conference in Toronto to establish clinical guidelines for chiropractic standards of care in Canada. The participating members included chiropractors from various chiropractic organizations throughout Canada. Results of this conference are nearing publication as of this writing.

The Wilk vs. AMA Lawsuit

Another inquiry that further validated chiropractic came about through an antitrust suit filed by four members of the chiropractic profession against the American Medical Association (AMA), and a number of other medical organizations in the United States (Wilk *et al v. AMA et al*, No. 90-542, October 1990).

In 1987, following 11 years of legal action, a federal appellate court judge ruled that the AMA had engaged in a "lengthy, systematic, successful and unlawful boycott" designed to restrict cooperation between MDs and chiropractors in order to eliminate the profession of chiropractic as a competitor in the United States health care system. (This was upheld by the 7th United States Circuit Court of Appeals.)

The AMA offered a patient care defense; however, data from Workmen's Compensation Bureau studies served to validate chiropractic care. Specifically, studies comparing chiropractic care to care by a medical physician were presented which showed that chiropractors were "twice as effective as medical physicians, for comparable injuries, in returning injured workers to work at every level of injury severity."

The settlement of the suit included an injunctive order in which the AMA was instructed to cease its efforts to restrict the professional association of chiropractors and AMA members. The AMA was also ordered to notify its 275,000 members of the court's injunction. In addition, the American Hospital Association (AHA) sent out 440,000 separate notices to inform hospitals across the United States that the AHA has no objection to allowing chiropractic care in hospitals.

Since the court findings and conclusions were released, a growing number of medical doctors, hospitals, and health care organizations in the United States are including the services of chiropractors.

Chapter 3
Registration Requirements for Chiropractic Practice in Australia and New Zealand

This chapter addresses registration, certification, testing issues, and presents numbers of chiropractors registered by state or territory. Determining the numbers of registered chiropractors domiciled in each state/territory is difficult as many individuals have registration in multiple locations; thus estimates may vary.

Registration and Certification

Although the term **registration** and **certification** are often used interchangeably, they are differentiated by their purposes.

Traditionally, registration has been required by law in order to enter certain professions. It is the most restrictive form of occupational regulation, activities covered by the occupational scope of practice may not legally be performed without prior authorization, which can only be granted by the appropriate government agency.

Certification has typically been a voluntary program that recognizes individuals who have achieved beyond the basic level of competency necessary to practice in a profession. Lack of certification does not usually exclude a person from practice, as occurs with registration (Johnson and Corgel 1983).

Registration and certification exams rely on a job analysis to provide evidence that an exam contains appropriate content.

Standards of Testing

With the increased usage of tests in all aspects of society, particularly for registation/ regulation and certification, guidelines for test construction have been prepared by the Australasian Council for Chiropractic Education (ACCE), as well as the New Zealand Chiropractic Board (NZCB). Each follows separate but specific guidelines for the construction of instruments to assess applicants for registration.

Representatives of the ACCE, universities, and the chiropractic profession, formed a

steering group in 1992 to oversee a major government-funded project to establish professional standards and competency-based assessment for Australia and New Zealand. The project involves consideration of a wide range of assessment methods and techniques, including:

- issues relating to reliability, validity, and fidelity
- the elimination of bias
- characteristics and training of assessors
- various aspects of competency-based assessment
- quality assurance measures in competency-based assessment
- and management of the assessment system.

A report on the design and field testing of the proposed system is expected in 1994.

The *Standards for Educational and Psychological Testing* authored by the American Educational Research Association, the American Psychological Association, the National Council on Measurement in Education, and the *Uniform Guidelines on Employee Selection Procedures,* published by the U.S. Departments of Labor and Justice, are in agreement that, in order for registration examinations to be valid, they should be based on a job analysis. The *Uniform Guidelines state:*

> "Any validity study should be based upon a review of information about the job for which the selection procedure is to be used ... Any method of job analysis may be used if it provides the information required for the specific validation strategy used."

Content-related validity in a registration exam is evidence that the tasks addressed in the exam appropriately reflect the tasks required for successful job performance. Content validity evidence relies upon a job analysis, as indicated in the *Standards for Educational and Psychological Testing*:

> "Job analyses provide the primary basis for defining the content domain. If a single examination is used in the registration or certification of people employed in a variety of settings and specializations, a number of jobs may need to be analyzed. Although the job analysis techniques are comparable to those used in employment testing, the emphasis for licensure and certification is limited appropriately to knowledge and skills necessary to protect the public..."

Chiropractic Registration in Australia

The purpose of registration, according to the *Standards for Educational and Psychological Testing*, is to protect the public. This text states:

> "Registration requirements are imposed to ensure that those registered possess knowledge and skills in sufficient degree to perform important occupational activities safely and effectively."

In Australia, the six state and two territorial registration boards are responsible for the implementation of acts of Parliament which provide for the registration of chiropractors and regulation of the profession.

Persons who hold a "prescribed qualification," i.e. a qualification granted by an institution officially recognized in a relevant state/territory act or regulation, may be eligible for registration without examination. As a general rule, only those applicants who satisfy state/territory prerequisites are allowed to take the registration examination.

Examinations in Australia are administered twice each year. Examination dates can be obtained from the ACCE, which administers competency-based assessment for applicants seeking registration by a number of Australian registration boards. The examinations assess an individual's knowledge in such subjects as anatomy, physiology, diagnosis and symptomatology, microbiology and public health, neurology, pathology, X-ray, biochemistry, and chiropractic practice. In addition, examiners may conduct oral, psychomotor, or written examinations which assess physical examination skills, adjusting technique, radiographic interpretation, and case history-taking skills.

In recent years, grants have enabled the ACCE to research competency-based standards for entry-level chiropractors and osteopaths, with the objective of encouraging a holistic approach toward professional responsibility, accountability, and competence. Through this research, the ACCE has defined competencies, standards of practice and "best practice" concepts.

Mutual Recognition Act 1992

In March of 1993, the Commonwealth Mutual Recognition Act streamlined the registration process. Under the provisions of the Mutual Recognition Act, a person who has current authorization to practice as a chiropractor and/or osteopath in a participating state/territory of Australia is eligible to register and practice in any other participating state/territory. Mutual Recognition provides an additional and alternative avenue for obtaining registration. As of October 1993, the participating jurisdictions were Australian Capital Territory, New South Wales, the Northern Territory, Queensland, South Australia, Tasmania, and Victoria. Only West Australia had not yet adopted the Mutual Recognition provisions.

Registration Requirements by Australian State or Territory

A brief description of the chiropractic registration requirements in each of Australia's states and territories follows. (A complete explanation of registration requirements may be obtained by contacting the ACCE).

Figure 3.2
The number of registered chiropractors surveyed in each of the 8 states/ territories.

Australian Capital Territory

The Australian Capital Territory (ACT) covers 550,000 square acres and is surrounded by New South Wales (NSW). In addition to the approximately 300,000 people who live within its boundaries, the ACT provides specialized medical and other referral services to the surrounding country area, bringing the total estimated population serviced by ACT health facilities to more than 500,000.

There are 50 chiropractors registered with the ACT Chiropractic Board. It is estimated that between 25 and 30 of these are actively engaged in chiropractic practice. Unlike other Australian states which hold separate registers for each occupation, both chiropractors and osteopaths in the ACT are registered as chiropractors. Legislation to separate the chiropractor-osteopath register is currently before the ACT Legislative Assembly.

To be eligible for registration in the ACT, an individual must be a graduate of an accredited chiropractic or osteopathic course of study, and have passed appropriate examinations or demonstrated the equivalent in training or experience over the previous 12 months. In addition, the applicant must demonstrate that he/she is of good character, and has sufficient abilities and skills, including a command of the English language.

Chiropractic or osteopathic specialties are not recognized in the ACT.

New South Wales

In New South Wales, an individual may register as a chiropractor or as a chiropractor osteopath, depending on the diploma or degree granted, and the academic institution which granted it. Applicants may apply for registration under the Chiropractors and Osteopaths Act of 1991.

According to the 1991 Australian Census, 799 chiropractors, and 90 chiropractors/ osteopaths serve New South Wales' population of 5,731,906. No chiropractic specialties are recognized in New South Wales.

The Northern Territory

Approximately 29 chiropractors are registered to practice in the sparsely populated and isolated Northern Territory, and only 15 of the 29 are actually domiciled in the jurisdiction.

The main population centers for the 1,347,225 square-kilometer territory are Darwin (pop. 78,000±), Alice Springs (pop. 25,000±), and Katherine (pop. 9,000±). All chiropractic clinics are based in Darwin or Alice Springs, although some additional centers are serviced monthly by visiting chiropractors.

Chiropractic in the Northern Territory is regulated under the *Health Practitioners and Allied Professionals Registration Act*, and is overseen by the Chiropractors and Osteopaths Registration Board of the Northern Territory. Since its establishment in 1986, the Board has not had cause to consider the formal recognition of chiropractic specialties.

Under the Territory's *Work Health Act*, a person seeking chiropractic treatment for a work-related injury must be referred by a medical practitioner. Submissions from the Northern Territory Branch of the Chiropractors Association of Australia seeking amendments which would authorize chiropractors to initiate workers' compensation claims have been unsuccessful to date.

Queensland

With in general a population of around 3,030,456 there are approximately 419 registered chiropractors who are regulated by the Chiropractors and Osteopaths Board of Queensland. Qualifications for registration as a chiropractor or osteopath are prescribed by the Chiropractors and Osteopaths Act of 1979-1988.

In Queensland, registration as a chiropractor is granted to individuals who hold a Bachelor of Applied Science (Chiropractic) of the Phillip Institute of Technology, now RMIT University Melbourne; Graduate Diploma in Chiropractic of the Sydney College of Chiropractic; or Master of Chiropractic of the Macquarie University, Sydney and a number of international qualifications. At this time, no chiropractic specialties are recognized in Queensland.

South Australia

According to the Australian Bureau of Statistics, the estimated total population of South Australia is 1,400,622 with approximately 229 registered chiropractors. Chiropractic in Southern Australia is regulated under the *Chiropractor Act of 1991*, and overseen by the Chiropractors' Board of South Australia.

Licensing requirements include a diploma/degree in Chiropractic/Osteopathy, a current certificate of registration, at least 12 months full-time postgraduate clinical experience or equivalent experience, and a predetermined amount of Professional Indemnity Insurance. As of this time there are no chiropractors in South Australia with a formal specialty in a particular field. Treatment by a chiropractor is included in the Workers' Compensation Act of 1986 under "***Medical or Related Treatment***".

Western Australia

With a population approaching 1,672,500 there are approximately 259 registered chiropractors, with 192 currently practicing chiropractors in Western Australia. In Western Australia chiropractic is regulated under The Chiropractors Act of 1964 and overseen by The Registration Board of Western Australia. Qualifications for registration as a chiropractor are dependent upon the final diploma, degree or certificate an individual holds and the school or college from which it was obtained.

There are no chiropractic specialties recognized in Western Australia. The Workers' Compensation Act of 1964 allowed chiropractors to claim fees for services, and they were given the priviledge of writing First Treatment Certificates. Although there is no government reimbursement for chiropractic services, reimbursement is available through private health coverage services or insurance companies as a result of motor vehicle accidents or work-related injuries.

Tasmania

Chiropractic in Tasmania is overseen by the Chiropractors Registration Board (TAS) and regulated under The Tasmanian Chiropractors Registration Act of 1982 with complementary regulations invoked in 1984. The estimated population of Tasmania is 475,000 with approximately 24 chiropractors, and 6 osteopaths. In Tasmania osteopaths are registered as chiropractors; however they are allowed to practice as osteopaths.

Applicants may apply for registration under the provisions of the Mutual Registration Legislation. At this time there are no recognized chiropractic specialties. Chiropractic care is accepted under the Tasmanian Workers' Compensation Act; thus there is reimbursment for chiropractic care.

Victoria

Approximately 680 chiropractors are registered in the state of Victoria, which has an estimated population of more than 3,000,000.

Registration requirements are regulated by the Chiropractors and Osteopaths Regulations of 1992 and overseen by The Chiropractors and Osteopaths Registration Board of Victoria. All applicants who register must have one of the prescribed diplomas/degrees in chiropractic for this area. In Victoria, reimbursement for chiropractic services is available through Private Health Insurance Funds, and chiropractic services are included in workers' compensation and transport accident programs. Specialties in chiropractic are not recognized in Victoria at this time.

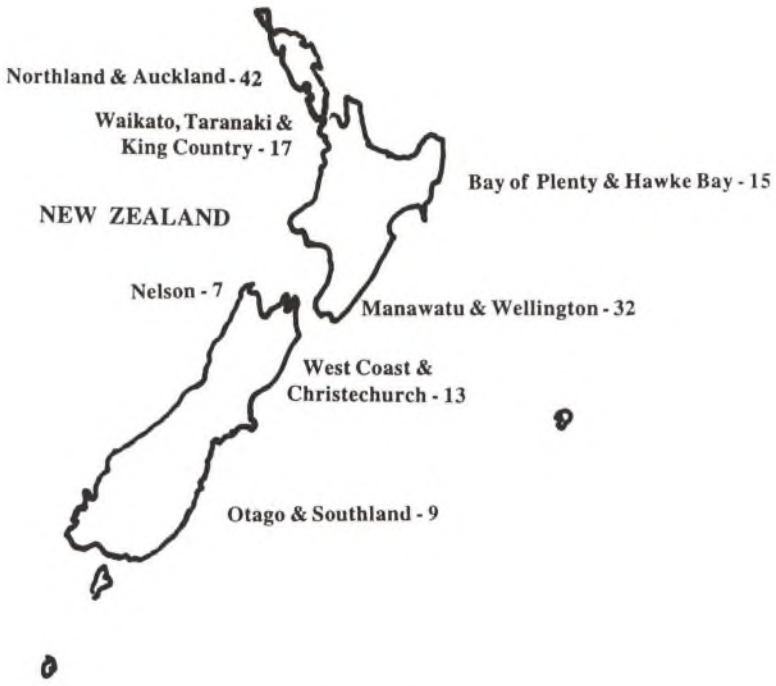

Figure 3.3
The number of registered chiropractors by province.

Chiropractic Registration in New Zealand

The New Zealand Chiropractic Board conducts examinations of all applicants for registration. Examinations are normally administered bi-annually. The NZCB has established practice standards for registrants.

Criteria established by both the Australian and New Zealand registration boards surround training and experience, minimum age, years of formal education or academic degrees, a period of residency, and evidence of good moral character.

Chiropractic in New Zealand is regulated under the Chiropractors' Act of 1982. In 1993 the New Zealand Chiropractors' Association published and adopted a plan called Vision 2000, for the future development of chiropractic. A center for chiropractic has since been established, and the first undergraduate chiropractic training program commenced in 1994. Presently there are approximately 135 chiropractors practicing in New Zealand.

At this time there are no chiropractic specialties recognized in New Zealand. The Accident Compensation Act provides for treatment reimbursement for chiropractic services only on referral from the worker's medical practitioner in New Zealand. Two main private health insurers cover chiropractic care without prerequisite medical referral.

Chapter 4
Planning and Developing the Job Analysis Survey

The NBCE Survey of Chiropractic Practice was originally designed for and administered to practitioners within the United States. At the request of the Australasian Council on Chiropractic Education (formerly the Australian Council on Chiropractic and Osteopathy) the survey was subsequently modified and administered to chiropractic practitioners throughout Australia and New Zealand.

This chapter addresses the process utilized in designing and producing the job analysis survey instrument first in the United States, and later in Australia and New Zealand. Typically, it is the survey instrument which forms the basis for a job analysis and allows a job to be dissected into component parts which reveal the nature of the profession and the tasks and functions performed by its practitioners.

Job Inventory

In performing a job analysis, one of the most frequently used methods for analyzing jobs is the job inventory approach. A job inventory is a "comprehensive list of the tasks that are performed to accomplish a job or set of jobs -- a list that is cast in the form of a questionnaire:"

> "The rationale underlying the job inventory approach is that it enables the surveyor to gather information about on-the-job activities actually performed by the job incumbents at different geographical locations; job tasks can be stated and listed in a questionnaire; as large a sample as is desired can be surveyed in order to obtain information about each task listed in the job inventory questionnaire; and accurate and reliable job descriptions can be developed by systematically and thoroughly analyzing the task data collected with a job inventory" (Gael 1987).

The job analysis requires that a list of separate and distinct job-related tasks be defined. Designing the list of tasks is one of the most critical elements in the job analysis process; the list ensures a complete and accurate description of the job.

Task Statements

According to Gael, three methods for compiling task statements and obtaining task data are suggested (and were incorporated into the NBCE survey): observation, content analysis, and interviews:

- **Observation** involves the observance of job incumbents performing their duties at work, and the reporting of these duties by job incumbents. Photographs or videotapes may be taken if needed. This technique is best employed when the job is composed of physically active tasks.
- **Content analysis** is the obtaining of data that have been written about the job, such as job descriptions, training materials, and company practices. This is an important information resource for understanding the academic and registration authorities' views of the job being analyzed.
- **Interviews** involve asking job incumbents, supervisors, managers, and others knowledgeable about the job pertinent questions regarding the actual work activities performed by the job incumbents (Gael 1987).

As previously stated in this report, testing guidelines indicate that registration and certification test plans should be based upon a job analysis documenting the characteristics of a profession as defined by the customary practices of its members. For examinations not used in the registration and certification process, other means of determining test content are appropriate. For example, NBCE examinations which are utilized to assess academic proficiency (Part I, Part II, Physiotherapy) utilize a Delphi study to determine content.

The United States job analysis was conducted 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 exam content.

Rating Scales

Rating scales, which are generally part of job analysis survey instruments, are important in the final analysis of the survey data:

> "Rating scales attempt to get appraisals on a common set of attributes for all raters and ratees and to have these expressed on a common quantitative scale ... Almost universally, a rating involves an evaluative summary of past or present experiences in which the 'internal computer' of the rater processes the input data in complex and unspecified ways to arrive at the final judgment... The most common pattern of rating procedure presents the rater with a set of trait

names, perhaps somewhat further defined, and a range of numbers, adjectives, or descriptions that are to represent levels or degrees of possession of the traits" (Thorndike and Hagen 1977).

As is frequently used in job analyses, five-point scales (with values ranging from zero to four) were utilized in the NBCE survey. Major issues addressed by a five-point scale 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 data with the accuracy of the scale on which the data are recorded. For example, practitioners were asked to recall the frequency with which they saw various types of conditions or the frequency with which they performed various activities. In both instances, the five-point scale approximately matched the accuracy of practitioners' recollections.
- increasing the likelihood of response by developing an instrument which could be completed within 30 to 40 minutes. The five-point scale 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 might have affected the return response rate.

The chiropractic practitioners who participated in the study were asked to utilize five-point scales to provide data about their patients, the types of conditions they typically saw in their practices, and the types of activities they commonly performed.

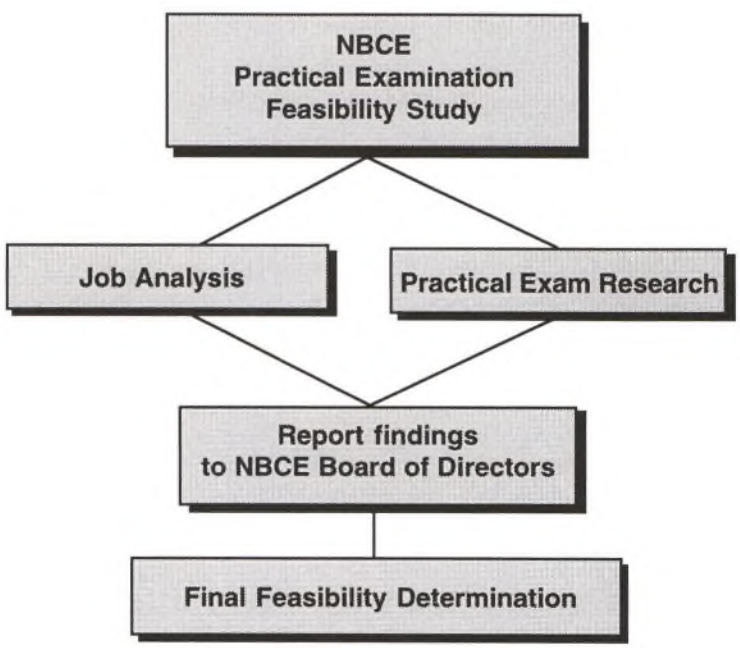

FIGURE 4.1
The NBCE Practical Examination Feasibility Study

The Practical Exam Feasibility Study

In 1989, the Federation of Chiropractic Licensing Boards (FCLB) in the United States issued a resolution requesting that the NBCE initiate a study to determine the feasibility of developing and administering a national segmented practical examination for chiropractic. A job analysis was an essential part of this feasibility study and possible development of such an examination.

As of this writing, the practical examination feasibility study is still in progress. As indicated in Figure 4.1, the job analysis study was one of several major components in various NBCE studies aimed at determining the feasibility of administering a national practical exam. Individual components of a job analysis are indicated in the next section of this report.

Components of a Job Analysis

The following is a list of procedures followed in conducting the NBCE job analysis:

- Form a **Job Analysis Steering Committee.**
- Form a **National Job Analysis Advisory Board.**
- **Review available literature** pertaining to a job analysis.
- Prepare and administer a **Practice Model Log**.
- Compile an **interim survey form**.
- Revise the interim survey form as indicated and prepare a **draft Survey of Chiropractic Practice**.
- Administer a **field test** of the job analysis survey form and revise as indicated.
- **Prepare** a final form of the Survey of Chiropractic Practice.
- **Print** the questionnaire booklets in a machine-scorable form.
- **Send** the survey forms for distribution to randomly selected practitioners.
- **Collect, machine score, and analyze** the survey **data**.
- **Publish a Job Analysis Report** of questionnaire findings under the guidance of the Steering Committee and Advisory Board.

Job Analysis Steering Committee

The first elements deemed critical to the success of a chiropractic job analysis were the participation and cooperation of experienced practitioners, educators, and examining board

members. To address this need, the Job Analysis Steering Committee was created to guide the project. The committee was composed of members of the Board of Directors of the National Board of Chiropractic Examiners (USA), with the President of the Federation of Chiropractic Licensing Boards (USA) as Committee Chairperson:

D. Brent Owens, DC, *Chairperson*
James J. Badge, DC
Frank G. Hideg, Jr., DC
Louis P. Latimer, DC
Titus Plomaritis, DC

The primary responsibilities of the NBCE Job Analysis Steering Committee were to ensure that:

1) 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;
2) the Survey of Chiropractic Practice adequately and fairly represented conditions seen, procedures utilized, and the activities and tasks performed by practicing chiropractors;
3) the randomly selected chiropractor would, by completing the questionnaire, be able to indicate
   -- the frequency with which presenting and concurrent conditions are seen in practice;
   -- the frequency and perceived risk associated with specific activities performed in practice;
   -- adjustive and non-adjustive techniques utilized in practice;
4) the data obtained from the questionnaire would provide demographic characteristics of practitioners and chiropractic patients, and also provide information concerning the work environment, experience, and orientation of practitioners;
5) the demographic data obtained from the survey could be used to study subgroups of respondents.

National Advisory Committee

In addition to forming a steering committee to oversee the entire job analysis project, the NBCE also created a National Advisory Committee encompassing the five regional NBCE districts. The Committee was composed of representatives from state examining boards, chiropractic educational institutions, and private practice. Committee members

included:

Arizona	Elva M. Gamino, DC, private practitioner
California	Alfred D. Traina, DC, Chairperson, Clinical Sciences Division, Los Angeles College of Chiropractic
Delaware	H. Bruce Carrick, DC, Past President, Delaware Board of Chiropractic Examiners
Florida	Theodore F. Durling, DC, Vice Chairman, Florida State Board of Chiropractic
Georgia	William N. Willis, DC, Professor/Division Chair, Chiropractic Sciences Division, Life College, School of Chiropractic
Illinois	Daniel R. Driscoll, DC, Dean of Student and Alumni Affairs, National College of Chiropractic
New Hampshire	Vincent E. Greco, DC, Secretary/Treasurer, New Hampshire Board of Chiropractic Examiners
New York	Ann M. Carpenter, DC, New York State Board of Chiropractic Examiners
Ohio	Peter D. Ferguson, DC, President, Ohio Board of Chiropractic Examiners; District 2 Director, Federation of Chiropractic Licensing Boards
Oregon	Ravid Raphael, DC, Staff Clinician/Associate Professor, Western States Chiropractic College
South Carolina	David H. Mruz, DC, Chairman, District 4 Representative, South Carolina State Board of Chiropractic Examiners
Wisconsin	Meredith H. Bakke, DC, Chairperson, Wisconsin Chiropractic Examining Board

These individuals were selected to reflect diverse viewpoints within the field, including representation by gender, ethnic/racial background, and geographic area. The primary responsibilities of the NBCE National Advisory Committee members were:

1) to ensure that checklists of conditions seen, activities performed, chiropractic techniques, supportive techniques, and demographic data were not biased in terms of gender, ethnicity, regional or state characteristics, or professional background;

2) to review checklists of conditions seen, activities performed, chiropractic techniques, supportive techniques, and demographic data to determine their relevancy to practice, and ensure that the vocabulary

and terminology were appropriate for practicing chiropractors throughout the United States;

3) to review, critique, and approve the report of survey results.

Review of Literature

Literature pertaining to the protocol of conducting a job analysis survey was reviewed. Additionally, literature pertaining to job analyses in chiropractic and other professions was considered in the preparation of the survey instrument and in the collection of the data. A list of literature reviewed can be found in the bibliography. Following the review of literature, the Practice Model Log was developed.

The Practice Model Log

The Practice Model Log was an instrument developed to be self-administered by a small number of practicing chiropractors in their private offices.

As the survey instrument was originally designed to be administered in the United States, American practitioners were asked to fill out a Practice Model Log sheet on each of ten consecutive patient visits. The data elicited on each patient visit included the patient's reason for seeking chiropractic care, the nature of the patient's condition, diagnostic and treatment procedures performed, and patient biographical data.

The data gathered from this study were used as an additional source of information about the profession as well as a basis for developing the interim survey form.

The Interim Survey Form

The interim survey form was developed by the NBCE and mailed to the American chiropractors who had participated in the Practice Model Log project. In addition, this survey was distributed to the members of the NBCE Part II Clinical Sciences Test Committees. (National Board Test Committees meet once each year to select items that will appear on NBCE examinations.) These practitioners were asked to fill out the survey form, and to provide written and oral critique of the instrument.

Based on the results of this investigation, the format and content of the preliminary instrument were revised and a draft Survey of Chiropractic Practice was developed.

The Draft Survey of Chiropractic Practice

After careful analysis of the results of the Practice Model Log project and critique of the preliminary survey instrument (the interim survey form), a draft Survey of Chiropractic Practice was prepared. At that time, a meeting was convened at the NBCE headquarters with representatives of the Steering Committee and the National Advisory Committee to review and revise the instrument for distribution in the United States.

One of the issues addressed during this meeting was whether presenting conditions for which the patient might be seeking chiropractic health care should be included with conditions that might be encountered by the chiropractic physician incidental to or in tandem with the presenting condition.

A major factor in the decision to include both presenting and concurrent conditions in the survey was that the chiropractor is a primary care provider in every state; patients may seek chiropractic consultation without a referral or diagnosis by another health care provider. It was noted that once the patient is presented for chiropractic health care, the chiropractor as primary care provider is responsible for:

- identifying the condition(s) that may appropriately be treated within the scope of practice in his/her state;
- making appropriate recommendations or referrals for conditions outside the scope of practice in his/her state.

Based on this and other relevant topics of discussion, a final draft was proposed, and the Survey of Chiropractic Practice was prepared for a field test.

The Field Test

A pilot or field test of the Survey of Chiropractic Practice was designed and administered in the United States to a sample of licensed practitioners of chiropractic to provide data that would be useful in determining the effectiveness of the questionnaire in gathering information on chiropractic practice.

The major points of interest in the field test (Appendix B) were:

-- relevancy of the survey to practice
-- appeal of the questionnaire to the chiropractors chosen to participate (e.g., would they complete and return the questionnaire to the NBCE?)
-- clarity of instructions
-- ease of filling out the questionnaire
-- consistency of the data received from practitioners participating in the field test with what was already known or hypothesized about the profession.

The field test also provided an opportunity for the NBCE to set up the internal organization necessary to produce, distribute, receive, and process completed questionnaires.

Thirty chiropractic practitioners in the United States were selected at random to participate in the field test. Each of the practitioners was notified that he or she would be receiving a Survey of Chiropractic Practice questionnaire, and that this was part of an important research project being conducted by the NBCE for the chiropractic profession.

These surveys were completed by practitioners with reference only to the written directions included with the survey. After the questionnaires were returned, telephone interviews were conducted with all participants to identify any problems they might have experienced in understanding and completing the checklists. Final revision of the United States survey document followed the field test.

The Survey of Chiropractic Practice

Based upon the information obtained from the field test, the Survey of Chiropractic Practice was prepared in the form of a questionnaire which could be self-administered by a large number of practicing chiropractors.

The first two questions on the United States survey asked the current mailing address of the practitioner and whether the practitioner would like a news release sent to a local newspaper indicating their participation in the survey. The survey text then asked the chiropractic practitioners to provide biographical data about themselves: place of birth, gender, level of education, specialty board certification or other specialty qualifications, and length and type of practice experience. The practitioners were also asked to assess their patients in reference to several demographic variables. These questions were included in order to gain a picture of the sample of chiropractors and of their patients, and to allow the comparison of data by various subgroups.

The Printing of the Questionnaire

The approved survey text was then integrated into the desired survey format (Appendix C). This took the form of a 16-page computer-scannable booklet on which doctors of chiropractic were asked to record their responses to survey questions. Aware that thousands of responses would need to be read and recorded accurately, the scannable form was prepared and printed in accordance with all applicable specifications.

to a floppy disk. The data were analyzed using the Statistical Package for the Social Sciences (SPSS). This elaborate set of programs was ideally suited to the computations necessary to the job analysis.

The Publication of the U.S. Job Analysis Report

A report of the survey results was prepared by representatives of the NBCE staff for review and editing by the Steering and Advisory Committees. Following their review, a *Job Analysis of Chiropractic in the United States* was published.

* * *

Conversion of the Survey for Australia and New Zealand

Following the administration of the Survey of Chiropractic Practice in the United States, officials of the Australasian Council for Chiropractic Education (ACCE) requested that the NBCE conduct a similar job analysis in Australia and New Zealand. The NBCE agreed to this request, and provided the necessary funds and personnel to conduct the study.

As in the United States, the Job Analysis of Chiropractic in Australia and New Zealand was viewed as a means of serving chiropractic by assisting the ACCE and the profession in defining the activities performed by chiropractors, and as a guide to understanding the unique skills and knowledge that chiropractors must possess to successfully perform chiropractic tasks safely and effectively. Through its focus on patient conditions and typical chiropractic activities, the survey data also provided a sound basis for the development and validation of the ACCE's clinically oriented examinations.

In revising the survey instrument to meet Australian/New Zealand needs, and in maintaining accuracy of terminology and relevancy of text, Professor Andries M. Kleynhans, D.C., Head, School of Chiropractic and Osteopathy at the Royal Melbourne Institute of Technology (RMIT University), James W. Stinear, D.C., Executive Director of the New Zealand Chiropractors' Association, and Stephen Bardsley, D.C., Executive Secretary of the ACCE were called upon to act as liaisons between the NBCE and their respective organizations. Following an evaluation of the survey instrument administered in the United States, these two individuals reviewed the survey and conveyed the desired revisions.

The original NBCE survey was then modified in accordance with the expressed needs. Reference to the respondent's mailing address and an optional press release were deleted. In their place, respondents were asked to indicate *what trends or developments during the next decade would be most beneficial and most detrimental to the chiropractic profession.* In addition, the *ethnic origin* of the practitioner and patient was changed to ask their *place of birth*, and alterations of a minor nature were made to more appropriately reflect the diversity of ethnic backgrounds applicable to Australia and New Zealand.

their place, respondents were asked to indicate *what trends or developments during the next decade would be most beneficial and most detrimental to the chiropractic profession.* In addition, the *ethnic origin* of the practitioner and patient was changed to ask their *place of birth*, and alterations of a minor nature were made to more appropriately reflect the diversity of ethnic backgrounds applicable to Australia and New Zealand.

Because the reliability and validity of the NBCE survey instrument were verified in the development and administration of the U.S. survey, additional reliability and validity studies were not undertaken in preparing the survey for administation in Australia and New Zealand.

A copy of the final survey as distributed to registered chiropractic practitioners throughout Australia and New Zealand appears in an Appendix of this report.

The Australia and New Zealand Job Analysis Report

A report of the Survey of Chiropractic Practice in Australia and New Zealand was prepared by the NBCE. In addition, a panel of representatives reviewed the material pertaining to education and state/territory registration and assessment requirements and made suggestions for modifications. Following their review, the *Job Analysis of Chiropractic in Australia and New Zealand* was published. The panel consisted of:

Jim Atkinson
Chiropractors Registration Board of Tasmania

Ahmad Didi
Chiropractors & Osteopaths Registration Board of Victoria

Colin D. Emmott
Chiropractic Board of Western Australia

Andries M. Kleynhans, D.C.
Royal Melbourne Institute of Technology

Wanda Lawler
Chiropractic Board of the Australian Capital Territory

Bernadette McKirdy
Chiropractors & Osteopaths Board of the Northern Territory

Richard Robinson
Chiropractors & Osteopaths Board of Queensland

James W. Stinear, D.C.
New Zealand Chiropractors' Association

Michael Walsh
New South Wales Chiropractors & Osteopaths Registration Board

Arcady Turczynowicz
Chiropractors' Association of Australia South Australia

Chapter 5
Administering the Job Analysis Survey in Australia and New Zealand

In preparing to administer the NBCE Survey of Chiropractic Practice, it was necessary to obtain lists of registered practitioners throughout Australia and New Zealand. Chiropractic officials in Australia and New Zealand sent the NBCE lists containing the names of members of the Chiropractors' Associations in Australia and New Zealand. The total number of registered chiropractors on the Australian list was 1281. The total number of registered chiropractors on the New Zealand list was 105.

Standard Error

Sample sizes were determined on a per-state/territory basis in Australia, and nationwide in New Zealand so that the accuracy of the inferences made from the data from each area would be approximately the same. This was accomplished by using the standard error equation, an abbreviation for the standard error of estimate, shown below:

$$SE=(SD/Nft^{1/2})\ (1-Nft/Stateft)^{1/2}$$

SE = **the standard error of estimate** is the standard deviation divided by the square root of the sample size and adjusted for sampling from a finite population. (With a goal of achieving a 5.0% standard error per state/territory, the standard error for the nation would be approximately 1.8%.)

SD = **the standard deviation** is a measure of variability, spread, or dispersion of a set of scores around their mean value. For questions reported as a percent, the maximum SD is 50, which was used in determining sample sizes for each state/territory in Australia, and nationwide in New Zealand.

Nft = the number of full-time chiropractors returning surveys

1/2 = the square root

Stateft = the estimated number of full-time chiropractors (Association members) in each state/territory in Australia or nationwide in New Zealand

$(1\text{-Nft/Provft})^{½}$ = the square root of the finite population correction term

It was estimated that a 50% survey return rate would be obtained. Thus, to achieve the goal of a 5% standard error per state/territory, the sample size for each state/territory (determined by applying the above formula) was doubled to ascertain the actual number of job analysis survey booklets to be mailed.

In some areas, the actual number of registered chiropractors (Association members) was less than the number required to have a 5% standard error. In those areas, surveys were mailed to all registered chiropractors on the lists provided to NBCE to reduce the standard error as much as possible.

Selection Process

The selection of chiropractors to participate in the study was made on a state/territory basis in Australia, and nationwide basis in New Zealand. As stated, in areas having relatively few registered chiropractors, every chiropractor on the list was requested to participate in the study. In areas with large numbers of registered chiropractors, a sequential selection process was utilized. The actual sequence depended on the population of chiropractors and the predetermined sample size to be selected from that population.

For example, in New South Wales, the total number of chiropractors on the list that was provided by the Chiropractors Association of Australia was 440. Given the desired sample size of 209, the number of registered chiropractors to be sent surveys was approximately one out of every two. To select the chiropractors to whom surveys would be mailed, the first individual was chosen at random; every other individual thereafter was also selected.

Utilizing procedures appropriate to selecting the correct number of participants from each area (as described above), 843 were chosen from the state/territory lists of Australia, and all 105 registered chiropractors were chosen from New Zealand.

Pre-Notification

Pre-notification was considered to be an important step in the administration of the questionnaire. Previous studies on survey techniques have shown that survey response rates are highest when those selected for participation:

- perceive the research to be of value

- are informed that the research is to be conducted by one or more recognized and respected organizations
- receive preliminary notification and request for participation.

Higher response rates reduce the potential for bias in the inferences made from survey data. Previous studies also suggest that preliminary communication with selected participants results in an earlier return of completed surveys.

With the survey, a preliminary survey letter was deemed the most cost-effective method of preliminary notification. The pre-survey letter (Appendix A) was sent to all who were selected. The letter informed those selected of the upcoming survey, emphasized the importance of their participation in a significant study of chiropractic practice in Australia and New Zealand, and noted an approximate date they could expect to receive the survey form.

Survey Distribution and Tracking

Within two weeks of distributing pre-survey letters which informed individuals of their selection to participate in the survey, selectees were sent a cover letter (Appendix B) and a survey (Appendix C). The cover letter again stressed to the individual that the results of the survey would be used to prepare a comprehensive report describing the chiropractic profession and documenting future examination needs. It was also reemphasized that participation in the survey would be critical to the success of the study. Selectees were asked to return the completed survey to a central location in Australia within two weeks of receipt. For tracking purposes, each survey was numbered.

Increasing the Rate of Response

As previously stated, one of the biggest challenges in administering surveys of this proportion is gaining cooperation from the selectees. In addition to conveying the importance of the study and of the individual's input, several steps were taken to ensure a high response rate.

Recognizing that a significant block of time would be required for completion of the survey without benefit of monetary compensation, several steps were taken to keep the text as succinct yet thorough as possible. The final version of the survey was designed to require approximately 30 or 40 minutes to complete. To further facilitate questionnaire completion, a No. 2 pencil and a stamped, self-addressed envelope were supplied with each survey packet.

The NBCE offered participants the opportunity to have their names included in the final report. Only the names of individuals who affirmatively indicated they wanted their names listed are included in the appendix.

Identifying Active Full-time Practitioners

Survey data were captured on a hard drive for analysis by computer. It was then necessary to identify those chiropractors engaged in active, full-time chiropractic practice, since this group was considered to be most appropriate for this study. Moreover, since the lists of licensed chiropractors did not provide this information, it was a question on the first page of the survey.

Survey question #4 asked participants if they were currently in full-time chiropractic practice. The survey did not specify any hourly requirements that defined full-time practice. Instead, it was left to the individual practitioner as to whether their practice should be considered full-time. Only those surveys on which respondents indicated that they were practicing full-time were included in subsequent analyses and final data computations.

Individuals who considered their practices to be part-time were instructed not to answer any further questions, but to return the questionnaire in the postage-paid envelope.

Reliability of Results

The initial survey data obtained in the United States was determined to be reliable. The following procedure describes the steps taken in assessing the reliability of the survey data gathered in the United States.

Reliability refers to the extent to which test scores, survey results, or the data obtained from other measurements are accurate. "It concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials" (Carmines and Zeller 1987).

The score a person obtains on an examination or the response a person gives to survey stimuli may or may not be an accurate representation of that individuals typical behavior or response. To determine how accurate results are, it is important to administer the test, survey, or other measurement device on more than one occasion. "The more consistent the results given by repeated measurements, the higher the reliability of the measuring procedure" (Carmines and Zeller 1987).

To assess the reliability of the United States' survey data, a second questionnaire was sent to randomly selected chiropractors in each state. This second questionnaire, a scrambled version of the first ("Types of Conditions" and "Activities Performed" were put in reverse

order; other information remained in the same order as the original survey), was utilized to determine how consistently individuals would respond to the same questions after a period of time had elapsed (two to four weeks), and to determine how consistent responses were to the same questions when those questions appeared in a different order. The second questionnaire also served to support the reliability and validity of the original survey results:

> "Evidence that a job inventory possesses sufficient reliability that is, provides trustworthy information - usually is obtained by studying the degree of agreement between at least two different views of the same inventory content. If a job inventory is administered twice within a short time period to the same sample, the results obtained should be essentially the same for both administrations" (Gael 1987).

To encourage completion of the second questionnaire, the chosen representatives received a phone call thanking them for their initial participation in the survey and asking them to complete the second questionnaire. (40 of the 50 who received a second survey returned their completed surveys.)

Once the second questionnaire was completed and returned to the NBCE, correlation coefficients and "*t-tests*" were calculated in order to compare the original responses with the repeat responses on the 45 activities and 108 conditions presented in the survey. (A *t-test* is used to determine whether two arithmetic averages differ significantly from each other.)

In the case of the NBCE job analysis survey, the t-test was used to determine whether the means obtained from a second administration of the same survey (the scrambled form) were the same as the means obtained from the initial administration (the unscrambled version). There were no significant differences ($p > .05$) in the responses to the 45 activities or the 108 conditions presented in the two surveys. Additionally, correlation coefficients of 0.97 and 0.99, respectively, were obtained between pairs of responses to the 45 activities and the 108 conditions.

Validity

Validity as it pertains to examinations, survey instruments, or other measurement tools, refers to the appropriateness, meaningfulness, and usefulness of inferences about results (APA 1985).

Two separate and distinct validity issues are the concern of this report. The first issue pertains to the validity of the survey data; the second concerns use of survey data to establish the content validity of a national competency exam. Each of these validity issues will be discussed.

Evidence that survey data are an accurate reflection of chiropractors, chiropractic patients, and the practice of chiropractic in Australia and New Zealand is based on the procedures followed in the development of the survey form. Additional evidence of the validity of survey data is the similarity between various survey findings and other published

reports addressing the same information. Finally, demonstrated reliability of job analysis findings is accepted as evidence of survey validity.

> "Because of the difficulty associated with establishing job inventory validity, validity is often assumed if the inventory data are reliable. While reliability is not a substitute for validity, high agreement between respondents is an indication that the job inventory data are valid" (Gael 1987).

Survey Response Results

Of the 843 surveys sent to Australian practitioners and the105 surveys sent to New Zealand practitioners, 547 from Australia and 79 from New Zealand were returned to the National Board. From the information annotated on returned surveys and on pre-survey letters, the following information was obtained concerning the 843 Australian and 105 New Zealand selectees: in Australia, 469 were in full-time practice; in New Zealand, 70 were in full-time practice and returned the completed survey (survey results were based upon the responses from these individuals in full-time practice); 78 were in part-time practice in Australia and 9 were in part-time practice in New Zealand.

Thus, of the 843 Australian selectees, 547 (65.1%) were accounted for, and of the 105 New Zealand selectees 79 (75.2%) were accounted for. Consideration was given to obtaining responses from the Australian 34.9% and the New Zealand 24.8% not accounted for; however, since these individuals had been sent pre-survey letters and surveys, it was considered too expensive and too time-consuming to further attempt to obtain responses.

The Weighting Factor

Of particular interest is the *weighting* given to each response. For example, in the state of Victoria, there were an estimated 302 full-time registered chiropractors (Association members). Of those 302, 123 chiropractors completed and returned the survey. The weight given to Victoria is 2.5* because 302 divided by 123 equals 2.5, the estimated total number of full-time chiropractors. The weighting factor was necessary in order to have the combined (individual states/territories) data represent the national population. (Except where noted, all of the information in this document pertaining to Australia was weighted; New Zealand data were not weighted.)

Page 49 contains tabulated information detailing the survey responses. This table of

* To save space, values in the table include only one decimal place. In actuality, all values were computed to several decimal places.

figures represents the number of surveys mailed to states/territories based upon original mailing addresses.

The following abbreviations were used in the table:

Norig = Number of chiropractors listed on the **original list** provided to the NBCE.

Nmail = Number of surveys **mailed**

Npt = Number of **part-time** chiropractors returning surveys

Nret = Number of **retired** chiropractors returning surveys

Nft = Number of **full-time** chiropractors(Association members) returning surveys

Stateft[1] = Estimated number of **full-time** chiropractors in each state/territory **Stateft = Nft/ (Npt + Nret + Nft) *Norig**

wt = **Weight** (or emphasis) given to each survey within a state/territory when computing national summary statistics: **(wt = Stateft / Nft)**

%ft = Nft as **percent** of Stateft **(%ft = Nft / Stateft *100)**

%iden[2] = **[(Npt + Nret + Nft) / Nmail] *100**

SE = **The standard error of estimate** is the standard deviation divided by the square root of the sample size and adjusted for sampling from a finite population. With a goal of achieving a 5.0% standard error per state/territory,the standard error for the nation would be approxi - mately 1.8%. (This was calculated for percentage responses where the maximum standard deviation would be 50.)

$$SE=(SD/Nft^{½}) (1-Nft/Stateft)^{½}$$

SD = **The standard deviation of responses to a survey question.** For questions reported in the study as a percent, the maximum SD is 50; for questions reported on a 0-4 scale (Conditions, Frequency, Risk) the

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[1] This is likely an over-estimate of the number of full-time practitioners since it is probable that a high proportion of the survey forms and other correspondence sent to part-time and retired chiropractors was not returned.

[2] As indicated in the formula for calculating this percentage, this includes any type of response in which the status of the selected individual was identified.

* Denotes multiplication

maximum SD is 1.3; for questions reported on a 0-16 scale (Importance) the maximum SD is 5.5; for the question where the response could range from 0-20 (Number of adjustive techniques utilized) the SD is 2.8 for the number of techniques utilized; for the question where responses could range from 0-25 (Number of non-adjustive techniques utilized) the SD is 4.4 for the number of techniques utilized.

$(1\text{-Nft/Stateft})^{1/2}$ = The square root of the finite population correction term

The table below indicates information on a state/territory basis regarding survey respondents. Please note that a more complete and accurate explanation of category headings and data precedes this table. *

Australian States/Territories	Norig	Nmail	Npt	Nret	Nft	Stateft	wt	%ft	%iden	SE
Australian Capital Territory	21	21	1	0	13	20	1.5	65	67	8.0
New South Wales	440	209	24	0	113	363	3.2	31	66	3.9
Northern Territory	8	8	0	0	5	8	1.6	63	63	13.7
Queensland	177	155	10	0	87	159	1.8	55	63	3.6
South Australia	178	155	15	0	74	148	2.0	50	57	4.0
Tasmania	12	12	1	0	10	11	1.1	91	92	4.6
Victoria	361	199	24	0	123	302	2.5	41	74	3.5
West Australia	84	84	3	0	44	79	1.8	56	56	5.0
Australian National Total	+1281	843	78	0	469	++1093	N/A	43	65	1.8
New Zealand National Total	+105	105	9	0	70	++93	1.3	75	75	3.0

Chiropractors on original list provided by association for indicated state/territory | Total number of registered chiropractors | Surveys mailed | Part-time** | Retired | Full-time respondents | Estimated full-time in each state/terr. | Weight given a state/terr. | Nft as % of Stateft | Number identified as % of Nmailed | Estimated maximum standard error

* To save space, values in the table include only one decimal place. In actuality, all values were computed to several decimal places; as such ,some values in the table cannot be represented exactly due to the fact that the table has a maximum of one decimal place.

** These individuals received and returned uncompleted surveys due to their non-qualifying status, ie. not in full-time chiropractic practice.

\+ This study was based on 1281 members of the Chiropractors' Association of Australia, and 105 members of the Chiropractors' Association of New Zealand in 1992.

++ These are estimates of chiropractors in full-time practice who are also members of the Chiropractors' Association's in Australia and New Zealand.

TABLE 5.1
Sample and Response Data for Australian States and Territories, and for the country of New Zealand

Chapter 6
Overview of Survey Response Data

For ease of reference, a summary of the Australian survey response data appears in this chapter. Addressed in capsulized form are the chiropractic practitioner, the patient, the patients' conditions, and activities or treatments typically performed. *

The "Typical" Chiropractor

The NBCE job analysis survey generally depicts the typical chiropractor as an Australian-born male (Table 6.1). The practitioner receives referrals from and makes referrals to medical physicians.

The typical chiropractor does not have post-graduate certification or specialty training, is the only doctor in the office, and practices in one location. On occasion, chiropractic care is delivered outside the office setting, which may include the patient's home.

The characteristic chiropractor has been practicing in the same location for an entire career which has spanned five to 15 years or longer. Weekly practice consists of 38.7 hours with the majority of time spent on direct patient care, followed by time spent on patient education, and business management.

Australian Practitioner/Respondent Demographic Summary*

GENDER

Male	89.6%	Female	10.4%

PLACE OF BIRTH

Australia	72.3%	New Zealand	6.0%
Britain	3.7%	North America	7.1%
Canada	1.4%	Vietnam	0.3%
China	0.9%	Other	3.8%
Europe	4.5%		

Highest Level of NON-CHIROPRACTIC EDUCATION

High School Diploma	59.7%	Associate Degree	8.4%
Baccalaureate Degree	18.7%	Master's Degree	1.2%
Other	11.5%	Doctoral Degree	.5%

****SPECIALTY BOARD CERTIFICATION**

None/Does not apply	94.5%
Other	4.5%
ICA Council on Applied Chiropractic Sciences	0.5%
American Board of Chiropractic Orthopedists	0.2%
American Chiropractic Academy of Neurology	0.2%
American Chiropractic Board of Radiology	0.2%
ICA College on Chiropractic Imaging	0.2%
American Chiropractic Board of Sports	0.0%
PhysiciansChiropractic Rehabilitation Association	0.0%
American Chiropractic Board of Nutrition	0.0%
American Board of Chiropractic Internists	0.0%
ICA College of Thermography	0.0%

INSTITUTION GRANTING DEGREE

Royal Melbourne	41.3%	Sherman	0.7%
Sydney	24.6%	Life	0.6%
Palmer	17.0%	Northwestern	0.5%
Other	8.0%	New York	0.3%
Canadian Memorial	2.7%	Cleveland-Los Angeles	0.2%
Anglo-European	1.1%	Western States	0.2%
Cleveland-Kansas City	0.8%	Parker	0.2%
Los Angeles	0.8%	Logan	0.2%

* See Appendix for complete listings

**These numbers add up to more than 100% because some practitioners have more than one specialty.

TABLE 6.1

* Except when otherwise indicated, data in this chapter are weighted as explained in chapter 5.

The "Typical" Patient

A typical patient may be profiled as a female of European descent between 31 and 50 years of age.

Overall, patients cover a wide range of occupations, with no occupational group having a majority. According to survey responses, chiropractic patients seen most frequently were from the following occupational groups: tradesmen/skilled laborer, homemaker, and white collar/secretarial (Table 6.2).

Summary of Reported Australian Patient Demographics*

GENDER			
Male	44.8%	Female	55.2%
AGE			
17 or younger	13.8%	51 to 64	19.8%
18 to 30	21.3%	65 or older	13.7%
31 to 50	31.5%		
ETHNIC ORIGIN			
Aboriginal	5.3%	Italian	14.1%
Chinese	8.8%	United Kingdom	19.1%
European	28.8%	Vietnamese	3.1%
Greek	11.7%	Other	6.2%
Indonesian	3.0%		
OCCUPATION			
Tradesman/Skilled Labor			15.6%
Homemaker			15.4%
White collar/Secretarial			14.3%
Executive/Professional			12.4%
Unskilled Labor			11.3%
Retired or other			11.0%
Student			10.0%
Professional/Amateur athlete			10.0%

TABLE 6.2

Conditions

On a daily basis, the typical chiropractic practitioner will routinely see patients who present with complaints of back pain and neck pain. The conditions that are most frequently treated are spinal subluxations/joint dysfunctions, osteoarthritis/degenerative joint disease, and headaches.

In a typical week, a doctor of chiropractic is also likely to see patients who present with a variety of musculoskeletal and neurological conditions. Conditions often seen, in decreasing order of frequency, are: extremity subluxation/joint dysfunction, muscular strain/tear, peripheral neuritis or neuralgia, and vertebral facet syndrome.

Miscellaneous disorders which are often diagnosed through patient history and examination include high or low blood pressure, tendinitis/tenosynovitis, scoliosis, abnormal anterior-to-posterior spinal curves, allergies, various respiratory disorders, and many other conditions such as those listed on page 73.

Diagnosis and Case Management

In assessing new patients and their conditions, chiropractic practitioners routinely take case histories; perform physical and neuromusculoskeletal exams; and arrive at a diagnosis or clinical impression on the basis of history and examination findings. The practitioner will sometimes take X-rays on a new patient.

As the patient's condition changes, or as the patient presents with a new condition, the

* See page 70 for explanation of percentages.

case history is routinely updated, the case management is revised, and the patient is encouraged to make appropriate lifestyle changes.

The typical Australian chiropractor utilizes 6.6 chiropractic adjustive techniques. The most frequently utilized technique is Diversified. Chiropractors utilize an average of 9.7 non-adjustive techniques (including making various recommendations) that are supportive to the chiropractic adjustment.

Corrective or therapeutic exercise was recommended by 95.9% of the practitioners during the past two years, while approximately two-thirds or more of the practitioners utilized or recommended the following: Ice Pack/Cryotherapy (85.9%), Nutritional Counseling, etc.(84.2%), Massage Therapy (77.6%), Bedrest (73.4%), and bracing with lumbar support, cervical collar (69.3%), and Orthotics/Lifts (67.7%). Over 50% recommended casting or athletic taping/strapping (58.8%), hot packs/moist heat (57.2%), and acupressure (57.1%).

Summary of Routine Chiropractic Activities

The overview of chiropractic practice suggested by the data is that a chiropractor takes case histories supported by physical examination, neuromusculoskeletal examination, and radiographic examination to make a diagnosis or clinical impression and to determine the appropriateness of chiropractic care for the individual patient.

In general, the practitioners felt that lack of appropriate performance in these categories when indicated may present risk to the patient. These doctors also routinely used, among other things, chiropractic examination and adjustive/manipulative techniques, they frequently used supportive procedures in treating their patients.

Chiropractors used case management activities such as encouraging patients to make appropriate changes in habits or lifestyle, and modifying intervention strategies as the patient's condition changed. They frequently discussed alternative courses of action with patients and recommended or arranged for referral to other health professionals when necessary.

Summary of Respondent Comments

Question 1: Beneficial Trends

The first question on the survey asked the respondent "What trends or developments during the next decade would be most **beneficial** to the chiropractic profession?" A total of 501 chiropractors responded to this question. Each responding chiropractor provided one or more trends.

Nationwide, the most frequently reported trends/developments that chiropractors felt would be most beneficial to their profession included:

--- increasing chiropractic research into the efficacy/cost effectiveness of chiropractic treatment (28% of respondents)

-- securing full health coverage for chiropractic services in medicare, workers' compensation and other public/private health plans (30% of respondents)
-- obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors (17% of respondents)
-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic care (25% of respondents)
-- improving interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (17% of respondents)

For other issues mentioned by respondents, refer to Table 6.3.

Question 2: Detrimental Trends

The second question on the survey asked the respondent "What trends or developments during the next decade would be most **detrimental** to the chiropractic profession?" A total of 481 chiropractors responded to this question. Each chiropractor provided one or more trends. Nationwide, the most frequently reported trends/developments that the chiropractors felt would be most detrimental to their profession included:

-- continuing the trend to over-utilize chiropractic services; adopting practice management seminar techniques in place of sound clinical practice procedures (13% of respondents)
-- training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors (15% of respondents)
-- losing governmental recognition/support for chiropractic; failure to achieve inclusion in public/private health care plans (8% of respondents)
-- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (15% of respondents)
-- decreasing unity within the chiropractic profession; factionalism and infighting among chiropractors(12% of respondents)

For other issues mentioned by respondents, refer to Table 6.4.

Respondent Comments by State/Territory

Victoria

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in Victoria were:

-- increasing chiropractic research into the efficacy/cost-effectiveness of chiropractic treatment (29% of respondents)
-- securing full health coverage for chiropractic services in medicare, workers'

What trends or developments during the next decade would be most BENEFICIAL to the chiropractic profession?

1. Increasing chiropractic research into the efficacy/cost effectiveness of chiropractic treatment. (28%)
2. Securing full health coverage for chiropractic services in medicare, workers' comp and other public/private health plans. (30%)
3. Increasing emphasis on the total health care/preventive health care benefits of chiropractic treatment. (2%)
4. Maintaining continuing education and professional skills maintenance/post graduate programs for chiropractors. (2%)
5. Obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors. (17%)
6. Establishing standards of care/practice guidelines for chiropractic. (4%)
7. Developing an effective public relations/education program to increase public awareness of the benefits of chiropractic care. (25%)
8. Establishing the chiropractic profession as the primary/most effective or sole provider of adjustive/manipulative care. (4%)
9. Re-establishing traditional chiropractic philosophy as the basis for chiropractic practice. (2%)
10. Merging the chiropractic profession with the physiotherapy profession. (0%-Indicated by only one respondent)
11. Increasing the emphasis on the holistic approach to patient care; additional emphasis on nutrition, herbology, and other holistic treatment approaches. (2%)
12. Improving interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients. (17%)
13. Establishing uniform educational standards/requirements for chiropractors; increasing educational standards/requirements. (5%)
14. Increasing emphasis on the human side of doctor/patient relationship. (1%)
15. Achieving unity within the chiropractic profession. (5%)
16. Providing information/education to other health providers concerning the benefits and nature of chiropractic practice. (2%)
17. Establishing uniform standards/federal standards for registration of chiropractors. (1%)
18. Proving the efficacy/benefits of chiropractic treatment for visceral disorders. (2%)
19. Expanding the scope of chiropractic practice; include limited prescriptive rights in the scope of practice. (1%)
20. Establishing interdisciplinary/group practices with other health care providers. (1%)
21. Increasing political action to secure favorable legislation for chiropractic. (4%)
22. Increasing ethical standards for chiropractors. (0%-Indicated by only one respondent)
23. Developing new chiropractic technology/instrumentation. (1%)
24. Limiting the number of students admitted to chiropractic colleges. (1%)

Response No.	Victoria	New S. Wales	Queensland	Northern Territory	Western Australia	Australian Territory	South Australia	Tasmania
1	29	32	18	0	36	9	32	11
2	29	26	38	0	38	27	22	22
3	1	2	3	0	2	18	1	0
4	4	1	1	0	0	9	5	0
5	20	20	14	0	18	18	13	11
6	4	4	2	0	4	9	4	0
7	22	18	34	25	33	27	29	22
8	6	2	8	0	2	0	0	11
9	2	4	0	25	2	0	3	0
10	0	1	0	0	0	0	0	0
11	1	2	0	0	0	0	6	0
12	17	19	19	25	11	9	15	0
13	2	5	7	0	4	0	8	11
14	0	2	2	0	0	0	3	0
15	4	3	5	25	4	0	8	11
16	2	3	1	0	0	0	3	0
17	1	1	1	0	4	0	1	0
18	3	3	1	0	0	0	3	0
19	1	2	1	0	2	0	0	0
20	0	1	1	0	0	0	1	0
21	4	2	7	0	4	0	3	0
22	0	0	0	0	0	0	1	0
23	1	0	0	0	4	0	0	0
24	3	0	0	0	0	0	0	0

Percent of responses by state/territory

TABLE 6.3

QUESTION 2: DETRIMENTAL TRENDS

What trends or developments during the next decade would be most DETRIMENTAL to the chiropractic profession?

RESPONSES (Percent of responses nationwide appears after comment)

1. Continuing the trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practice procedures. (13%)
2. Continuing use of treatment techniques ofquestionable/ unproven clinical value. (2%)
3. Training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors. (15%)
4. Losing governmental recognition/support for chiropractic; failure to achieve inclusion in public/private health care plans. (8%)
5. Including chiropractic in medicare/public funded health plans; allowing government/ bureaucratic determination of scope of chiropractic practice. (7%)
6. Losing radiological examination procedures from chiropractic scope of practice. (4%)
7. Failing to aggressively promote chiropractic to the public. (3%)
8. Allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession. (15%)
9. Continuing trend of unethical advertising in the yellow pages and in other media. (2%)
10. Excluding chiropractic from the mainstream of healthcare providers, increasing alienation from medicine and other health professions. (4%)
11. Decreasing unity within chiropractic profession; factionalism and infighting among chiropractors. (12%)
12. Failing to take positive action to improve/advance the profession; failure of chiropractic leadership to provide direction for profession. (3%)
13. Allowing profession to become narrowly focused on "straight" philosophy. (3%)
14. Losing status as primary contact/ portal of entry providers. (5%)
15. Losing political initiative; increasing anti-chiropractic legislation. (5%)
16. Failing to pursue research; failing to prove efficacy/cost- effectiveness of chiropractic care. (5%)
17. Failing to define scope of practice; failing to develop practice standards or standards of care. (1%)
18. Losing university status for chiropractic colleges. (0%- Indicated by only one respondent)
19. Narrowing the scope of chiropractic practice; becoming back doctors. (9%)
20. Losing control of registration for chiropractors/chiropractic educational institutions. (3%)
21. Reducing education requirements for chiropractors; poor education of chiropractic students. (2%)
22. Failing to maintain continuing education requirements for chiropractors; failing to provide post graduate educational opportunities for chiropractors. (1%)
23. Abandoning chiropractic philosophy as the basis for chiropractic practice. (4%)
24. Expanding the scope of chiropractic practice; inclusion of prescription (drug) service, manipulation under anesthesia, etc. to the scope of practice. (5%)

Response No.	Victoria	New South Wales	Queensland	Northern Territory	Western Australia	Australian Territory	South Australia	Tasmania
1	11	18	9	25	8	22	18	0
2	1	1	0	0	0	11	5	0
3	9	15	24	0	18	11	15	20
4	13	6	7	0	10	11	3	20
5	6	11	7	0	0	11	4	0
6	3	6	3	0	3	11	4	10
7	1	2	2	0	6	22	4	0
8	15	6	20	25	33	11	12	20
9	3	0	1	0	0	11	5	10
10	4	2	11	0	0	0	3	0
11	16	15	9	0	6	0	8	0
12	2	2	2	0	8	0	5	0
13	4	3	2	0	0	0	4	10
14	6	5	3	0	3	0	5	10
15	6	8	2	0	10	0	0	0
16	5	4	5	25	8	0	4	30
17	0	1	0	0	0	0	4	0
18	0	0	0	0	0	0	0	0
19	11	9	8	0	10	0	9	0
20	3	2	6	0	3	0	1	20
21	1	3	1	0	6	0	1	10
22	0	1	0	0	3	0	1	0
23	5	3	1	0	13	0	7	0
24	10	2	0	25	10	0	5	0

Percent of responses by state/territory

TABLE 6.4

compensation and other public/private health plans (29% of respondents)
- -- obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors (20% of respondents)
- -- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic treatment (22% of respondents)
- -- improving the interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (17% of respondents)

For other issues mentioned by respondents from Victoria, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in Victoria were:

- -- continuing the trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practice procedures (11% of respondents)
- -- losing governmental recognition/support for chiropractic; failure to achieve inclusion in public/private health care plans (13% of respondents)
- -- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (15% of respondents)
- -- narrowing the scope of chiropractic practice; becoming "back doctors" (11% of respondents)
- -- expanding scope of practice to include prescriptive (drug) service, manipulation under anesthesia, etc. (10% of respondents)

For other issues mentioned by respondents from Victoria, refer to Table 6.4.

New South Wales

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in New South Wales were:

- -- increasing chiropractic research into the efficacy/cost effectiveness of chiropractic treatment (32% of respondents)
- -- securing full health coverage for chiropractic services in medicare, workers' compensation and other public/private health plans (26% of respondents)
- -- obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors (20% of respondents)
- -- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic treatment (18% of respondents)
- -- improving the interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (19% of respondents)

For other issues mentioned by respondents from New South Wales, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in New South Wales were:

-- continuing the trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practices (18% of respondents)
-- training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors (15% of respondents)
-- including chiropractic in medicare or other public-funded health care plans; allowing government/bureaucratic determination of chiropractic scope of practice (11% of respondents)
-- decreasing unity within the chiropractic profession; factionalism and infighting among chiropractors (15% of respondents)

For other issues mentioned by respondents from New South Wales, refer to Table 6.4.

Queensland

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in Queensland were:

-- increasing chiropractic research into the efficacy/cost-effectiveness of chiropractic treatment (18% of respondents)
-- securing full health coverage for chiropractic services in medicare, workers' compensation and other public/private health plans (38% of respondents)
-- obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors (14% of respondents)
-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic treatment (34% of respondents)
-- improving interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (19% of respondents)

For other issues mentioned by respondents from Queensland, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the respondents from Queensland were:

-- continuing trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound practice procedures (9% of respondents)
-- training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors (24% of respondents)
-- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (20% of respondents)

-- excluding chiropractic from the mainstream of health care providers; increasing alienation from medicine and other health professions (11% of respondents)
-- decreasing unity within the chiropractic profession; factionalism and infighting among chiropractors (9% of respondents)

For other issues mentioned by respondents from Queensland, refer to Table 6.4.

Northern Territory

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in the Northern Territory were:

-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic care (25% of respondents)
-- re-establish traditional chiropractic philosophy as the basis for chiropractic practice (25% of respondents)
-- improving the interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (25% of respondents)
-- achieving unity within the chiropractic profession (25% of respondents)

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in the Northern Territory were:

-- continuing the trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practices (25% of respondents)
-- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (25% of respondents)
-- failing to pursue research; failing to prove the efficacy/cost-effectiveness of chiropractic care (25% of respondents)
-- expanding the scope of practice to include prescription (drug) service, manipulation under anesthesia, etc. (25% of respondents)

NOTE: Four chiropractors from the Northern Territory provided responses for questions 1 and 2.

Western Australia

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in Western Australia were:

-- increasing chiropractic research into the efficacy/cost-effectiveness of chiropractic treatment (36% of respondents)
-- securing full health coverage for chiropractic services in medicare, workers' compensation and other public/private health plans (38% of respondents)
-- obtaining hospital privileges/access to hospital laboratories, imaging facilities

and referral rights for chiropractors (18% of respondents)

-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic treatment (33% of respondents)
-- improving the interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (11% of respondents)

For other issues mentioned by respondents from Western Australia, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in Western Australia were:

-- training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors (18% of respondents)
-- losing governmental recognition/support for chiropractic; failing to achieve inclusion in public/private health care plans (10% of respondents)
-- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (33% of respondents)
-- losing political initiative; increasing anti-chiropractic legislation (10% of respondents)
-- narrowing scope of chiropractic practice; becoming "back doctors" (10% of respondents)
-- abandoning chiropractic philosophy as the basis for chiropractic practice; incorporating other holistic practices into chiropractic (13% of respondents)
-- expanding scope of practice to include prescriptive (drug) service, manipulation under anesthesia, etc. (10% of respondents)

For other issues mentioned by respondents, refer to Table 6.4.

South Australia

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in South Australia were:

-- increasing chiropractic research into the efficacy/cost-effectiveness of chiropractic treatment (32% of respondents)
-- securing full health coverage for chiropractic services in medicare, workers' compensation and other public/private health plans (22% of respondents)
-- obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors (13% of respondents)
-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic care (29% of respondents)
-- improving interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients (15% of respondents)

For other issues mentioned by respondents from South Australia, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in South Australia were:

-- continuing the trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practice procedures (18% of respondents)
-- training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors (15% of respondents)
-- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (12% of respondents)
-- narrowing the scope of chiropractic practice; becoming "back doctors" (9% of respondents)

Australian Territory

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in the Australian Territory were:

-- securing full health coverage for chiropractic services in medicare, workers' compensation and other public/private health plans (27% of respondents)
-- increasing emphasis on the total health care/preventive health care benefits of chiropractic treatment (18% of respondents)
-- obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors (18% of respondents)
-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic care (27% of respondents)

For other issues mentioned by respondents from the Australian Territory, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in the Australian Territory were:

-- continuing the trend to over-utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practice procedures (22% of respondents)
-- failing to aggressively promote chiropractic to the public (22% of respondents)

For other issues mentioned by respondents from the Australian Territory, refer to Table 6.4a-b.

Tasmania

The most important **beneficial** trends/developments as indicated by the responses from chiropractors in Tasmania were:

-- securing full health coverage for chiropractic services in medicare, workers'

compensation and other public/private health plans (22% of respondents)

-- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic care (22% of respondents)

For other issues mentioned by respondents from Tasmania, refer to Table 6.3.

The most important **detrimental** trends/developments as indicated by the responses from chiropractors in Tasmania were:

-- training non-chiropractic health care providers in adjustive/manipulative skills; use of manipulation by non-chiropractors (20% of respondents)

-- losing governmental recognition/support for chiropractic; failure to achieve inclusion in public/private health care plans (20% of respondents)

-- allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (20% of respondents)

-- failing to pursue research; failing to prove the efficacy/cost effectiveness of chiropractic care (30% of respondents)

-- losing control of registration for chiropractors/chiropractic educational institutions (20% of respondents)

For other issues mentioned by respondents from Tasmania, refer to Table 6.4.

Activities: Write-in Section (Survey Page 13)

In this essay section of the survey, respondents were asked to describe other essential activities (those which did not appear elsewhere in the survey activity section) which they use in their practices, and which they consider to be absolutely essential to the health or safety of their patients.

Procedures noted one or more times by survey respondents were categorized and tabulated by individual state. The procedural categories, which have been summarized or paraphrased for ease of reference, appear in the Table 6.5.

It should be noted that a significant number of comments provided by respondents in this section were not directly related to activities performed in their practices. Rather, respondents tended to provide comments that reflected their opinions on issues confronting the chiropractic profession, the nature or intent of the job analysis survey, or an endorsement of a particular technique or a personal approach to practice.

Many of the respondents emphasized the desirability of good bedside manner with statements such as, "Take time to listen to the patient," and, "Care about your patients." Other comments reflected the respondents' inability to completely describe their practices within the framework of the survey instrument. At least one respondent from each state

indicated that he/she referred patients to a hospital or radiology center for X-ray examination and/or a radiological report of findings. The most frequently reported essential activities were:

-- educating patient on chiropractic approach to health care
-- instructing patient on appropriate exercise technique
-- communicating with patient

Several comments provided by respondents included techniques used in their practices. The techniques mentioned in this section were:

-- deep tissue massage
-- visceral technique
-- prostate massage
-- laser therapy
-- herbology

SUMMARY OF 'OTHER ESSENTIAL ACTIVITIES'
(As noted by survey respondents)

1. Educate patient on the chiropractic approach to health care.
2. Conduct wellness workshops/preventive health counseling.
3. Educate patient on proper spinal hygiene.
4. Instruct patient on appropriate exercise technique.
5. Communicate with patient.
6. Have patient fill out extensive health questionnaire.
7. Perform psychological testing.
8. Counsel patients for stress reduction, marriage problems and other socially-related problems.
9. Monitor patient blood pressure on a routine basis.
10. Perform appropriate vertebral artery screening procedures prior to initiating treatment.
11. Perform posture and body kinetics/movement analysis.
12. Perform ergonomics counseling.
13. Perform job screening/work environment analysis.
14. Perform environmental, food and allergy testing.
15. Perform heavy metal/toxicity testing; hair analysis.
16. Perform internal organ analysis; relate visceral condition to spinal condition.
17. Refer patient/patient X-rays to radiological facility.
18. Use appropriate radiological protection measures; use techniques to minimize exposure to ionizing radiation.
19. Perform first-aid measures including CPR.
20. Contact patient at home following initial treatment; follow-up patient care.

TABLE 6.5

Chapter 7
The Chiropractic Practitioner in Australia

This chapter examines the demographic data pertaining to the chiropractic practitioner/survey respondent. The survey questions began with personal data, then addressed education, specialization, work environment, and more.

Preliminary Criteria

Following some preliminary questions, the survey sought to qualify each respondent. As discussed in Chapter 5, the only criterion for participation was that the individual be a licensed, full-time practitioner of chiropractic.

Question number 4 on the first page of the survey asked if the respondent was currently in active full-time chiropractic practice.

If the individual answered "no" to this question, he/she was instructed to return the uncompleted questionnaire. Approximately 86% of practicing respondents reported their practice to be full-time (Figure 7.1).

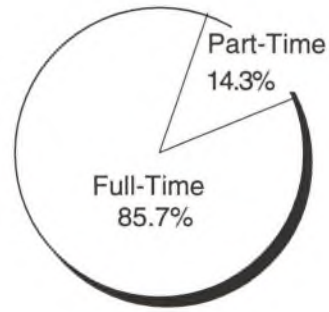


FIGURE 7.1
Full-time Respondents*

The next question asked the participants how many hours per week they devoted to their practices. The number of hours reported averaged 38.7 (Figure 7.2).

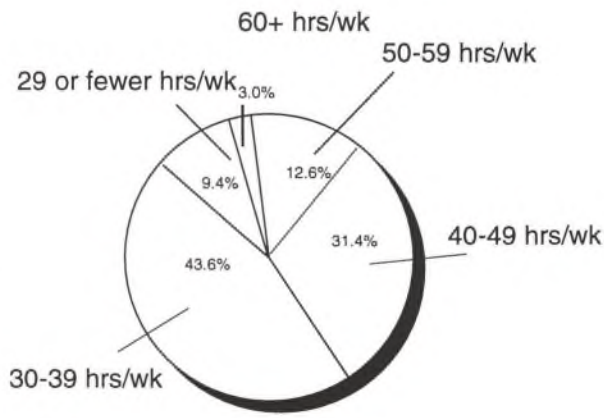


FIGURE 7.2
Hours per Week*

*Data are not weighted

Personal Demographics

In addition, the full-time practitioners who participated in the study were asked to provide demographic data about themselves.

The survey responses revealed that 89.6% of the participants were male and 10.4% were female. In comparison, information taken from the *United States Job*

Analysis of Chiropractic indicated that 86.7% of American practitioners are male and 13.3% are female.

Place of Birth

Overall, 72.3% of the respondents were born in Australia while the remaining were born in North America, New Zealand, Europe or another country (Figure 7.3).

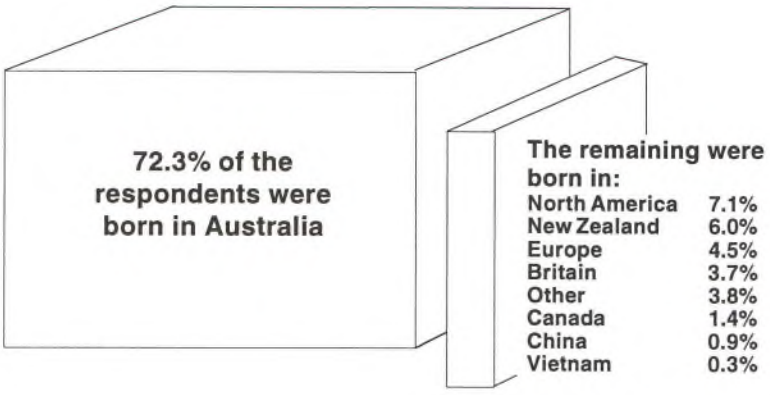


FIGURE 7.3
Respondents' Place of Birth

Level of Education

The participants were asked to mark the highest level of non-chiropractic education they had achieved. Findings revealed that 8.4% had an associate degree, 18.7% had a baccalaureate degree, 1.2% had a master's degree, and 0.5% had a doctoral degree. The "other" category was noted by 11.5% of the respondents (Figure 7.4).

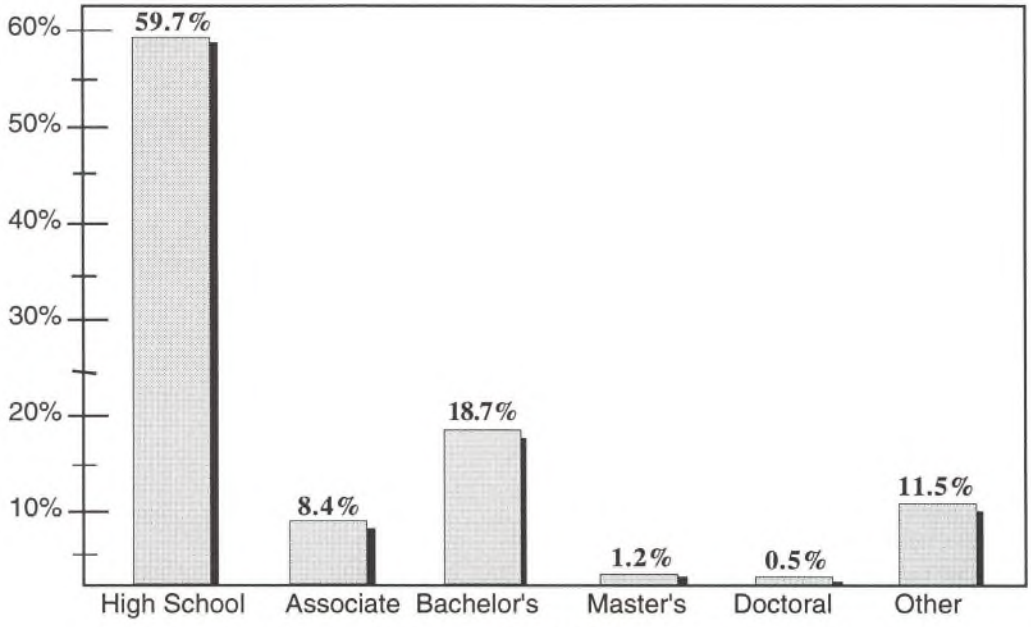


FIGURE 7.4
Non-chiropractic Education

Specialization

94.5% of the participants had no post-graduate specialty board eligibility or certification; 4.5% indicated that they had certification in areas other than those listed (Table 6.1).

Chiropractic Colleges Represented

Respondents next indicated the college which conferred their Chiropractic degree (Table 7.1). The percent of graduates from each Chiropractic college was as follows:

RMIT University (Previously Phillip Inst. of Tech.)	**41.3%**	**Los Angeles**	**0.8%**
		Sherman	**0.7%**
Sydney	**24.6%**	**Life**	**0.6%**
Palmer	**17.0%**	**Northwestern**	**0.5%**
Other	**8.0%**	**New York**	**0.3%**
Canadian Memorial	**2.7%**	**Cleveland-Los Angeles**	**0.2%**
Anglo-European	**1.1%**	**Logan**	**0.2%**
Cleveland-Kansas City	**0.8%**	**Parker**	**0.2%**
National	**0.8%**	**Western States**	**0.2%**

TABLE 7.1
Source of Chiropractic Degree*

Respondents' Work Environment

Relative to the respondents' work environment, 62.0% of those participating in the survey indicated that they currently practice in a setting in which they are the only doctor in the office; 36.1% indicated that there are two or more doctors in the office in which they practice. Approximately 0.2% indicated that they are working either as a junior associate or an examining doctor. The "other" category was marked by 1.6% of the respondents.

Practice Locations

68.7% of the participants indicated that they currently practice in one location;31.3% of the participants indicated they practice in more than one location (Figure 7.5).

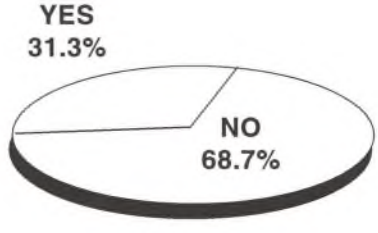


FIGURE 7.5

Do you practice in more than one office location?

* See Appendix for complete listing of colleges.

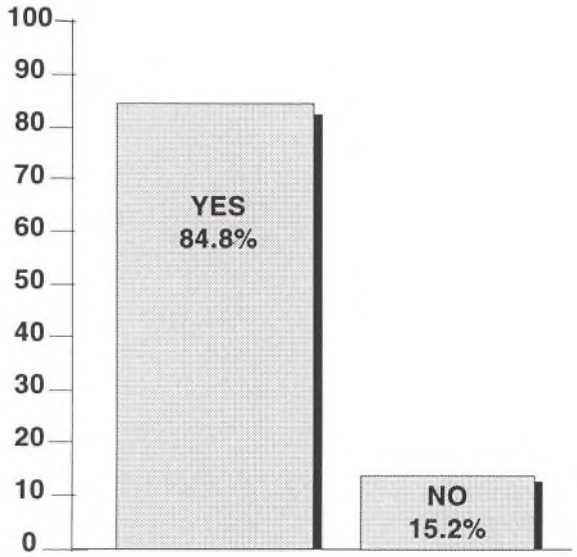


FIGURE 7.6
Do you ever deliver chiropractic care outside an office setting?

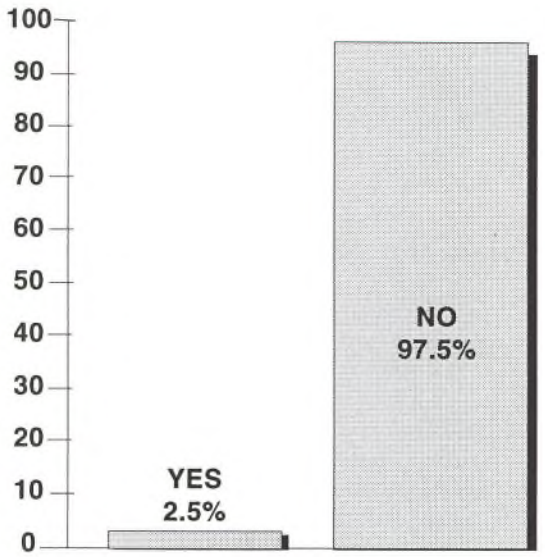


FIGURE 7.7
Do you have staff privileges at a hospital?

Delivery of Care

In regard to whether the respondents EVER delegate certain patient care to a chiropractic assistant, 33% indicated "yes" while 67% indicated "no" (Figure 7.8).

84.8% of the participants indicated that they do deliver chiropractic care outside the office setting and 15.2% indicated that they do not deliver care outside the office setting (Figure 7.6).

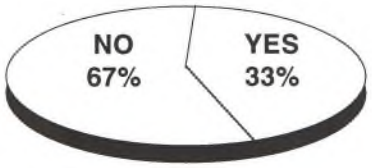


FIGURE 7.8
Do you delegate some of your patient care to a chiropractic assistant?

Hospital Staff Privileges

In regard to having staff privileges at a hospital, 2.5% indicated that they do and 97.5% indicated that they do not (Figure 7.7).

Chiropractors referred to and received referrals from medical practitioners. Of the survey respondents, 93.2% reported that they had received referrals from medical physicians within the past two years, while 6.8% indicated they had not.

Experience and Orientation

The initial survey questions established the length of time the practitioners had been practicing in the state in which they are currently located. In answer to these questions, 45.9%

indicated that they had been practicing for 5 to 15 years in their current state; another 23.9% had been practicing for more than 15 years, and 30.2% indicated that they had been practicing for less than 5 years (Figure 7.9).

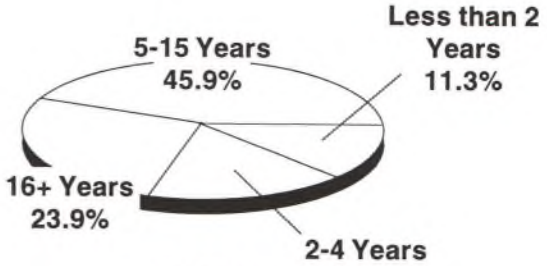


FIGURE 7.9
How long have you been in practice in the state in which you are currently located?

Total Length of Practice

Responses as to how long they had been in practice altogether, including their current state and other states or countries, were very similar to the previous survey question regarding experience and orientation. A total of 49.6% had been practicing 5 to 15 years; 28.6% had been practicing more than fifteen years, and 21.9% had been practicing less than five years (Figure 7.10).

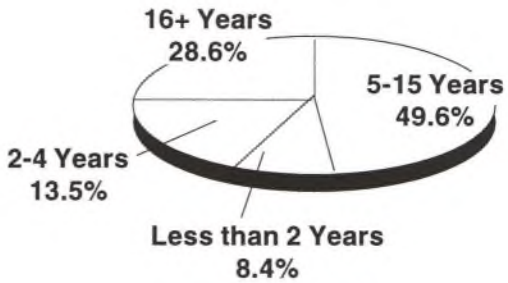


FIGURE 7.10
How long have you been practicing altogether?

Clinical Orientation

When asked to indicate the type of clinical orientation the survey respondents had

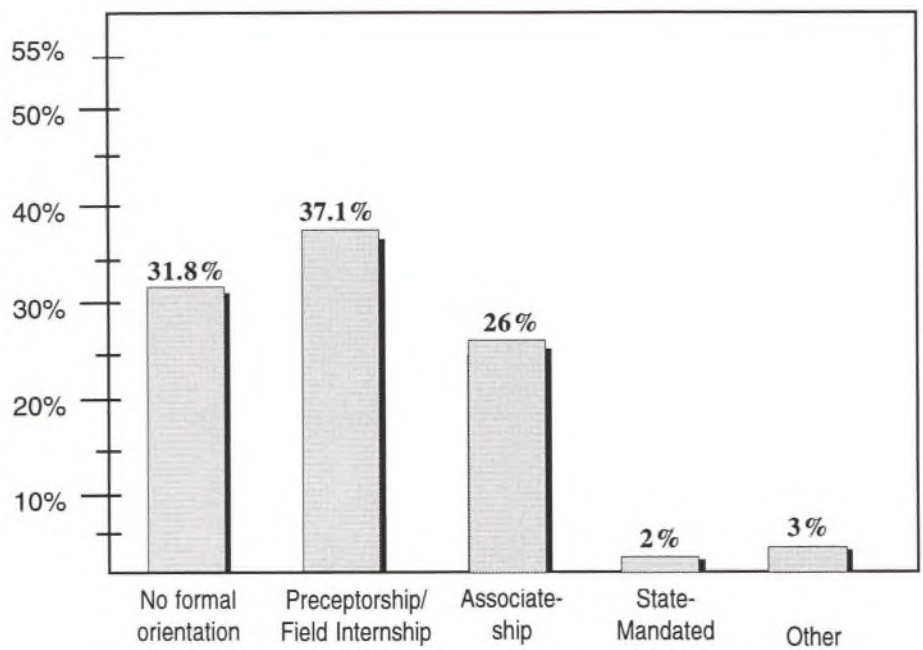


FIGURE 7.11
What kind of orientation did you receive in your first field practice setting?

received in their first practice setting, the following responses were given as indicated in Figure 7.11: 31.8% indicated they had received no formal orientation, 37.1% said they had a preceptorship or field internship, 26% had an associateship while 2% indicated they had a state-mandated program. The "other" category was designated by 3% or fewer of the respondents.

Breakdown of Time/Types of Patients

In exploring the percentage of time chiropractors typically spend on various aspects of their practices (business management, direct patient care, patient education, and research), information was gathered by way of a percentage scale with five answer choices. Additionally, respondents indicated patient Sex, Age, Ethnic Origin, and Occupation on a similar 5-point scale.

The mid-point of the percentage range was utilized to calculate each overall percentage (Figure 7.12). For example, if the respondent indicated that 1-25% of his/her time was spent on

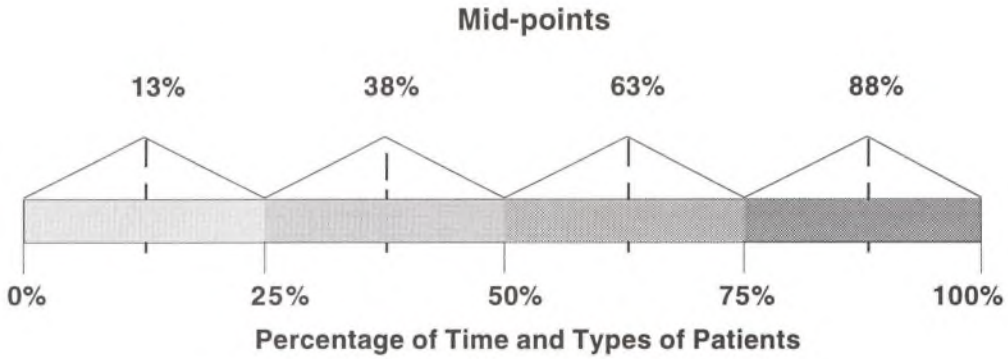


FIGURE 7.12

A mid-point of the percentage range was utilized to calculate an overall percentage for practitioners' use of time and patient demographics (pages 3-4 of the survey).

research, this was converted to a mid-point of 13%. In like manner, the 26-50% answer choice was converted to a mid-point value of 38%; 51-75% to 63%; and 76-100% to 88%. (Data were scaled within each question so that the score totaled 100%.)

By scoring responses in this manner, an average percentage was calculated. (Standard errors for these questions were similar to other questions reported on a percentage scale.) The respondents indicated that 58.6% of their time is typically spent on direct patient care, while patient education involved 19.8% of their time, with approximately 15.3% spent on business management. Little or no time (6.4%) was spent on research. (Percentages for patient demographic data were obtained in the same manner and are reported on pages 52 and 72.)

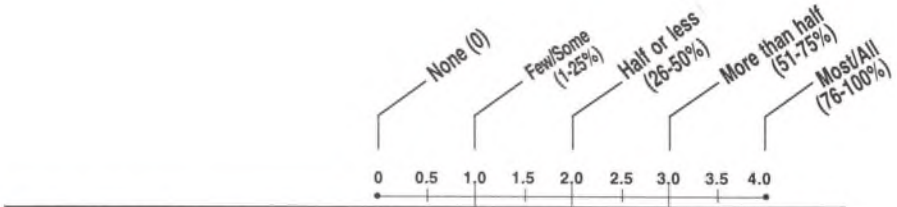
Chapter 8
The Chiropractic Patient in Australia

In this chapter, information gathered from Pages 4-8 of the job analysis survey is explored. This portion of the survey relates to the chiropractic patient as perceived by the practitioner/ respondent.

The survey asked that practitioners describe their patients in terms of gender, age, place of birth, occupation, and condition. A typical patient is an individual who enters a chiropractor's office complaining of some specific pain symptomatology: a headache of one type or another; a pain in the middle or lower back, neck, shoulder, arm, leg, or other area, all of which may or may not be concurrent with a spinal subluxation or other joint dysfunction. As a result of proper history taking, physical examination, neuromusculoskeletal examination, and other diagnostic procedures, a diagnosis is made which may or may not include a subluxation.

In completing the portion of the survey relating to the patient, the respondent chiropractors were asked to estimate the distribution of patients in each of the indicated categories.

A five-point scale combining percentages with a corresponding label for each segment of the scale was used. The responses in each category were averaged. The results appear in Table 8.1 and in charts throughout this chapter.



Australian Patient Demographics		AVG
SEX	Male	2.05
	Female	2.52
AGE	17 or younger	0.97
	18 to 30	1.50
	31 to 50	2.22
	51 to 64	1.39
	65 or older	0.96
ETHNIC ORIGIN	Aboriginal	0.38
	Chinese	0.63
	European Descent	2.06
	Greek	0.84
	Indonesian	0.22
	Italian	1.01
	United Kingdom	1.37
	Vietnamese	0.22
	Other	0.45
OCCUPATION	Executive/Professional	1.27
	White Collar/Secretarial	1.47
	Professional/AmateurAthlete	1.03
	Tradesman/Skilled Laborer	1.61
	Unskilled Laborer	1.16
	Homemaker	1.58
	Student	1.03
	Retired or Other	1.13

TABLE 8.1

Sex/Gender of Patients

Chiropractors estimated that more than half of their patients are female (55.2%) while fewer than half (44.8%) are male (Figure 8.1). In comparison with data from the *United States Job Analysis of Chiropractic,* 59.3% of chiropractic patients are female and 40.7% are male.

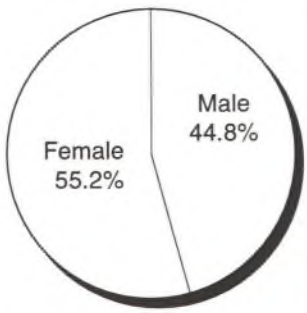


FIGURE 8.1
Patient Gender*

Age of Patients

In relation to age, 13.8% of patients were age 17 or younger; 21.3% were 18 to 30; 31.5% were 31 to 50; 19.8% were 51 to 64; and 13.7% were 65 or older (Figure 8.2).

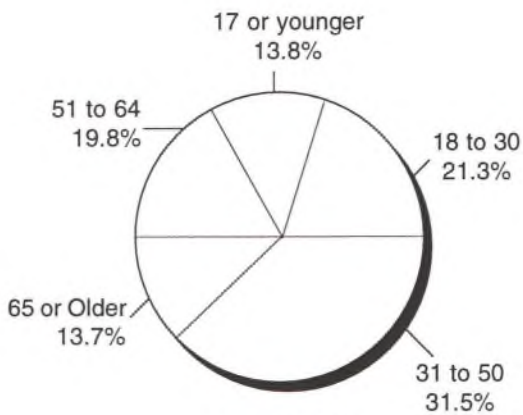


FIGURE 8.2
Patient Age*

Ethnic Origin

Overall, 28.8% of the patients were of European descent (Table 8.1). This was followed by the United Kingdom (19.1%), Italian (14.1%), Greek (11.7%), Chinese (8.8%), Other (6.2%), Aboriginal (5.3%), Vietnamese (3.1%), and Indonesian (3.0%).

Patient Occupation

Concerning patient occupation, no single occupational group is one which chiropractors treat predominately. All groups are represented and no single occupational group appears to represent more than 15.6% of chiropractic practice (Figure 8.3).

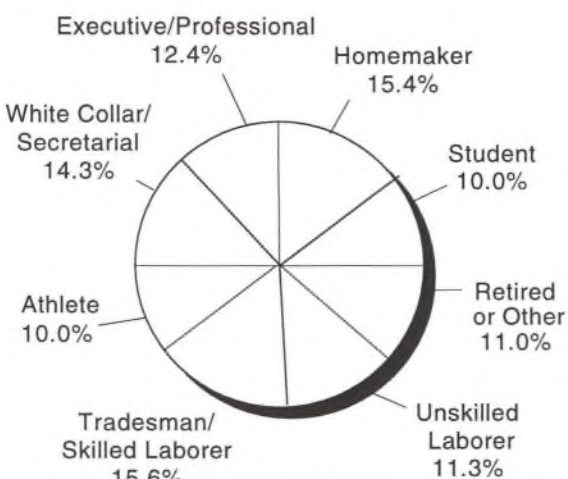


FIGURE 8.3
Patient Occupation*

* See page 70 for explanation of percentages.

Patient Conditions

Following the section on patient demographics, chiropractors were asked to consider their practices during the past two years

and indicate how often they had seen patients with the **presenting and/or concurrent** conditions listed. A zero-to-four rating scale was used. The list of conditions presented on the survey form and reflected in this report was not meant to be all-inclusive. Listed below are conditions in descending order of the frequency with which they were seen by survey respondents.

Frequency of Presenting and Concurrent Patient Conditions	
ROUTINELY SEEN	Spinal subluxation/joint dysfunction
	Headaches
OFTEN SEEN	Osteoarthritis/degenerative joint disease
	Extremity subluxation/joint dysfunction
	Muscular strain/tear
	Peripheral neuritis or neuralgia
	Vertebral facet syndrome
	High or low blood pressure
	Tendinitis/tenosynovitis
	Scoliosis
	Hyperlordosis of cervical or lumbar spine
	Allergies
	Asthma, emphysema or COPD
	Kyphosis of thoracic spine
	Intervertebral disc syndrome
	Sprain or dislocation of any joint
	Respiratory viral or bacterial infection
	Obesity
	Acne, dermatitis or psoriasis
	Menstrual disorder
SOMETIMES SEEN	Articular joint congenital/developmental anomaly
	Radiculitis or radiculopathy
	Pregnancy
	Osteoporosis/osteomalacia
	Nutritional disorders
	Upper respiratory or ear infection
	Skeletal congenital/developmental anomaly
	TMJ syndrome
	Eye or vision disorder
	Bursitis or synovitis
	Carpal or tarsal tunnel syndrome
	Thoracic outlet syndrome

TABLE 8.2 ***(Continued on next page)***
Presenting and Concurrent Patient Conditions

Frequency of Presenting and Concurrent Patient Conditions	
SOMETIMES SEEN (CONT.)	Ear or hearing disorder
	Occupational or environmental disorder
	Systemic/rheumatoid arthritis or gout
	Hiatus or inguinal hernia
	Gastrointestinal bacterial or viral infection
	Psychological disorders
	Loss of equilibrium
	Diabetes
	Integument bacterial or fungal infection
	Eating disorders
	Hemorrhoids
	Colitis or diverticulitis
	Ulcer of stomach, intestine or colon
	Infection of kidney or urinary tract
	Angina or myocardial infarction
	Peripheral artery or vein disorder
	Skin cancer
	Disorder of throat or larynx
	Thyroid or parathyroid disorder
	Muscular atrophy
RARELY SEEN	Herpes simplex or zoster
	Prostate disorder
	Non-cancerous disorder of breast
	Disorder of nose or sense of smell
	Anemia
	Immunological disorder
	Female infertility
	Murmur or rhythm irregularity
	Fracture
	Spinal canal stenosis
	Pigment disorders
	Adrenal disorder
	ALS, multiple sclerosis or Parkinson's
	Kidney stones
	Cranial nerve disorder
	Endocrine or metabolic bone disorder
	Vertebrobasilar artery insufficiency

TABLE 8.2 ***(Continued on next page)***
Presenting and Concurrent Patient Conditions

Frequency of Presenting and Concurrent Patient Conditions	
RARELY SEEN (CONT.)	Appendicitis, cholecystitis or pancreatitis
	Stroke or cerebrovascular condition
	Male infertility or impotency
	Muscular dystrophy
	Aseptic necrosis or epiphysitis
	Tumor of breast or female reproductive system
	Cardiovascular congenital anomaly
	Hereditary disorder
	Arterial aneurysm
	Tearing or rupture of nerve/plexus
	Measles/German measles
	Chickenpox
	Pituitary disorder
	Joint tumor or neoplasm
	Bone tumor
	Chronic kidney disease or failure
	Mumps
	Bacterial infection of joint
	Whooping cough
	Atelectasis or pneumothorax
	Parasitic disorder
	Tumor of gastrointestinal tract
	Thymus or pineal disorder
VIRTUALLY NEVER SEEN	Tumor of lung or respiratory passages
	Brain or spinal cord tumor
	Cancer of the marrow or lymphatic system
	Herpes II
	Polycythemia
	Endocrine tumor
	Tumor of eye, ear, nose or throat
	Chlamydia
	Male reproductive congenital anomaly
	Tumor of male reproductive system
	AIDS-related complex
	Muscle tumor
	Tumor of the kidney or bladder
	Venereal warts
	Gonorrhea
	Syphilis

TABLE 8.2
Presenting and Concurrent Patient Conditions

Articular/Joint

Articular/Joint conditions were considered first by respondents (Table 8.3). Spinal subluxations or joint dysfunctions and osteoarthritis/degenerative joint disease were seen routinely in chiropractors' offices. Articular/Joint conditions such as extremity subluxation/ joint dysfunction, vertebral facet syndrome, sprain or dislocation of any joint, hyperlordosis of cervical or lumbar spine, scoliosis, and intervertebral disc syndrome were frequently seen. Most other conditions in the Articular/Joint area were often seen. Only four of the conditions listed in this area were rarely seen.

Neurological

Neurological conditions were considered next (Table 8.3). Patients presenting with headaches were seen routinely in chiropractors' offices. Peripheral neuritis or neuralgia was often seen. Other related conditions were seen sometimes, rarely or never.

Skeletal

The next section involved Skeletal conditions (Table 8.4). Osteoporosis/osteomalacia and congenital developmental anomalies were sometimes seen. According to response data, all other skeletal conditions were rarely seen.

Muscular

In the Muscular section, muscular strains/tears were often seen, as was tendinitis/ tenosynovitis (Table 8.4). Other muscular conditions were seen sometimes, rarely or never.

Cardiovascular

In the Cardiovascular section, high or low blood pressure was often seen (Table 8.4). All other conditions were sometimes or rarely seen.

Respiratory

In the Respiratory section, asthma, emphysema or COPD and viral or bacterial infection, were often seen (Table 8.4). The other conditions were sometimes, rarely or never seen.

Integument

In the section addressing Integument conditions, it was noted that acne, dermatitis or psoriasis was often seen (Table 8.4). All other conditions were sometimes, or rarely seen.

Gastrointestinal

In the Gastrointestinal area, hernias, bacterial or viral infections, ulcers, colitis, diverticulitis, and hemorrhoids were sometimes seen (Table 8.5). Patients having the other conditions listed were rarely seen.

Renal/Urological

In the Renal/Urological area, infections of the kidney or urinary tract were sometimes seen (Table 8.5). Other conditions listed were rarely or never seen.

Male Reproductive

In the Male Reproductive area, patients presenting with concurrent conditions in this area were rarely or never seen in most chiropractic offices (Table 8.5).

Female Reproductive

In the Female Reproductive area, menstrual disorders were often seen, and pregnancy was sometimes seen. Other conditions listed were rarely seen (Table 8.5).

Hematological/Lymphatic

In the Hematological/Lymphatic area, anemia, immunological, and hereditary disorders were rarely seen (Table 8.5); other conditions were generally never seen in the typical chiropractor's office.

Endocrine/Metabolic

In the Endocrine/Metabolic area, obesity was often seen in chiropractors' offices; thyroid or parathyroid disorders, and diabetes were sometimes seen (Table 8.6). Other conditions were rarely or never seen.

Childhood Disorders

In the area of Childhood Disorders, upper respiratory or ear infections were sometimes seen (scoliosis and congenital/developmental anomalies are listed with Articular/Joint conditions). All other conditions were rarely seen in a chiropractor's office (Table 8.6).

Venereal

In the Venereal area, the conditions listed were typically never seen in a chiropractor's office (Table 8.6).

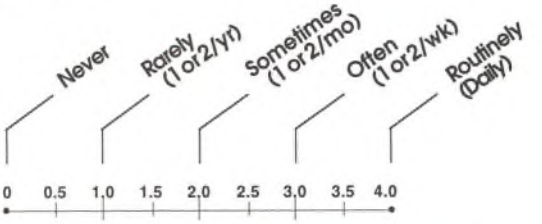
EENT (eye, ear, nose, and throat)

In the EENT (eye, ear, nose, and throat) section, eye or vision disorders were sometimes seen, as were ear or hearing disorders. Disorders of the nose, throat, and larynx were rarely seen. Tumors of the eye, ear, nose, or throat were typically never seen (Table 8.6).

Miscellaneous

In the miscellaneous section, allergies were often seen. Nutritional, psychological, and eating disorders were sometimes seen (Table 8.6). The other area listed, AIDS-related complex, was typically never seen in a chiropractic practice.

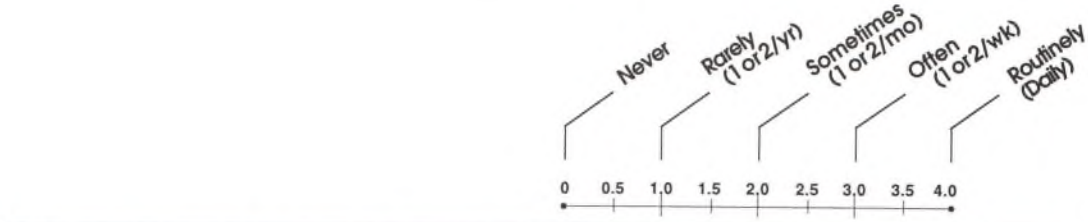
The following tables present the frequency of presenting and concurrent conditions as they were rated on a zero-to-four scale.



Presenting and Concurrent Condition: **Articular/Joint**	AVG
Spinal subluxation/joint dysfunction	3.97
Extremity subluxation/joint dysfunction	3.41
Sprain or dislocation of any joint	2.72
Vertebral facet syndrome	3.09
Intervertebral disc syndrome	2.82
Thoracic outlet syndrome	2.07
Hyperlordosis of cervical or lumbar spine	2.89
Kyphosis of thoracic spine	2.83
Aseptic necrosis or epiphysitis	0.87
Scoliosis	2.96
Congenital/developmental anomaly	2.46
Osteoarthritis/degenerative joint disease	3.55
Systemic/rheumatoid arthritis or gout	2.00
Bacterial infection of joint	0.63
Bursitis or synovitis	2.12
Carpal or tarsal tunnel syndrome	2.10
TMJ syndrome	2.27
Joint tumor or neoplasm	0.73
Spinal canal stenosis	1.25

Presenting and Concurrent Condition: **Neurological**	AVG
Headaches	3.84
Peripheral neuritis or neuralgia	3.21
ALS, multiple sclerosis or Parkinson's	1.15
Tearing or rupture of nerve/plexus	0.80
Stroke or cerebrovascular condition	1.06
Vertebrobasilar artery insufficiency	1.10
Cranial nerve disorder	1.12
Radiculitis or radiculopathy	2.38
Loss of equilibrium	1.92
Brain or spinal cord tumor	0.48

TABLE 8.3
Frequency of Articular/Joint, and Neurological Conditions



Presenting and Concurrent Condition: Skeletal	AVG
Fracture	1.27
Osteoporosis/osteomalacia	2.36
Congenital/developmental anomaly	2.30
Endocrine or metabolic bone disorder	1.11
Bone tumor	0.69

Presenting and Concurrent Condition: Muscular	AVG
Muscular Strain/Tear	3.25
Tendinitis/tenosynovitis	3.02
Muscular dystrophy	0.92
Muscular atrophy	1.51
Muscle tumor	0.27

Presenting and Concurrent Condition: Cardiovascular	AVG
High or low blood pressure	3.07
Angina or myocardial infarction	1.60
Arterial aneurysm	0.81
Peripheral artery or vein disorder	1.55
Murmur or rhythm irregularity	1.29
Congenital anomaly	0.82

Presenting and Concurrent Condition: Respiratory	AVG
Viral or bacterial infection	2.63
Asthma, emphysema or COPD	2.83
Occupational or environmental disorder	2.06
Atelectasis or pneumothorax	0.57
Tumor of lung or respiratory passages	0.48

Presenting and Concurrent Condition: Integument	AVG
Acne, dermatitis or psoriasis	2.54
Bacterial or fungal infection	1.83
Herpes simplex or zoster	1.46
Pigment disorders	1.20
Skin cancer	1.52

TABLE 8.4
Frequency of Skeletal, Muscular, Cardiovascular, Respiratory, and Integument Conditions

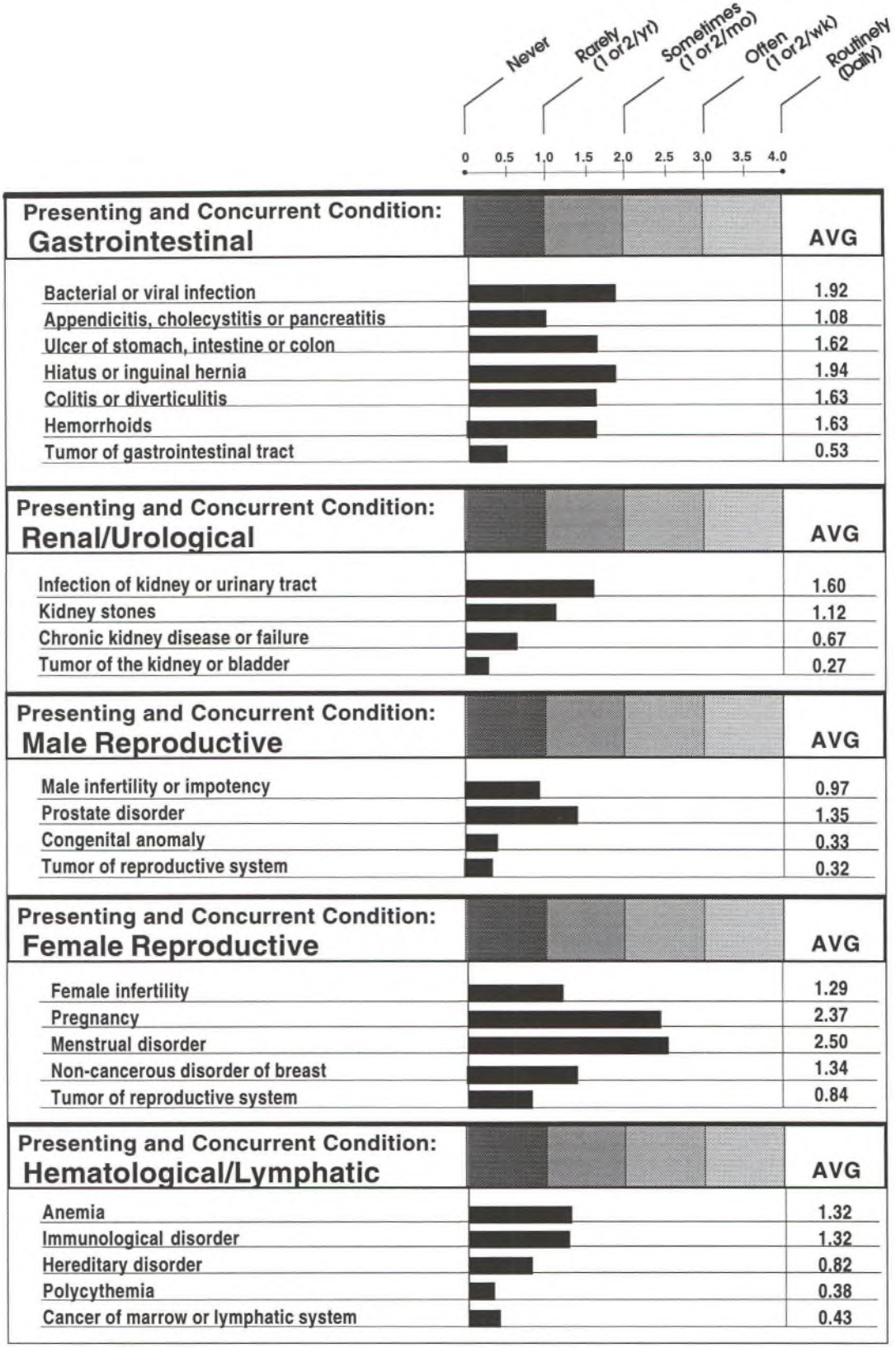


TABLE 8.5
Frequency of Gastrointestinal, Renal/Urological, Male Reproductive, Female Reproductive, and Hematological/Lymphatic Conditions

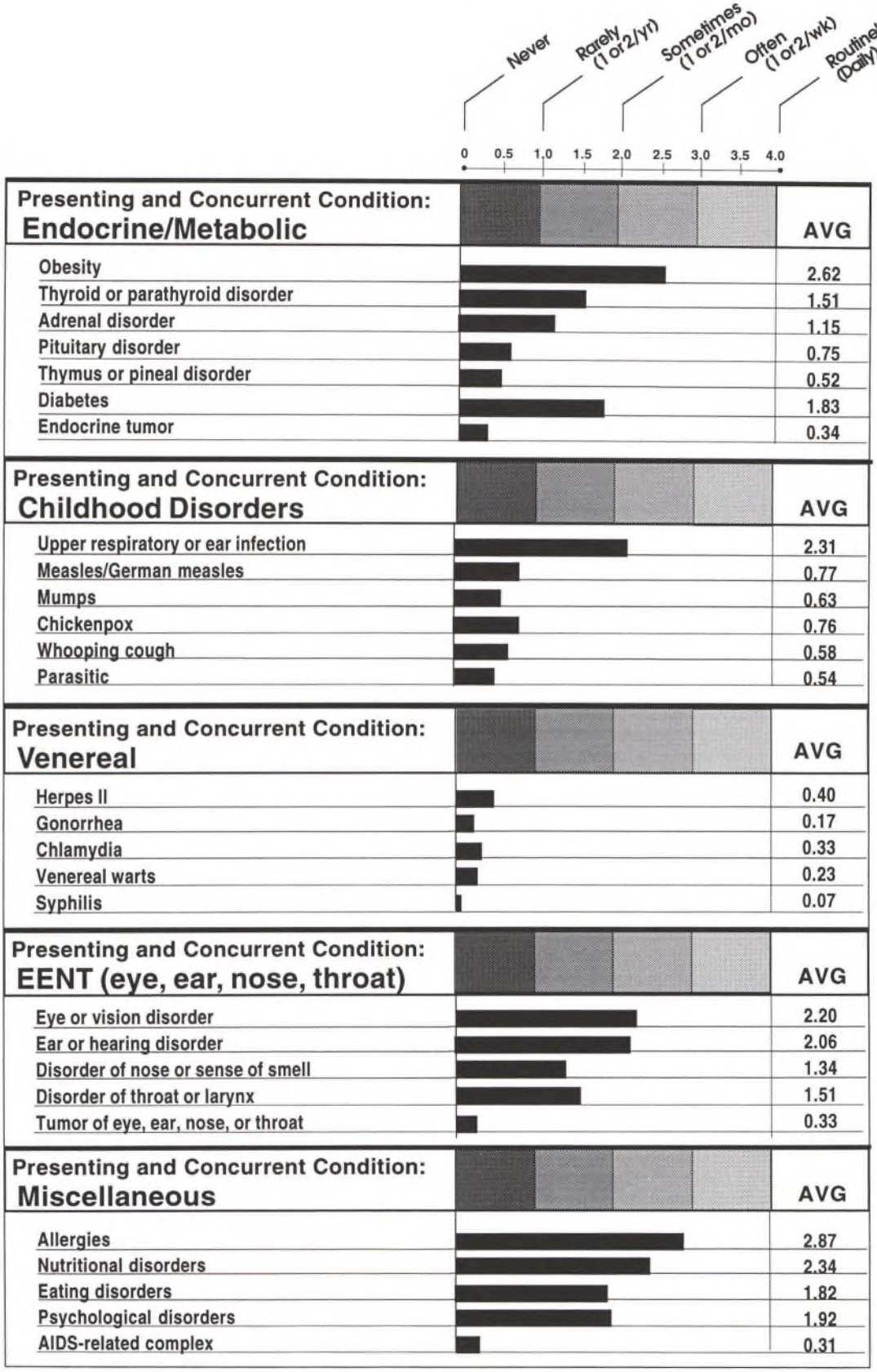


TABLE 8.6
Frequency of Endocrine/Metabolic, Childhood Disorders, Venereal, EENT, and Miscellaneous Conditions

Chapter 9
Practice Patterns in Australia

Presented in this chapter are the activities chiropractors performed in their practices. There are 45 activities divided into nine major categories, ranging from case history to case management.

The respondent practitioners were asked to rate the **frequency** (how often they performed the activity), and the perceived **risk** to patient health and safety if the activity were performed poorly or omitted. The frequency and risk factor ratings for the activities were averaged by individual activity and by general category. From the frequency and risk scales the importance scale was generated by obtaining the product of frequency times risk.

Below are the rating scales for this section of the NBCE job analysis:

Rating Scales
utilized in assessing activities

FREQUENCY	x	RISK	=	IMPORTANCE
0 = Never (does not apply)		0 = No risk		0 = Not important
1 = Rarely (1-25%)		1 = Little risk		4
2 = Sometimes (26-50%)		2 = Some risk		8
3 = Frequently (51-75%)		3 = Significant risk		12
4 = Routinely (76-100%)		4 = Severe risk		16 = Extremely important

TABLE 9.1

In addition, the practitioners were asked to indicate the **primary technique** used in their practices, i.e. upper cervical, full spine, or another technique.

Finally, the practitioners were asked to indicate which **adjustive and non-adjustive techniques** they had utilized in their practices during the past two years.

Rating the Activities

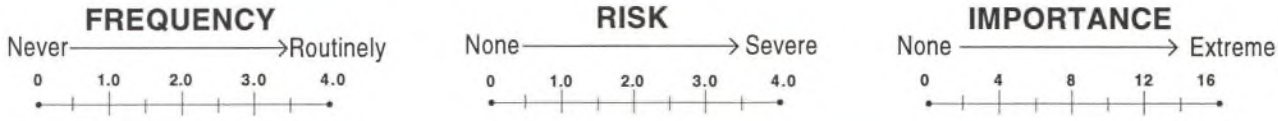
As in other parts of the survey, zero-to-four rating scales were utilized for frequency and risk. In contrast values of the **Importance** factor could range from zero to 16.

The importance factor is commonly obtained in job analyses. It indicates the significance of an activity when taking into account both the frequency with which the activity is performed and the risk to patients when the activity is performed poorly or omitted.

Case History

The survey results indicated that case histories were performed **routinely** (category average of 3.59), presenting a **significant** risk to patient health and safety if performed poorly or omitted (category average of 2.66).

Chiropractors routinely took an initial case history from a new patient, updated the case history for a patient whose condition had changed or who presented with a new condition, and took Subjective, Objective, Assessment, Plan/Procedure (S.O.A.P.) notes on subsequent patient visits.



Activity	Frequency	Risk	Importance
Case History			
Take initial case history	Routinely 4.00	Significant 3.19	12.73
Identify condition from case history	Frequently 3.41	Significant 2.74	9.64
Perform focused case history	Frequently 3.38	Significant 2.69	9.60
Take S.O.A.P. or case progress notes	Routinely 3.65	Some 2.32	8.80
Determine technique/case management	Frequently 3.42	Some 2.26	8.23
Update case history	Routinely 3.67	Significant 2.77	10.48

TABLE 9.2
Case History

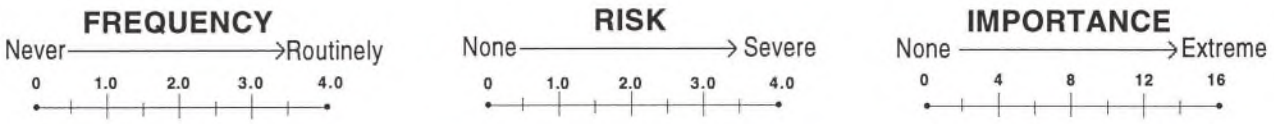
The respondents indicated that the inadequate taking of or omission of an initial case history from a new patient would present a significant risk to patient health and safety and **rated this activity highest in importance of the 45 activities chiropractors performed.**

The other case history activities that rated high in importance were updating the case history from a patient whose condition had changed or who presented with a new condition, and identifying the nature of a patient's condition using the information from a case history (Table 9.2).

Physical Examination

Physical examination activities were performed **routinely** (category average of 3.58), and presented a **significant** risk to patient health and safety if the activities were performed poorly or omitted (category average of 2.71).

Chiropractors routinely performed the first three physical examination activities listed in this category. Survey results also indicated that practitioners rated performing a physical examination on a new patient highest in importance in the physical exam area (Table 9.3).



Activity	Frequency	Risk	Importance
Physical Examination			
Perform physical examination	Routinely 3.75	Significant 3.04	11.71
Assess general state of health	Routinely 3.51	Significant 2.55	9.28
Perform regional examination	Routinely 3.58	Significant 2.69	10.01
Update physical examination	Frequently 3.47	Significant 2.56	9.24

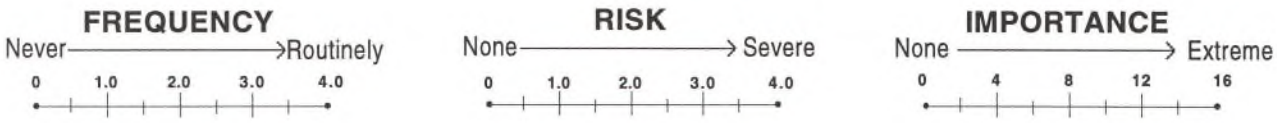
TABLE 9.3
Physical Examination

Neuromusculoskeletal Examination

Neuromusculoskeletal examination activities were performed **frequently** (category average of 3.31), presenting a **significant** risk to patient health and safety if performed poorly or omitted (category average of 2.60).

Chiropractors routinely performed general orthopedic and neurological examinations on new patients, and frequently performed all other NMS exams listed in this category. They associated a significant risk to patient health and safety should the first four of these activities be performed poorly or omitted.

The highest importance values were associated with performing general orthopedic or neurological examinations on new patients, and with determining the additional laboratory, X-ray, and special studies that were indicated by the NMS exam (Table 9.4).

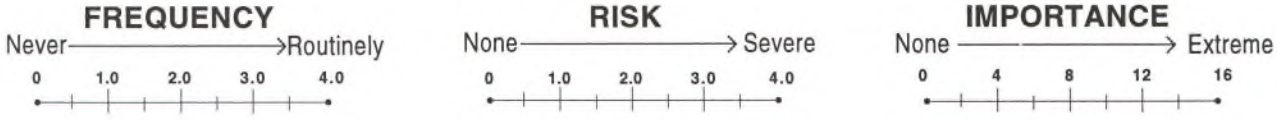


Activity	Frequency	Risk	Importance
Neuromusculoskeletal Examination			
Perform orthopedic and/or neurological exam	Routinely 3.57	Significant 2.77	10.39
Perform focused orthopedic and/or neurological exam	Frequently 3.11	Significant 2.58	8.71
Determine patient condition using orthopedic/neurological exam	Frequently 3.27	Significant 2.51	8.77
Determine additional lab/X-ray/etc.	Frequently 3.37	Significant 2.71	9.64
Update orthopedic/neurological tests	Frequently 3.23	Some 2.43	8.43

TABLE 9.4
Neuromusculoskeletal Examination

X-ray Examination

X-ray Examination activities were **frequently** performed (category average of 2.57), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 2.19).



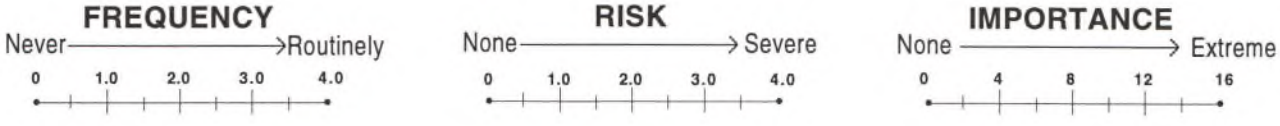
Activity	Frequency	Risk	Importance
X-Ray Examination			
Perform X-ray on new patient	Sometimes 2.49	Some 2.23	6.92
Determine presence of pathology, fracture, etc	Frequently 3.42	Significant 3.09	11.10
Determine instability/joint dysfunction	Sometimes 1.92	Some 1.84	4.35
Determine presence of subluxation	Frequently 2.50	Some 1.57	4.83
Update X-ray/perform new X-ray	Frequently 2.52	Some 2.22	6.31

TABLE 9.5
X-Ray Examination

Practitioners sometimes took X-rays on new patients and frequently determined the presence of pathology, fracture, dislocations, or other significant findings using information from an X-ray examination. Determining the presence of pathology, fracture, dislocations or other significant findings was rated highest in importance of the activities chiropractors performed in this category (Table9.5).

Laboratory and Special Studies

Laboratory and special studies examinations were **rarely** performed (category average of 1.07), presenting **some** risk to patient health and safety when performed poorly or omitted (category average of 1.66).



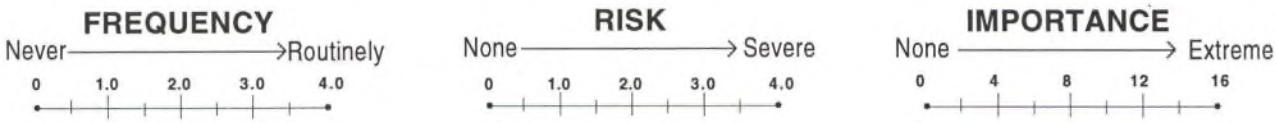
Activity	Frequency	Risk	Importance
Laboratory and Special Studies			
Draw blood, collect urine, or other laboratory procedures	Never 0.22	Little 0.95	0.37
Order laboratory tests	Rarely 0.69	Little 1.35	1.36
Refer patient for MRI, CT, EKG, etc.	Rarely 1.39	Some 2.01	3.20
Confirm diagnosis/health-threatening condition	Sometimes 1.52	Some 2.12	4.01
Augment history, examination, or X-ray	Sometimes 1.55	Some 1.89	3.56

TABLE 9.6
Laboratory and Special Studies

Practitioners sometimes augmented a history, examination, or X-ray finding or confirmed a diagnosis or ruled out health-threatening conditions using information from laboratory results or specialized studies. The data also indicated that they rarely referred patients for MRI, CT, EKG or other specialized studies, or other laboratory tests. Overall, this category had the lowest importance values of any of the nine categories (Table 9.6).

Diagnosis

Diagnosis activities were performed **frequently** (category average of 3.01), presenting a **significant** risk to patient health and safety if performed poorly or omitted (category average of 2.51).



Activity	Frequency	Risk	Importance
Diagnosis			
Relate problems to process	Frequently 2.76	Some 2.42	7.40
Distinguish between urgent/less urgent	Frequently 3.28	Significant 3.12	10.70
Predict effectiveness of chiropractic	Frequently 3.36	Some 1.98	7.03
Refer patient to other practitioner	Sometimes 2.08	Some 2.46	5.44
Arrive at diagnosis/impression	Routinely 3.57	Significant 2.55	9.36

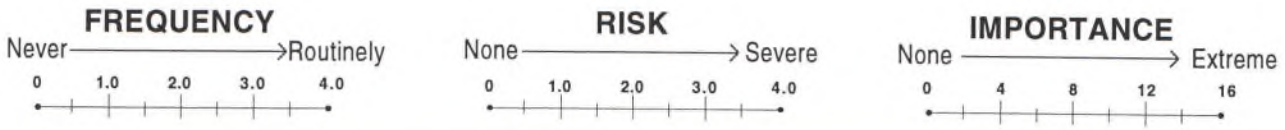
TABLE 9.7
Diagnosis

Chiropractors routinely arrived at a diagnosis or clinical impression on the basis of the patient's case history and examination findings. They frequently distinguished between life- or health-threatening conditions and less urgent conditions, and predicted the effectiveness of chiropractic care in treating the patient's condition, and related problems identified in the history and examination findings to a pathologic, pathophysiologic, or psychopathologic process. The area rated highest in importance was distinguishing between life- or health-threatening conditions and less urgent conditions (Table 9.7).

Chiropractic Technique

Chiropractic techniques (excluding use of instruments) were **routinely** utilized (overall category average of 3.40 including instruments), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 1.97).

Practitioners indicated some risk to patient health and safety if a specific chiropractic



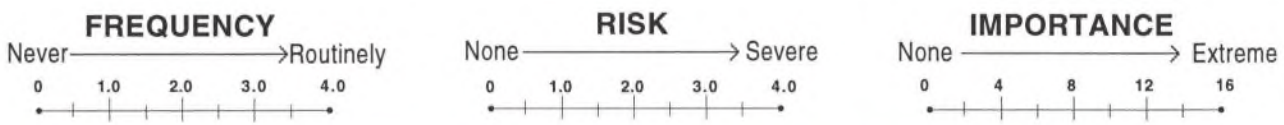
Activity	Frequency	Risk	Importance
Chiropractic Technique			
Perform specific chiropractic examination	Routinely 3.85	Some 2.34	9.14
Utilize instruments	Sometimes 1.93	Little 1.12	3.09
Determine case management/technique	Routinely 3.67	Some 2.07	7.74
Perform chiropractic adjustive techniques	Routinely 3.97	Some 2.25	8.93
Update chiropractic examination	Routinely 3.58	Some 2.09	7.70

TABLE 9.8
Chiropractic Technique

examination of a patient were performed poorly or omitted; this same activity was rated highest in importance of activities listed in this category (Table 9.8).

Supportive Technique

Supportive techniques were performed **frequently** (category average of 2.87), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 1.62).



Activity	Frequency	Risk	Importance
Supportive Technique			
Evaluate patient condition	Frequently 3.38	Some 1.98	6.95
Determine use of supportive technique	Frequently 3.24	Some 1.51	4.88
Perform procedures other than adjustive	Frequently 2.86	Some 1.54	4.83
Refer patient to other practitioner	Sometimes 1.87	Little 1.48	3.11
Monitor effectiveness of non-adjustive technique	Frequently 3.01	Some 1.60	5.19

TABLE 9.9
Supportive Techniques

Chiropractors frequently evaluated the patient's condition to determine if procedures other than adjustive techniques were indicated. In addition, determining the use of supportive techniques, performing treatment procedures other than adjustive techniques, and monitoring the effectiveness of non-adjustive techniques or therapeutic procedures were also frequently performed.

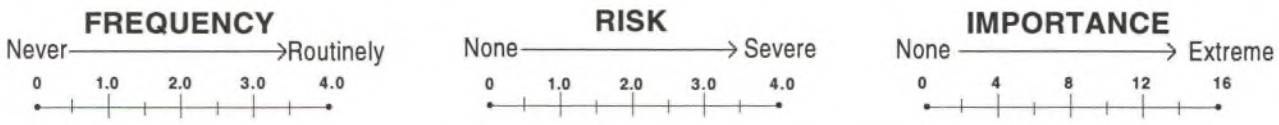
The survey respondents indicated some risk to patient health and safety should any of these supportive techniques be performed poorly or omitted.

The highest importance rating was given to the evaluation of the patient's condition (Table 9.9).

Case Management

Case Management activities were performed **frequently** (category average of 3.23), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 2.13).

Case management activities routinely performed included maintaining written records of case problems, goals, intervention strategies, case progress, and encouraging the patient to make appropriate changes in habits or lifestyle to prevent reoccurrences of the condition.



Activity	Frequency	Risk	Importance
Case Management			
Discuss alternatives with patient	Frequently 2.68	Some 1.81	5.19
Recommend/arrange for other services	Frequently 2.71	Some 2.23	6.49
Modify case management	Frequently 3.48	Some 2.37	8.51
Encourage patient to change habits/lifestyle	Routinely 3.63	Some 2.11	7.77
Maintain written record	Routinely 3.66	Some 2.12	7.96

TABLE 9.10
Case Management

In the activities pertaining to case management, respondents indicated that modifying case management as conditions improved or failed to improve was rated highest in importance (Table 9.10).

Treatment Procedures

Practitioners were asked to indicate the primary technique approach they used in their practices. Results indicated 93.9% utilized **full spine**, while .3% used the **upper cervical** approach. **Other** was noted by 5.8%(Table 9.11).

Specific Adjustive Techniques

Results indicated that approximately two-thirds or more of the practitioners used the following techniques: Diversified (91.0%), Activator (72.7%), Gonstead (69.1%), NIMMO/ Tonus Receptor (68.8%), and SOT (65.0%). Survey results also indicated that more than 50% of the Australian practitioners utilized Applied Kinesiology (59.3%), Cranial (56.2%), and Thompson (54.7%). All other techniques were utilized by fewer than one-third of the practitioners.

Survey results also indicated that the responding practitioners used an average of 6.6 adjustive techniques.

Non-Adjustive Techniques

As indicated in Table 9.11, approximately two-thirds or more of the practitioners utilized 7 of the supportive techniques listed. This begins with Corrective Exercises (95.9%) and ends with Orthotics/Lifts (67.7%). A majority of practitioners also utilized Casting/Taping (58.5%), Hot pad/Moist heat (57.2%) and Acupressure (57.1%). and Acupressure (57.1%). Data indicated that the average number of supportive techniques utilized by practitioners was 9.7.

Chiropractic Treatment Procedures in Australia

Primary Approach	%
Full Spine	93.9
Upper Cervical	.3
Other	5.8

Adjustive Techniques	%
Diversified	91.0
Activator	72.7
Gonstead	69.1
NIMMO/Tonus Receptor	68.8
SOT	65.0
Applied Kinesiology	59.3
Cranial	56.2
Thompson	54.7
Logan Basic	32.0
Pierce-Stillwagon	20.6
Cox/Flexion-Distraction	20.6
Palmer Upper Cervical/HIO	20.3
Other	20.0
Meric	11.1
Barge	3.8
Life Upper Cervical	2.3
Toftness	1.8
Pettibon	1.3
Grostic	1.0
NUCCA	0.2

Non-Adjustive Techniques	%
Corrective/Therap. Exercises	95.9
Ice Pack/Cryotherapy	85.9
Nutritional Counseling	84.2
Massage Therapy	77.6
Bedrest	73.4
Bracing	69.3
Orthotics/Lifts	67.7
Casting/Taping, Strapping	58.8
Hot Pack/Moist Heat	57.2
Acupressure/Meridian Therapy	57.1
Traction	43.3
Homeopathic Remedies	34.1
Ultrasound	33.9
Vibratory Therapy	28.0
Electrical Stimulation	26.0
Infrared Baker, etc.	21.3
Other	15.7
Acupuncture	14.4
Interferential Current	12.7
Diathermy	9.3
Whirlpool/Hydrotherapy	7.8
Direct Current, etc.	6.5
Biofeedback	5.1
Ultraviolet Therapy	0.9
Paraffin Bath	0.5

TABLE 9.11
Percent of Chiropractic Practitioners Utilizing Various Chiropractic Treatment Procedures

Chapter 10
Survey Data by Individual State/Territory

The preceding chapters of this report contain weighted data for all of Australia. Within the text of these early chapters, it was important that *weighting* (a process described in Chapter 5) be utilized in order to allow sample sizes of nonequivalent proportions to be combined to accurately represent the national population. (Determining the desired sample size for each state/territory was based on the standard error equation which appears in Chapter 5.)

Chapter 10 presents data on a state/territory basis which was summarized *without* weighting. The purpose of publishing the unweighted state/territory data is to support and fully document the weighted and summarized data presented in the previous chapters, and to provide state/territory agencies, organizations or individuals with comparative data which may be utilized to meet various needs. In some instances, data are presented in percentages, which allow direct comparison that would not be afforded by raw numbers.

In reviewing the tables in this chapter, the reader is reminded that the numbers of registered chiropractors shown in the tables represent those who are members of the Chiropractors' Association of Australia as noted on page 49. (In contrast, the numbers presented in Chapter 4 represent approximately all registered chiropractors.)

The tables in this chapter provide data pertaining to each question that was asked of survey participants. Data are presented in the order in which survey questions were posed. The survey form, which appears as an Appendix of this publication, may be useful in tracking the data contained in this and

	AUSTRALIAN STATE/TERRITORY DATA							
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	Western Australia
Total number of **registered** practitioners*	21	440	8	177	178	12	361	84
Estimated number of **registered full-time** practitioners**	20	363	8	159	148	11	302	79
Number of **surveys mailed**	21	209	8	155	155	12	199	84
Number of **full-time registered survey respondents**	13	113	5	87	74	10	123	44

* From state/territory lists
** From survey responses

TABLE 10.1
Recap of Survey Information by State or Territory

previous chapters. Table 10.1 presents information concerning numbers of survey respondents by state/territory, and also provides additional background information to assist the reader in interpreting the survey data presented in tables throughout the remainder of Chapter 10. The data presented in Table 10.1 is reprinted for easy reference in a fold-out on Page 117.

PRACTITIONER AND PATIENT DEMOGRAPHICS

Pages 1-3 of the survey requested personal, educational and professional background information of the responding practitioners, as well as personal information relating to the types of patients seen by the respondents. The tables relating to this portion of the survey present the percent of total responses.

Type of Demographic Data	PRACTITIONER DEMOGRAPHICS (By Percent)								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd* / Wtd**
SEX									
Male	69.2	89.1	80.0	90.7	88.0	100.0	91.7	88.6	89.4 / 89.6
Female	30.8	10.9	20.0	9.3	12.0	0	8.3	11.4	10.6 / 10.4
PLACE OF BIRTH									
Australia	84.6	82.6	40.0	60.2	68.4	40.0	75.4	50.0	69.9 / 72.3
Britain	0	1.8	0	6.0	6.6	0	4.1	2.3	3.9 / 3.7
Canada	7.7	.9	0	4.8	0	0	.8	0	1.5 / 1.4
China	0	2.8	0	0	0	0	0	0	.6 / .9
Europe	7.7	3.7	0	1.2	9.2	10.0	4.9	2.3	4.5 / 4.5
New Zealand	0	2.8	0	15.7	3.9	10.0	4.9	11.4	6.7 / 6.0
North America	0	1.8	40.0	10.8	7.9	30.0	5.7	22.7	8.4 / 7.1
Vietnam	0	0	0	0	0	0	0	4.5	.4 / .3
Other	0	3.7	20.0	1.2	3.9	10.0	4.1	6.8	3.9 / 3.8
NON-CHIROPRACTIC EDUCATION									
High School Diploma	83.3	52.3	20.0	59.0	64.4	80.0	66.1	57.1	60.6 / 59.7
Associate Degree	8.3	7.3	40.0	10.8	9.6	0	7.6	7.1	8.6 / 8.4
Baccalaureate Degree	0	25.7	20.0	18.1	6.8	0	16.9	23.8	17.5 / 18.7
Master's Degree	0	.9	0	2.4	1.4	0	.8	2.4	1.3 / 1.2
Doctoral Degree	0	0	20.0	1.2	1.4	0	0	0	.7 / .5
Other	8.3	13.8	0	8.4	16.4	20.0	8.5	9.5	11.3 / 11.5
POST-GRADUATE SPECIALTY									
None/does not apply	100.0	96.4	100.0	96.5	88.0	100.0	93.3	95.3	94.4 / 94.5
American Chiro. Board of Sports Physicians	0	0	0	0	0	0	0	0	0 / 0
American Board of Chiro. Orthopedists	0	0	0	0	0	0	.8	0	.2 / .2
American Chiropractic Academy of Neurology	0	0	0	0	0	0	0	2.3	.2 / .2
American Chiropractic Board of Radiology	0	0	0	0	0	0	.8	0	.2 / .2
Chiropractic Rehabilitation Association	0	0	0	0	0	0	0	0	0 / 0
American Chiropractic Board of Nutrition	0	0	0	0	0	0	0	0	0 / 0
American Board of Chiropractic Internists	0	0	0	0	0	0	0	0	0 / 0
ICA College of Chiropractic Imaging	0	0	0	0	0	0	.8	0	.2 / .2
ICA College of Thermography	0	0	0	0	0	0	0	0	0 / 0
ICA Council on Applied Chiropractic Sciences	0	0	0	0	4.0	0	0	0	.6 / .5
Other	0	3.6	0	3.5	8.0	0	5.0	4.7	4.5 / 4.5

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.

Type of Demographic Data	PRACTITIONER DEMOGRAPHICS (By Percent)								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd */ Wtd**
INSTITUTION GRANTING DEGREE									
Anglo-European	0	1.8	0	0	3.0	10.0	0	0	1.1 / 1.1
Canadian Memorial	9.1	1.8	0	5.8	1.5	0	2.5	2.3	2.9 / 2.7
Cleveland-Kansas City	0	0	0	1.2	0	0	1.7	2.3	.9 / .8
Cleveland-Los Angeles	0	0	0	0	0	0	.8	0	.2 / .2
Institut Francais	0	0	0	0	0	0	0	0	0 / 0
Life	0	0	20.0	1.2	0	0	.8	0	.7 / .6
Life - West	0	0	0	0	0	0	0	0	0 / 0
Logan	0	0	0	1.2	0	0	0	0	.2 / .2
Los Angeles	0	0	0	3.5	0	0	.8	0	.9 / .8
National	0	.9	0	1.2	1.5	0	0	2.3	.9 / .8
New York	0	0	0	2.3	0	0	0	0	.4 / .3
Northwestern	0	0	0	0	3.0	0	0	2.3	.7 / .5
Palmer	18.2	14.5	40.0	19.8	19.7	40.0	10.7	36.4	18.3 / 17.0
Palmer-West	0	0	0	0	0	0	0	0	0 / 0
Parker	0	0	0	1.2	0	0	0	0	.2 / .2
Pennsylvania	0	0	0	0	0	0	0	0	0 / 0
Phillip Institute of Tech.	18.2	18.2	40.0	31.4	39.4	30.0	73.6	52.3	42.4 / 41.3
Sherman	0	0	0	3.5	1.5	0	0	0	.9 / .7
Southern California	0	0	0	0	0	0	0	0	0 / 0
Sydney	45.5	58.2	0	19.8	7.6	20.0	.8	0	20.8 / 24.6
Texas	0	0	0	0	0	0	0	0	0 / 0
Western States	0	0	0	1.2	0	0	0	0	.2 / .2
Other	9.1	4.5	0	7.0	22.7	0	8.3	2.3	8.4 / 8.0

Work Environment

									Unwtd* / Wtd**
Which best describes your position in the office where you work?									
Only doctor in office	53.8	71.2	40.0	73.3	59.2	100.0	48.4	54.5	61.9 / 62.0
One of two or more doctors in office	46.2	27.9	40.0	25.6	36.8	0	49.2	45.5	36.2 / 36.1
Junior associate or examining doctor	0	0	0	0	0	0	.8	0	.2 / .2
Other	0	.9	20.0	1.2	1.3	0	.8	0	1.7 / 1.6
Do you practice in more than one office location?									
Yes	15.4	20.7	60.0	35.6	31.6	20.0	44.3	22.7	31.8 / 31.3
No	84.6	79.3	40.0	64.4	68.4	80.0	55.7	77.3	68.2 / 68.7
Do you delegate patient care to a chiropractic assistant?									
Yes	46.2	34.2	60.0	49.4	22.4	40.0	23.8	43.2	34.0 / 33.0
No	53.8	65.8	40.0	50.6	77.6	60.0	76.2	56.8	66.0 / 67.0
Do you deliver chiropractic care outside an office setting?									
Yes	100.0	82.0	100.0	81.6	82.9	80.0	88.5	88.6	85.0 / 84.8
No	0	18.0	0	18.4	17.1	20.0	11.5	11.4	15.0 / 15.2
Do you have staff privileges at a hospital?									
Yes	0	.9	0	1.1	2.6	10.0	4.9	2.3	2.6 / 2.5
No	100.0	99.1	100.0	98.9	97.4	90.0	95.1	97.7	97.4 / 97.5
Have you received patient referrals from medical practitioners in the past two years?									
Yes	92.3	96.4	80.0	90.8	92.1	100.0	91.8	90.9	92.7 / 93.2
No	7.7	3.6	20.0	9.2	7.9	0	8.2	9.1	7.3 / 6.8

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.

Practitioner Experience and Orientation	PRACTITIONER DEMOGRAPHICS (By Percent)								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd / Wtd
How long have you been practicing in the state/territory in which you are currently located?									
Less than 2 years	30.8	6.4	60.0	13.8	5.3	0	17.4	9.1	11.8 / 11.3
2-4 years	15.4	17.3	0	21.8	19.7	30.0	15.7	31.8	19.5 / 18.9
5-15 years	30.8	50.0	20.0	40.2	46.1	10.0	48.8	38.6	44.4 / 45.9
more than 15 years	23.1	26.4	20.0	24.1	28.9	60.0	18.2	20.5	24.2 / 23.9
How long have you been in practice altogether, including your current and otherstate/territory or countries?									
Less than 2 years	15.4	3.6	0	10.3	3.9	0	15.6	6.8	8.6 / 8.4
2-4 years	7.7	11.8	20.0	11.5	9.2	10.0	17.2	20.5	13.5 / 13.5
5-15 years	38.5	54.5	60.0	44.8	51.3	30.0	47.5	45.5	48.6 / 49.6
More than 15 years	38.5	30.0	20.0	33.3	35.5	60.0	19.7	27.3	29.3 / 28.6
What kind of clinical orientation did you receive in your first field practice setting?									
No formal orientation	38.5	36.4	20.0	34.9	34.2	50.0	24.0	27.3	31.8 / 31.8
A preceptorship/field internship	30.8	27.3	40.0	31.4	31.5	40.0	53.7	40.9	37.4 / 37.1
An associateship	23.1	29.1	40.0	31.4	27.4	10.0	19.0	27.3	26.0 / 26.0
A state-mandated training program	7.7	2.7	0	1.2	2.7	0	1.7	0	1.9 / 2.0
Other	0	4.5	0	1.2	4.1	0	1.7	4.5	2.8 / 3.0
Approximately what percentage of your time is spent on each of the following functions during a typical week?									
Business Management	14.8	15.1	18.8	14.5	15.1	14.8	15.6	17.1	15.3 / 15.3
Direct Patient Care	54.3	59.6	56.3	56.8	55.7	66.7	59.2	61.2	58.4 / 58.6
Patient Education	21.0	18.4	25.0	21.8	22.2	16.7	19.5	17.8	20.0 / 19.8
Research	9.9	7.0	0	6.9	7.1	1.9	5.7	3.9	6.3 / 6.4

Types of Patients

									Unwtd / Wtd
SEX									
Male	46.4	46.5	50.0	42.4	43.5	40.4	44.4	46.0	44.6 / 44.8
Female	53.6	53.5	50.0	57.6	56.5	59.6	55.6	54.0	55.4 / 55.2
AGE									
17 or younger	13.7	13.3	11.4	14.6	13.6	12.9	14.1	13.6	13.8 / 13.8
18 to 30	21.1	21.7	22.9	20.1	20.3	17.1	21.8	22.5	21.2 / 21.3
30 to 50	31.6	30.8	42.9	32.9	31.1	35.7	31.1	32.8	31.7 / 31.5
51 to 64	20.0	20.8	11.4	18.8	20.9	21.4	19.0	18.5	19.7 / 19.8
65 or older	13.7	13.5	11.4	13.7	14.1	12.9	14.0	12.6	13.6 / 13.7
ETHNIC ORIGIN									
Aboriginal	6.1	5.0	10.2	7.2	5.6	4.1	3.5	7.6	5.5 / 5.3
Chinese	10.2	10.0	8.2	8.5	6.5	6.9	9.2	7.0	8.6 / 8.8
European Descent	22.5	28.5	22.5	30.3	29.1	38.4	29.4	25.4	28.8 / 28.8
Greek	12.2	11.5	10.2	9.7	12.5	11.0	13.5	8.8	11.5 / 11.7
Indonesian	4.1	2.9	4.1	4.6	3.0	2.7	2.2	2.9	3.1 / 3.0
Italian	14.3	13.9	10.2	12.6	14.3	12.3	16.0	11.4	13.9 / 14.1
United Kingdom	16.3	19.8	18.4	16.9	20.1	16.4	16.9	27.1	19.1 / 19.1
Vietnamese	5.1	2.4	6.1	3.5	3.2	1.4	3.2	3.8	3.2 / 3.1
Other	9.2	6.0	10.2	6.7	5.8	6.9	6.1	6.1	6.3 / 6.2
OCCUPATION									
Executive/Professional	11.6	14.0	10.4	10.7	11.1	10.1	12.2	11.4	12.0 / 12.4
White collar/Secretarial	16.3	15.3	10.4	13.8	13.8	12.1	13.9	13.9	14.2 / 14.3
Pro/Amateur athlete	10.9	10.3	10.4	9.8	9.1	8.1	10.4	9.6	9.9 / 10.0
Tradesman/Skilled laborer	14.0	14.6	18.8	16.9	15.5	18.2	15.8	17.5	15.8 / 15.6
Unskilled laborer	11.6	10.2	12.5	11.2	12.0	12.1	12.3	11.7	11.5 / 11.3
Homemaker	14.7	15.1	16.7	15.9	16.0	18.2	14.9	15.7	15.5 / 15.4
Student	10.1	9.9	10.4	10.0	10.4	10.1	10.1	9.9	10.1 / 10.0
Retired or other	10.9	10.7	10.4	11.7	12.2	11.1	10.5	10.3	11.1 / 11.0

TYPES OF CONDITIONS

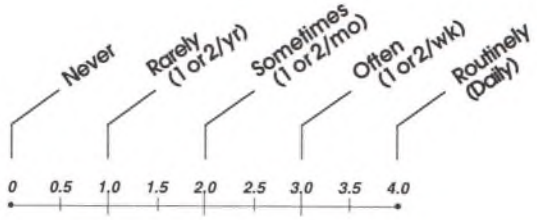
Pages 5-8 of the survey contained a list of patient conditions that were divided into 17 categories. Participants were asked to consider and indicate how often they had seen patients with the following presenting or concurrent conditions in the previous 2 years. The 0-to-4 rating scale (shown below) was used throughout this section of the survey.

0 = NEVER
1 = RARELY (1-2 per year)
2 = SOMETIMES (1-2 per month)
3 = OFTEN (1-2 per week)
4 = ROUTINELY (Daily)

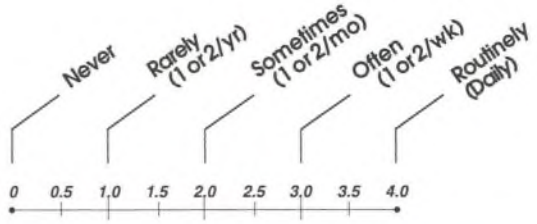
Type of Condition	FREQUENCY OF CONDITIONS: Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	NATIONAL AVERAGES Unwtd */ Wtd**
ARTICULAR/JOINT									
spinal sublux./joint dysfunction	3.85	3.97	4.00	3.94	3.95	4.00	4.00	4.00	3.97/ 3.97
extremity sublux./joint dysfunction	2.92	3.55	3.00	3.22	3.32	3.70	3.43	3.34	3.38/ 3.41
sprain or dislocation of a joint	2.62	2.86	2.40	2.52	2.51	2.50	2.80	2.64	2.68/ 2.72
vertebral facet syndrome	3.08	3.33	3.60	2.92	2.95	2.90	2.96	3.14	3.06/ 3.09
intervertebral disc syndrome	2.62	2.95	3.00	2.82	2.67	2.90	2.69	3.05	2.81/ 2.82
thoracic outlet syndrome	1.85	2.11	1.80	2.03	2.05	2.10	2.07	2.09	2.06/ 2.07
hyperlordosis of cerv./ lumbar spine	2.62	3.03	2.80	3.06	2.84	2.80	2.70	2.91	2.89/ 2.89
kyphosis of thoracic spine	2.38	2.95	2.40	2.95	2.84	2.40	2.67	2.82	2.81/ 2.83
aseptic necrosis or epiphysitis	0.85	0.99	0.40	0.80	0.72	1.20	0.85	0.75	0.85/ 0.87
scoliosis	2.92	3.09	3.00	3.00	2.93	2.60	2.82	2.91	2.94/ 2.96
congenital/developmental anomaly	2.46	2.50	1.80	2.38	2.42	2.50	2.38	2.86	2.46/ 2.46
osteoarthritis/degen. joint disease	3.46	3.57	3.00	3.54	3.50	3.30	3.56	3.70	3.55/ 3.55
systemic/rheumatoid arthritis/gout	1.77	2.08	1.60	2.06	1.92	2.40	1.85	2.27	2.00/ 2.00
bacterial infection of joint	0.69	0.73	0.80	0.66	0.55	0.80	0.54	0.61	0.63/ 0.63
bursitis or synovitis	2.00	2.14	2.40	2.11	2.00	2.40	2.13	2.14	2.12/ 2.12
carpal or tarsal tunnel syndrome	1.92	2.11	2.20	2.03	2.03	2.60	2.14	2.20	2.10/ 2.10
TMJ syndrome	2.15	2.41	2.00	2.26	2.26	2.10	2.16	2.20	2.26/ 2.27
joint tumor or neoplasm	0.69	0.73	0.60	0.68	0.74	0.80	0.74	0.77	0.73/ 0.73
spinal canal stenosis	0.85	1.38	0.60	1.33	1.13	1.10	1.20	1.18	1.23/ 1.25
NEUROLOGICAL									
headaches	3.62	3.88	3.80	3.85	3.84	3.80	3.78	3.91	3.84/ 3.84
peripheral neuritis or neuralgia	3.08	3.32	3.40	3.26	3.12	3.40	3.06	3.39	3.21/ 3.21
ALS, multiple sclerosis, Parkinson's	1.15	1.14	0.80	1.28	1.29	1.60	1.00	1.18	1.16/ 1.15
tearing or rupture of nerve/plexus	0.92	0.80	0.60	0.86	0.83	0.50	0.77	0.77	0.80/ 0.80
stroke or cerebrovascular cond.	1.08	1.01	0.60	1.16	1.16	1.20	1.02	1.02	1.07/ 1.06
vertebrobasilar artery insufficiency	0.92	1.14	1.20	1.03	1.12	1.30	1.07	1.14	1.10/ 1.10
cranial nerve disorder	1.31	1.11	0.40	1.33	1.07	1.30	1.02	1.18	1.13/ 1.12
radiculitis or radiculopathy	2.31	2.67	2.80	2.31	2.05	2.50	2.20	2.43	2.35/ 2.38
loss of equilibrium	2.00	1.91	1.20	2.15	1.95	2.20	1.72	2.27	1.95/ 1.92
brain or spinal cord tumor	0.31	0.49	0.20	0.49	0.58	0.70	0.41	0.52	0.48/ 0.48
SKELETAL									
fracture	1.23	1.40	1.00	1.29	1.16	1.20	1.22	1.14	1.25 / 1.27
osteoporosis/osteomalacia	1.85	2.41	1.80	2.43	2.30	2.20	2.31	2.55	2.36/ 2.36
congenital/develop. anomaly	2.46	2.34	2.00	2.28	2.20	2.00	2.26	2.55	2.30/ 2.30
endocrine/metab. bone disorder	1.15	1.21	0.60	1.18	1.13	0.90	0.95	1.09	1.10/ 1.11
bone tumor	0.77	0.69	0.80	0.67	0.66	0.80	0.66	0.80	0.69/ 0.69

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



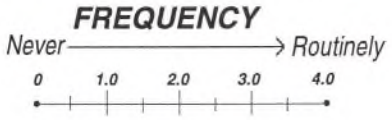
Type of Condition	FREQUENCY OF CONDITIONS								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd* / Wtd**
MUSCULAR									
muscular strain/tear	2.77	3.33	3.20	3.01	3.17	2.90	3.39	3.11	3.22 / 3.25
tendinitis/tenosynovitis	3.00	3.12	2.60	2.74	2.93	3.20	3.13	2.98	3.00 / 3.02
muscular dystrophy	0.85	0.95	0.60	0.99	0.97	0.70	0.85	0.84	0.91 / 0.92
muscular atrophy	1.08	1.63	1.20	1.47	1.37	1.30	1.52	1.48	1.49 / 1.51
muscle tumor	0.31	0.29	0.20	0.33	0.24	0.50	0.20	0.30	0.27 / 0.27
CARDIOVASCULAR									
high or low blood pressure	2.85	3.07	2.80	3.13	3.04	3.20	3.11	2.91	3.07 / 3.07
angina or myocardial infarction	1.08	1.68	1.20	1.64	1.53	1.80	1.58	1.45	1.58 / 1.60
arterial aneurysm	0.69	0.82	0.80	0.92	0.72	0.70	0.80	0.77	0.81 / 0.81
peripheral artery /vein disorder	1.38	1.58	1.40	1.47	1.55	1.70	1.66	1.18	1.53 / 1.55
murmur or rhythm irregularity	1.31	1.32	0.80	1.28	1.32	1.30	1.27	1.25	1.28 / 1.29
congenital anomaly	0.77	0.80	0.40	0.87	0.92	0.90	0.82	0.64	0.82 / 0.82
RESPIRATORY									
viral or bacterial infection	2.15	2.61	1.80	2.56	2.63	2.50	2.75	2.64	2.62 / 2.63
asthma, emphysema or COPD	2.54	2.83	3.00	2.97	2.79	3.10	2.79	2.86	2.84 / 2.83
occup./ environmental disorder	1.77	2.13	2.80	1.99	2.00	2.60	2.02	2.07	2.06 / 2.06
atelectasis or pneumothorax	0.69	0.58	0.60	0.62	0.53	0.60	0.56	0.55	0.57 / 0.57
tumor of lung or resp. passages	0.31	0.53	0.20	0.43	0.53	0.40	0.45	0.45	0.47 / 0.48
INTEGUMENT									
acne, dermatitis or psoriasis	2.15	2.44	2.00	2.55	2.54	2.50	2.68	2.52	2.54 / 2.54
bacterial or fungal infection	1.31	1.82	1.20	1.86	1.80	1.80	1.92	1.75	1.82 / 1.83
herpes simplex or zoster	1.31	1.48	0.80	1.46	1.54	1.40	1.42	1.52	1.46 / 1.46
pigment disorders	1.08	1.17	0.80	1.22	1.21	1.00	1.26	1.18	1.20 / 1.20
skin cancer	1.23	1.66	0.60	1.86	1.42	1.00	1.33	1.41	1.51 / 1.52
GASTROINTESTINAL									
bacterial or viral infection	1.85	1.72	1.00	2.10	1.96	1.80	2.09	1.84	1.94 / 1.92
appendicitis or cholecystitis	1.00	1.14	0.80	1.10	1.09	0.90	1.02	0.95	1.07 / 1.08
ulcer of stomach, intestine, colon	1.38	1.59	1.20	1.70	1.62	1.80	1.67	1.50	1.62 / 1.62
hiatus or inguinal hernia	2.08	2.00	1.40	2.11	1.87	2.00	1.89	1.70	1.94 / 1.94
colitis or diverticulitis	1.62	1.64	1.40	1.74	1.72	2.00	1.59	1.30	1.63 / 1.63
hemorrhoids	1.54	1.56	0.80	1.60	1.79	1.70	1.67	1.64	1.64 / 1.63
tumor of gastrointestinal tract	0.46	0.55	0.00	0.51	0.57	0.40	0.57	0.36	0.52 / 0.53
RENAL/UROLOGICAL									
infection of kidney /urinary tract	1.54	1.58	0.80	1.76	1.55	1.70	1.61	1.52	1.60 / 1.60
kidney stones	1.08	1.16	0.80	1.24	1.07	1.10	1.09	0.91	1.11 / 1.12
chronic kidney disease/failure	0.46	0.75	0.40	0.72	0.61	0.60	0.62	0.57	0.65 / 0.67
tumor of the kidney or bladder	0.23	0.26	0.00	0.25	0.29	0.30	0.28	0.25	0.27 / 0.27
MALE REPRODUCTIVE									
male infertility or impotency	0.85	0.92	0.60	1.20	0.88	0.90	0.88	1.32	0.99 / 0.97
prostate disorder	1.08	1.37	0.80	1.52	1.39	1.00	1.28	1.23	1.34 / 1.35
congenital anomaly	0.31	0.29	0.20	0.40	0.42	0.40	0.33	0.23	0.34 / 0.33
tumor of reproductive system	0.31	0.37	0.00	0.28	0.33	0.30	0.32	0.27	0.32 / 0.32

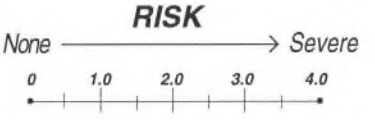


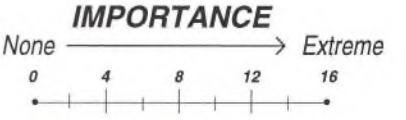
Type of Condition	FREQUENCY OF CONDITIONS								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd* / Wtd**
FEMALE REPRODUCTIVE OR BREAST									
female infertility	1.15	1.31	1.20	1.40	1.39	1.30	1.14	1.41	1.30 / 1.29
pregnancy	2.15	2.28	2.20	2.48	2.43	2.40	2.37	2.55	2.39 / 2.37
menstrual disorder	2.69	2.37	2.60	2.53	2.70	2.50	2.51	2.61	2.53 / 2.50
non-cancerous disorder of breast	1.08	1.28	0.60	1.53	1.37	1.40	1.37	1.23	1.35 / 1.34
tumor : breast or reproductive	0.77	0.86	0.40	0.89	0.92	0.70	0.80	0.68	0.83 / 0.84
HEMATOLOGICAL/LYMPHATIC									
anemia	1.23	1.23	0.40	1.48	1.32	1.00	1.38	1.30	1.32 / 1.32
immunological disorder	1.31	1.35	0.20	1.55	1.36	0.90	1.28	1.00	1.31 / 1.32
hereditary disorder	0.85	0.84	0.20	0.97	0.78	0.80	0.79	0.70	0.82 / 0.82
polycythemia	0.23	0.44	0.60	0.47	0.30	0.10	0.34	0.30	0.37 / 0.38
cancer of marrow/lymphatics	0.31	0.43	0.40	0.44	0.46	0.40	0.41	0.43	0.43 / 0.43
ENDOCRINE/METABOLIC									
obesity	2.46	2.54	2.60	2.69	2.45	2.10	2.73	2.82	2.62 / 2.62
thyroid or parathyroid disorder	1.46	1.43	0.80	1.66	1.64	1.40	1.50	1.41	1.52 / 1.51
adrenal disorder	1.08	1.28	0.80	1.23	1.22	1.00	1.00	0.93	1.14 / 1.15
pituitary disorder	0.69	0.77	0.40	0.86	0.92	0.80	0.67	0.43	0.75 / 0.75
thymus or pineal disorder	0.62	0.56	0.20	0.64	0.64	0.60	0.41	0.25	0.52 / 0.52
diabetes	1.46	1.80	1.20	1.89	1.87	1.60	1.89	1.70	1.82 / 1.83
endocrine tumor	0.38	0.38	0.00	0.31	0.28	0.30	0.41	0.11	0.33 / 0.34
CHILDHOOD DISORDERS									
upper respiratory/ear infection	2.54	2.18	2.40	2.46	2.28	2.00	2.33	2.55	2.33 / 2.31
measles/German measles	1.08	0.65	0.20	0.80	0.71	0.70	0.87	1.00	0.79 / 0.77
mumps	0.69	0.53	0.20	0.75	0.61	0.50	0.67	0.80	0.64 / 0.63
chickenpox	0.92	0.69	0.40	0.85	0.72	0.50	0.80	0.84	0.77 / 0.76
whooping cough	0.77	0.50	0.40	0.74	0.57	0.70	0.56	0.64	0.59 / 0.58
parasitic	0.62	0.52	0.20	0.70	0.71	0.50	0.42	0.48	0.55 / 0.54
VENEREAL									
herpes II	0.46	0.44	0.20	0.46	0.46	0.50	0.30	0.41	0.41 / 0.40
gonorrhea	0.23	0.19	0.00	0.17	0.18	0.00	0.16	0.14	0.17 / 0.17
chlamydia	0.38	0.33	0.20	0.30	0.39	0.50	0.29	0.34	0.33 / 0.33
venereal warts	0.38	0.28	0.20	0.28	0.17	0.30	0.20	0.16	0.23 / 0.23
syphilis	0.23	0.09	0.00	0.07	0.03	0.00	0.06	0.09	0.07 / 0.07
EENT									
eye or vision disorder	2.38	2.05	1.60	2.31	2.20	2.20	2.32	2.32	2.22 / 2.20
ear or hearing disorder	2.31	1.94	1.40	2.11	2.08	2.20	2.16	2.07	2.07 / 2.06
disorder of nose , sense of smell	1.77	1.31	1.20	1.47	1.36	1.20	1.32	1.27	1.35 / 1.34
disorder of throat or larynx	1.92	1.48	0.80	1.59	1.67	1.40	1.43	1.43	1.52 / 1.51
tumor of eye, ear, nose or throat	0.31	0.36	0.00	0.39	0.32	0.50	0.30	0.27	0.33 / 0.33
MISCELLANEOUS									
allergies	3.00	2.90	2.40	3.01	2.75	3.00	2.83	2.82	2.87 / 2.87
nutritional disorders	2.38	2.36	2.40	2.43	2.41	1.80	2.36	1.98	2.33 / 2.34
eating disorders	2.08	1.77	1.40	2.06	1.95	1.90	1.73	1.64	1.84 / 1.82
psychological disorders	2.15	1.86	1.20	2.02	2.01	1.90	1.93	1.82	1.93 / 1.92
AIDS-related complex	0.23	0.37	0.00	0.24	0.22	0.20	0.36	0.23	0.29 / 0.31

TYPES OF ACTIVITIES PERFORMED

Pages 10-13 of the survey asked participants to indicate how frequently they performed each of the 45 activities listed (divided into 9 major categories), and their perceived risk to patient safety if the activity were performed poorly or omitted. A 0-to-4 rating scale was used for both frequency and risk. The importance of an activity was obtained by multiplying the first two factors and averaging the result.







CASE HISTORY

1. Take an initial case history from a new patient.

STATE/TERRITORY	CASE HISTORY Frequency	Risk Factor	Importance	Number Reporting
Australian Territory	4.00	3.46	13.85	13
New South Wales	3.99	3.28	13.10	111
Northern Territory	4.00	3.00	12.00	5
Queensland	3.99	3.13	12.49	87
South Australia	4.00	3.12	12.47	76
Tasmania	4.00	3.30	13.20	10
Victoria	4.00	3.19	12.75	123
West Australia	4.00	2.93	11.73	44
NATIONAL AVERAGES	4.00	3.17	12.68	UNWEIGHTED*
	4.00	3.19	12.73	WEIGHTED**

CASE HISTORY

2. Identify nature of a patient's condition

STATE/TERRITORY	CASE HISTORY Frequency	Risk Factor	Importance	Number Reporting
Australian Territory	3.38	3.23	11.08	13
New South Wales	3.29	2.71	9.16	111
Northern Territory	3.00	2.20	8.00	5
Queensland	3.57	2.72	10.15	87
South Australia	3.46	2.78	9.82	76
Tasmania	3.20	2.60	8.40	10
Victoria	3.50	2.85	10.19	123
West Australia	3.30	2.36	8.36	44
NATIONAL AVERAGES	3.42	2.74	9.67	UNWEIGHTED*
	3.41	2.74	9.64	WEIGHTED**

CASE HISTORY

3. Perform a focused case history.

STATE/TERRITORY	CASE HISTORY Frequency	Risk Factor	Importance	Number Reporting
Australian Territory	3.31	2.62	9.00	13
New South Wales	3.45	2.78	10.06	111
Northern Territory	3.40	2.60	8.80	5
Queensland	3.46	2.59	9.40	87
South Australia	3.21	2.63	9.41	76
Tasmania	3.30	2.80	9.20	10
Victoria	3.38	2.69	9.62	123
West Australia	3.23	2.55	8.52	44
NATIONAL AVERAGES	3.37	2.67	9.51	UNWEIGHTED*
	3.38	2.69	9.60	WEIGHTED**

FREQUENCY
Never → Routinely
0 1.0 2.0 3.0 4.0

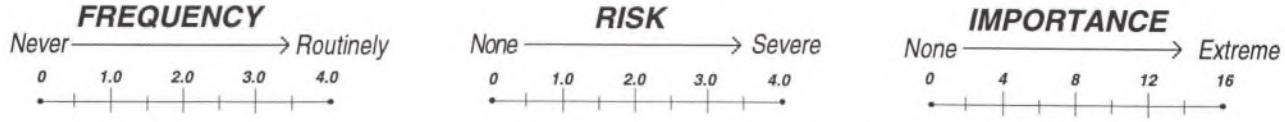
RISK
None → Severe
0 1.0 2.0 3.0 4.0

IMPORTANCE
None → Extreme
0 4 8 12 16

	STATE/TERRITORY	CASE HISTORY Frequency	Risk Factor	Importance	Number Reporting
CASE HISTORY 4. Take S.O.A.P. notes or case progress notes	Australian Territory	3.69	2.62	9.62	13
	New South Wales	3.71	2.41	9.31	111
	Northern Territory	3.60	2.00	7.20	5
	Queensland	3.51	2.09	7.70	87
	South Australia	3.66	2.47	9.51	76
	Tasmania	3.90	2.40	9.40	10
	Victoria	3.63	2.28	8.57	123
	West Australia	3.66	2.14	8.14	44
	NATIONAL AVERAGES	3.64	2.30	8.73	UNWEIGHTED*
		3.65	2.32	8.80	WEIGHTED**
CASE HISTORY 5. Determine appropriate technique or case management procedure	Australian Territory	3.23	2.38	7.92	13
	New South Wales	3.50	2.31	8.68	111
	Northern Territory	3.40	1.40	4.60	5
	Queensland	3.25	2.09	7.34	87
	South Australia	3.39	2.39	8.51	76
	Tasmania	3.50	2.30	8.10	10
	Victoria	3.50	2.27	8.38	123
	West Australia	3.14	2.14	7.28	44
	NATIONAL AVERAGES	3.39	2.25	8.12	UNWEIGHTED*
		3.42	2.26	8.23	WEIGHTED**
CASE HISTORY 6. Update case history	Australian Territory	3.85	2.77	10.69	13
	New South Wales	3.70	2.86	11.03	111
	Northern Territory	3.80	2.00	7.60	5
	Queensland	3.67	2.60	9.75	87
	South Australia	3.63	2.78	10.46	76
	Tasmania	4.00	3.20	12.80	10
	Victoria	3.62	2.80	10.40	123
	West Australia	3.66	2.57	9.73	44
	NATIONAL AVERAGES	3.67	2.75	10.40	UNWEIGHTED*
		3.67	2.77	10.48	WEIGHTED**

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



	STATE/TERRITORY	PHYSICAL EXAMINATION Frequency	Risk Factor	Importance	Number Reporting
PHYSICAL EXAMINATION 7. Perform a physical examination on a new patient.	Australian Territory	4.00	3.46	13.85	13
	New South Wales	3.86	3.22	12.65	111
	Northern Territory	3.60	2.60	10.00	5
	Queensland	3.80	2.94	11.40	87
	South Australia	3.87	3.13	12.24	76
	Tasmania	3.20	2.60	8.80	10
	Victoria	3.60	2.96	11.09	123
	West Australia	3.52	2.55	9.52	44
	NATIONAL AVERAGES	3.74	3.01	11.57	UNWEIGHTED*
		3.75	3.04	11.71	WEIGHTED**
PHYSICAL EXAMINATION 8. Assess general state of health	Australian Territory	3.46	2.62	9.38	13
	New South Wales	3.58	2.67	9.81	111
	Northern Territory	3.80	2.20	8.60	5
	Queensland	3.60	2.63	9.84	87
	South Australia	3.61	2.58	9.46	76
	Tasmania	3.20	2.20	7.00	10
	Victoria	3.45	2.47	8.89	123
	West Australia	3.07	2.20	7.30	44
	NATIONAL AVERAGES	3.49	2.54	9.20	UNWEIGHTED*
		3.51	2.55	9.28	WEIGHTED**
PHYSICAL EXAMINATION 9. Perform a regional examination	Australian Territory	3.38	2.77	10.23	13
	New South Wales	3.74	2.81	10.77	111
	Northern Territory	3.60	2.20	8.00	5
	Queensland	3.60	2.67	9.92	87
	South Australia	3.41	2.54	9.11	76
	Tasmania	3.10	2.40	7.90	10
	Victoria	3.56	2.76	10.20	123
	West Australia	3.27	2.32	8.09	44
	NATIONAL AVERAGES	3.54	2.67	9.84	UNWEIGHTED*
		3.58	2.69	10.01	WEIGHTED**

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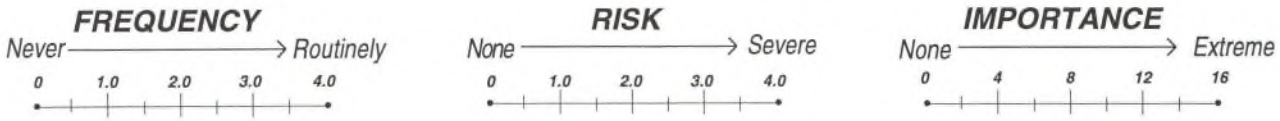

	STATE/TERRITORY	PHYSICAL EXAMINATION Frequency	Risk Factor	Importance	Number Reporting
PHYSICAL EXAMINATION 10. Update physical examination	Australian Territory	3.46	2.54	9.08	13
	New South Wales	3.59	2.69	9.94	111
	Northern Territory	3.60	2.00	7.20	5
	Queensland	3.48	2.52	9.02	87
	South Australia	3.43	2.39	8.75	76
	Tasmania	3.00	2.30	6.90	10
	Victoria	3.44	2.58	9.28	123
	West Australia	3.18	2.32	7.86	44
	NATIONAL AVERAGES	3.45	2.53	9.09	UNWEIGHTED*
		3.47	2.56	9.24	WEIGHTED**

	STATE/TERRITORY	NMS EXAMINATION Frequency	Risk Factor	Importance	Number Reporting
NMS EXAMINATION 11. Perform orthopedic and/or neurological examination	Australian Territory	3.62	3.15	11.62	13
	New South Wales	3.67	2.89	11.05	111
	Northern Territory	4.00	2.80	11.20	5
	Queensland	3.57	2.74	10.39	87
	South Australia	3.41	2.64	9.58	76
	Tasmania	3.10	2.30	8.10	10
	Victoria	3.53	2.76	10.23	123
	West Australia	3.57	2.50	9.41	44
	NATIONAL AVERAGES	3.55	2.74	10.28	UNWEIGHTED*
		3.57	2.77	10.39	WEIGHTED**

NMS EXAMINATION 12. Perform focused orthopedic and/or neurological examination	Australian Territory	3.15	2.46	8.00	13
	New South Wales	3.28	2.68	9.41	111
	Northern Territory	3.60	2.80	10.00	5
	Queensland	3.02	2.49	8.37	87
	South Australia	2.88	2.45	7.84	76
	Tasmania	2.40	2.40	6.90	10
	Victoria	3.17	2.63	8.98	123
	West Australia	2.77	2.36	7.18	44
	NATIONAL AVERAGES	3.07	2.56	8.55	UNWEIGHTED*
		3.11	2.58	8.71	WEIGHTED**

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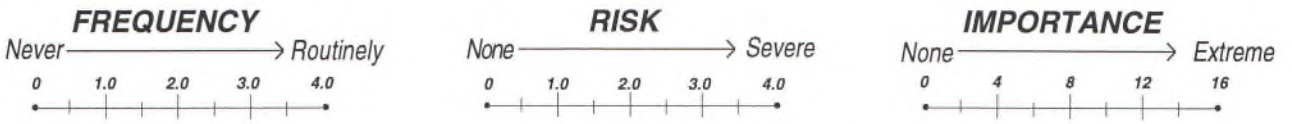
* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



	STATE/TERRITORY	PHYSICAL EXAMINATION Frequency	Risk Factor	Importance	Number Reporting
NMS EXAMINATION 13. Determine patient condition using orthopedic/neurological examination	Australian Territory	3.46	2.38	8.46	13
	New South Wales	3.30	2.56	9.09	111
	Northern Territory	3.80	2.40	9.60	5
	Queensland	3.38	2.60	9.34	87
	South Australia	3.18	2.50	8.51	76
	Tasmania	2.90	2.70	8.20	10
	Victoria	3.25	2.49	8.56	123
	West Australia	3.09	2.20	7.50	44
	NATIONAL AVERAGES	3.26	2.50	8.72	UNWEIGHTED*
		3.27	2.51	8.77	WEIGHTED**
NMS EXAMINATION 14. Determine additional lab/X-ray/special study, and/or referrals indicated	Australian Territory	3.31	2.31	8.46	13
	New South Wales	3.40	2.81	10.02	111
	Northern Territory	3.80	2.40	8.80	5
	Queensland	3.33	2.67	9.54	87
	South Australia	3.33	2.68	9.66	76
	Tasmania	3.30	2.70	9.20	10
	Victoria	3.42	2.72	9.77	123
	West Australia	3.14	2.41	8.00	44
	NATIONAL AVERAGES	3.36	2.68	9.54	UNWEIGHTED*
		3.37	2.71	9.64	WEIGHTED**
NMS EXAMINATION 15. Update orthopedic/neurological tests	Australian Territory	3.08	2.00	6.77	13
	New South Wales	3.40	2.59	9.20	111
	Northern Territory	3.80	2.20	8.20	5
	Queensland	3.23	2.45	8.68	87
	South Australia	3.11	2.39	8.09	76
	Tasmania	2.50	2.10	5.80	10
	Victoria	3.15	2.37	8.14	123
	West Australia	3.09	2.16	7.07	44
	NATIONAL AVERAGES	3.20	2.40	8.29	UNWEIGHTED*
		3.23	2.43	8.43	WEIGHTED**

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.

FREQUENCY
Never → Routinely
0 1.0 2.0 3.0 4.0

RISK
None → Severe
0 1.0 2.0 3.0 4.0

IMPORTANCE
None → Extreme
0 4 8 12 16

	STATE/TERRITORY	X-RAY EXAMINATION Frequency	Risk Factor	Importance	Number Reporting
X-RAY EXAMINATION 16. Perform X-ray on new patient	Australian Territory	3.15	2.85	9.31	13
	New South Wales	2.30	2.13	6.27	111
	Northern Territory	2.80	1.80	5.00	5
	Queensland	2.54	2.18	7.11	87
	South Australia	2.13	2.05	6.08	76
	Tasmania	1.80	2.70	6.30	10
	Victoria	2.67	2.33	7.50	123
	West Australia	3.23	2.57	8.48	44
	NATIONAL AVERAGES	2.52	2.25	7.00	UNWEIGHTED*
		2.49	2.23	6.92	WEIGHTED**
X-RAY EXAMINATION 17. Determine presence of pathology, fracture, or other significant findings	Australian Territory	3.31	3.23	10.69	13
	New South Wales	3.41	3.20	11.50	111
	Northern Territory	4.00	2.60	10.40	5
	Queensland	3.39	2.86	10.46	87
	South Australia	3.25	2.84	10.12	76
	Tasmania	2.90	3.20	10.40	10
	Victoria	3.54	3.20	11.52	123
	West Australia	3.52	3.07	11.09	44
	NATIONAL AVERAGES	3.42	3.06	10.99	UNWEIGHTED*
		3.42	3.09	11.10	WEIGHTED**
X-RAY EXAMINATION 18. Determine instability joint dysfunction	Australian Territory	2.23	1.92	5.23	13
	New South Wales	2.01	1.86	4.50	111
	Northern Territory	2.20	1.60	5.00	5
	Queensland	1.94	1.85	4.52	87
	South Australia	1.54	1.72	3.57	76
	Tasmania	2.30	2.30	6.40	10
	Victoria	1.95	1.84	4.32	123
	West Australia	1.89	1.89	4.39	44
	NATIONAL AVERAGES	1.91	1.84	4.36	UNWEIGHTED*
		1.92	1.84	4.35	WEIGHTED**

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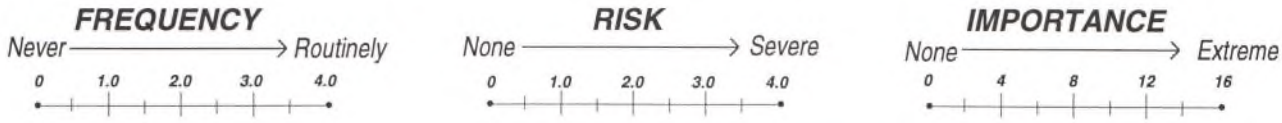

	STATE/TERRITORY	X-RAY EXAMINATION Frequency	Risk Factor	Importance	Number Reporting
X-RAY EXAMINATION 19. Determine presence of subluxation	Australian Territory	3.00	1.77	6.00	13
	New South Wales	2.44	1.61	4.94	111
	Northern Territory	2.20	1.00	2.60	5
	Queensland	2.78	1.64	5.51	87
	South Australia	2.34	1.57	4.68	76
	Tasmania	1.80	1.60	4.40	10
	Victoria	2.37	1.47	4.28	123
	West Australia	2.98	1.64	5.32	44
	NATIONAL AVERAGES	2.52	1.57	4.86	UNWEIGHTED*
		2.50	1.57	4.83	WEIGHTED**
X-RAY EXAMINATION 20. Update X-ray/perform new X-ray	Australian Territory	2.85	2.46	7.31	13
	New South Wales	2.71	2.37	7.26	111
	Northern Territory	2.60	1.20	3.00	5
	Queensland	2.41	2.14	5.86	87
	South Australia	2.24	2.03	5.36	76
	Tasmania	2.20	2.40	6.00	10
	Victoria	2.48	2.21	6.02	123
	West Australia	2.57	2.11	5.98	44
	NATIONAL AVERAGES	2.50	2.20	6.18	UNWEIGHTED*
		2.52	2.22	6.31	WEIGHTED**

	STATE/TERRITORY	LABORATORY & SPECIAL STUDIES Frequency	Risk Factor	Importance	Number Reporting
LABORATORY AND SPECIAL STUDIES 21. Draw blood, collect urine, or other laboratory procedures	Australian Territory	0.15	1.08	0.31	13
	New South Wales	0.24	0.92	0.35	111
	Northern Territory	0.20	1.00	0.40	5
	Queensland	0.11	0.86	0.16	87
	South Australia	0.22	0.91	0.37	76
	Tasmania	0.10	0.90	0.10	10
	Victoria	0.27	1.07	0.52	123
	West Australia	0.16	0.89	0.34	44
	NATIONAL AVERAGES	0.21	0.95	0.36	UNWEIGHTED*
		0.22	0.95	0.37	WEIGHTED**

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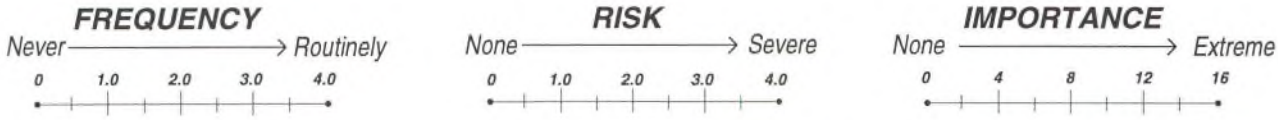

	STATE/TERRITORY	LABORATORY & SPECIAL STUDIES Frequency	Risk Factor	Importance	Number Reporting
LABORATORY AND SPECIAL STUDIES 22. Order laboratory tests	Australian Territory	0.69	1.31	1.85	13
	New South Wales	0.77	1.28	1.48	111
	Northern Territory	0.60	1.40	2.00	5
	Queensland	0.51	1.33	0.97	87
	South Australia	0.63	1.22	1.24	76
	Tasmania	0.10	1.00	0.00	10
	Victoria	0.74	1.51	1.53	123
	West Australia	0.64	1.34	1.23	44
	NATIONAL AVERAGES	0.66	1.34	1.32	UNWEIGHTED*
		0.69	1.35	1.36	WEIGHTED**
LABORATORY AND SPECIAL STUDIES 23. Refer patients for MRI, CT scan, EKG or other specialized procedure	Australian Territory	1.38	2.00	3.00	13
	New South Wales	1.54	2.08	3.56	111
	Northern Territory	2.00	1.80	3.00	5
	Queensland	1.21	2.07	2.92	87
	South Australia	1.20	1.79	2.47	76
	Tasmania	0.60	1.70	1.20	10
	Victoria	1.50	2.12	3.59	123
	West Australia	1.07	1.64	2.32	44
	NATIONAL AVERAGES	1.35	1.99	3.09	UNWEIGHTED*
		1.39	2.01	3.20	WEIGHTED**
LABORATORY AND SPECIAL STUDIES 24. Confirm diagnosis/ health-threatening condition	Australian Territory	1.38	2.15	3.38	13
	New South Wales	1.69	2.20	4.42	111
	Northern Territory	0.80	1.80	2.20	5
	Queensland	1.10	1.94	2.82	87
	South Australia	1.51	1.84	3.61	76
	Tasmania	1.10	1.80	2.30	10
	Victoria	1.68	2.32	4.72	123
	West Australia	1.18	1.95	3.14	44
	NATIONAL AVERAGES	1.47	2.09	3.85	UNWEIGHTED*
		1.52	2.12	4.01	WEIGHTED**

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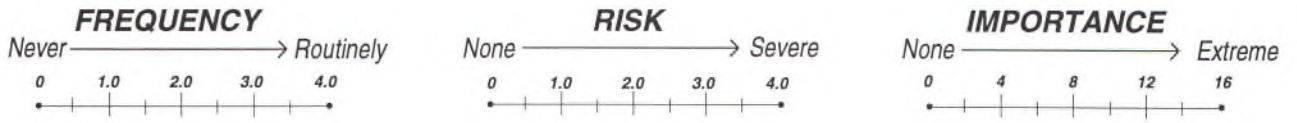


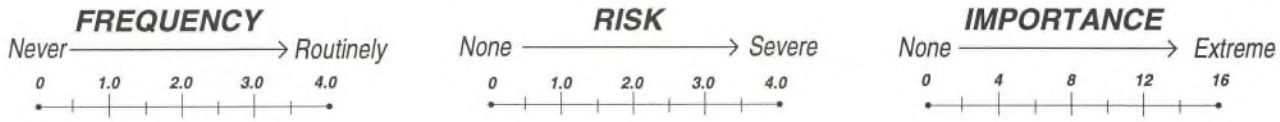
	STATE/TERRITORY	LABORATORY & SPECIAL STUDIES Frequency	Risk Factor	Importance	Number Reporting
LABORATORY AND SPECIAL STUDIES 25. Augment history, examination, or X-ray findings using information from laboratory or specialized studies	Australian Territory	1.54	1.92	3.54	13
	New South Wales	1.76	1.99	4.06	111
	Northern Territory	1.00	1.60	2.20	5
	Queensland	1.14	1.77	2.44	87
	South Australia	1.46	1.63	3.20	76
	Tasmania	1.20	1.90	2.50	10
	Victoria	1.65	1.98	3.97	123
	West Australia	1.34	1.84	2.98	44
	NATIONAL AVERAGES	1.50	1.87	3.43	UNWEIGHTED*
		1.55	1.89	3.56	WEIGHTED**

	STATE/TERRITORY	DIAGNOSIS Frequency	Risk Factor	Importance	Number Reporting
DIAGNOSIS 26. Relate problems to process	Australian Territory	2.54	2.38	6.46	13
	New South Wales	2.89	2.64	8.36	111
	Northern Territory	2.40	1.20	3.20	5
	Queensland	2.82	2.39	7.29	87
	South Australia	2.57	2.07	6.32	76
	Tasmania	2.80	2.40	7.10	10
	Victoria	2.68	2.43	7.22	123
	West Australia	2.75	2.20	6.75	44
	NATIONAL AVERAGES	2.74	2.38	7.25	UNWEIGHTED*
		2.76	2.42	7.40	WEIGHTED**

DIAGNOSIS 27. Distinguish between urgent/less urgent	Australian Territory	2.85	3.15	9.38	13
	New South Wales	3.44	3.29	11.54	111
	Northern Territory	3.40	2.60	9.80	5
	Queensland	3.10	2.98	9.91	87
	South Australia	3.16	2.84	9.63	76
	Tasmania	3.70	3.10	11.70	10
	Victoria	3.28	3.15	10.84	123
	West Australia	3.18	3.07	10.32	44
	NATIONAL AVERAGES	3.25	3.09	10.55	UNWEIGHTED*
		3.28	3.12	10.70	WEIGHTED**

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

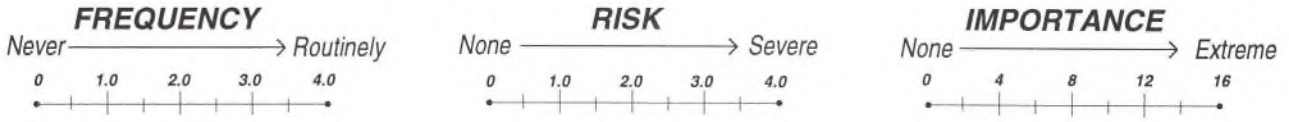
* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



	STATE/TERRITORY	DIAGNOSIS Frequency	Risk Factor	Importance	Number Reporting
DIAGNOSIS 28. Predict effectiveness of chiropractic	Australian Territory	3.15	2.00	6.31	13
	New South Wales	3.41	2.06	7.38	111
	Northern Territory	3.80	1.60	6.20	5
	Queensland	3.47	1.99	7.36	87
	South Australia	3.16	1.75	6.03	76
	Tasmania	3.30	1.70	6.00	10
	Victoria	3.38	2.03	7.24	123
	West Australia	3.23	1.93	6.32	44
	NATIONAL AVERAGES	3.35	1.96	6.95	UNWEIGHTED*
		3.36	1.98	7.03	WEIGHTED**
DIAGNOSIS 29. Refer patients to other health care practitioners	Australian Territory	1.92	2.08	4.54	13
	New South Wales	2.23	2.52	6.05	111
	Northern Territory	2.60	2.20	6.80	5
	Queensland	1.82	2.33	4.39	87
	South Australia	2.03	2.39	5.41	76
	Tasmania	2.10	2.90	6.30	10
	Victoria	2.11	2.52	5.49	123
	West Australia	1.93	2.39	4.61	44
	NATIONAL AVERAGES	2.05	2.45	5.33	UNWEIGHTED*
		2.08	2.46	5.44	WEIGHTED**
DIAGNOSIS 30. Arrive at a diagnosis/ impression	Australian Territory	3.15	2.31	7.46	13
	New South Wales	3.58	2.68	9.72	111
	Northern Territory	3.80	2.40	9.00	5
	Queensland	3.62	2.56	9.67	87
	South Australia	3.47	2.34	8.43	76
	Tasmania	3.60	2.60	9.60	10
	Victoria	3.62	2.59	9.69	123
	West Australia	3.52	2.18	8.07	44
	NATIONAL AVERAGES	3.57	2.52	9.27	UNWEIGHTED*
		3.57	2.55	9.36	WEIGHTED**

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



	STATE/TERRITORY	CHIROPRACTIC TECHNIQUE Frequency	Risk Factor	Importance	Number Reporting
CHIROPRACTIC TECHNIQUE 31. Perform specific chiropractic examination	Australian Territory	3.62	1.92	7.00	13
	New South Wales	3.93	2.50	9.87	111
	Northern Territory	4.00	1.80	7.20	5
	Queensland	3.77	2.16	8.41	87
	South Australia	3.74	2.34	8.91	76
	Tasmania	3.60	2.70	9.80	10
	Victoria	3.89	2.26	8.83	123
	West Australia	3.86	2.41	9.52	44
	NATIONAL AVERAGES	3.84	2.32	9.03	UNWEIGHTED*
		3.85	2.34	9.14	WEIGHTED**
CHIROPRACTIC TECHNIQUE 32. Utilize instruments	Australian Territory	2.00	1.54	3.62	13
	New South Wales	2.13	1.14	3.58	111
	Northern Territory	1.40	0.60	0.60	5
	Queensland	2.01	1.31	3.78	87
	South Australia	1.78	1.09	2.83	76
	Tasmania	1.20	0.70	1.10	10
	Victoria	1.69	0.98	2.22	123
	West Australia	2.23	1.18	3.70	44
	NATIONAL AVERAGES	1.91	1.12	3.07	UNWEIGHTED*
		1.93	1.12	3.09	WEIGHTED**
CHIROPRACTIC TECHNIQUE 33. Determine case management/technique	Australian Territory	3.15	2.23	7.31	13
	New South Wales	3.70	2.11	7.91	111
	Northern Territory	3.80	1.60	6.00	5
	Queensland	3.63	2.05	7.64	87
	South Australia	3.61	2.11	7.87	76
	Tasmania	3.60	2.40	8.60	10
	Victoria	3.72	1.99	7.51	123
	West Australia	3.68	2.09	7.91	44
	NATIONAL AVERAGES	3.66	2.07	7.73	UNWEIGHTED*
		3.67	2.07	7.74	WEIGHTED**

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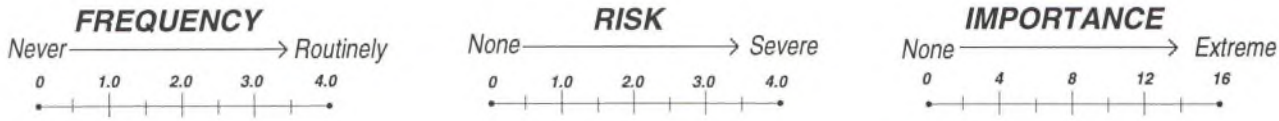
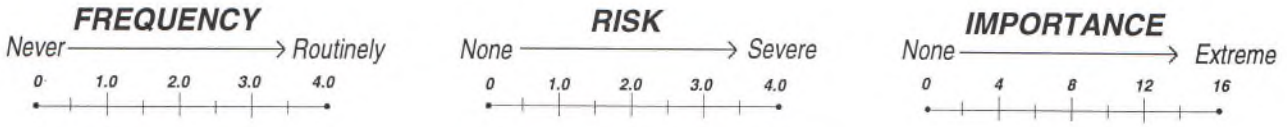
* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



	STATE/TERRITORY	CHIROPRACTIC TECHNIQUE Frequency	Risk Factor	Importance	Number Reporting
CHIROPRACTIC TECHNIQUE 34. Perform chiropractic adjustive techniques	Australian Territory	3.85	2.31	8.92	13
	New South Wales	3.96	2.33	9.25	111
	Northern Territory	3.20	1.40	5.60	5
	Queensland	3.99	2.14	8.54	87
	South Australia	3.95	2.37	9.33	76
	Tasmania	4.00	2.40	9.60	10
	Victoria	3.98	2.12	8.46	123
	West Australia	4.00	2.41	9.64	44
	NATIONAL AVERAGES	3.96	2.25	8.92	UNWEIGHTED*
		3.97	2.25	8.93	WEIGHTED**
CHIROPRACTIC TECHNIQUE 35. Update chiropractic examination	Australian Territory	3.62	2.08	7.54	13
	New South Wales	3.63	2.15	8.10	111
	Northern Territory	3.60	1.40	4.80	5
	Queensland	3.56	2.03	7.37	87
	South Australia	3.54	2.13	7.83	76
	Tasmania	3.70	2.60	9.50	10
	Victoria	3.58	2.02	7.41	123
	West Australia	3.41	2.14	7.59	44
	NATIONAL AVERAGES	3.57	2.09	7.67	UNWEIGHTED*
		3.58	2.09	7.70	WEIGHTED**

	STATE/TERRITORY	SUPPORTIVE TECHNIQUES Frequency	Risk Factor	Importance	Number Reporting
SUPPORTIVE TECHNIQUE 36. Evaluate patient condition	Australian Territory	3.23	1.92	6.38	13
	New South Wales	3.48	2.02	7.20	111
	Northern Territory	4.00	1.80	7.20	5
	Queensland	3.26	1.92	6.54	87
	South Australia	3.22	1.84	6.42	76
	Tasmania	3.60	1.90	6.50	10
	Victoria	3.37	2.01	7.06	123
	West Australia	3.48	2.07	7.41	44
	NATIONAL AVERAGES	3.37	1.97	6.90	UNWEIGHTED*
		3.38	1.98	6.95	WEIGHTED**



	STATE/TERRITORY	SUPPORTIVE TECHNIQUE Frequency	Risk Factor	Importance	Number Reporting
SUPPORTIVE TECHNIQUE 37. Determine use of supportive technique	Australian Territory	2.77	1.46	4.08	13
	New South Wales	3.50	1.43	5.08	111
	Northern Territory	3.20	0.80	3.00	5
	Queensland	3.10	1.66	4.87	87
	South Australia	2.97	1.64	4.89	76
	Tasmania	3.30	1.40	5.00	10
	Victoria	3.16	1.50	4.83	123
	West Australia	3.23	1.41	4.57	44
	NATIONAL AVERAGES	3.20	1.52	4.85	UNWEIGHTED*
		3.24	1.51	4.88	WEIGHTED**
SUPPORTIVE TECHNIQUE 38. Perform treatment procedures other than adjustive	Australian Territory	2.38	1.31	3.46	13
	New South Wales	3.04	1.64	5.28	111
	Northern Territory	2.80	1.00	3.00	5
	Queensland	2.52	1.37	3.77	87
	South Australia	2.87	1.39	4.46	76
	Tasmania	3.10	1.70	5.40	10
	Victoria	2.95	1.61	5.31	123
	West Australia	2.52	1.55	4.27	44
	NATIONAL AVERAGES	2.82	1.52	4.71	UNWEIGHTED*
		2.86	1.54	4.83	WEIGHTED**
SUPPORTIVE TECHNIQUE 39. Refer patient to other health care practitioners	Australian Territory	2.08	1.46	3.15	13
	New South Wales	1.94	1.42	3.26	111
	Northern Territory	2.00	1.20	3.20	5
	Queensland	1.66	1.52	2.75	87
	South Australia	1.67	1.34	2.46	76
	Tasmania	1.60	1.70	3.50	10
	Victoria	1.97	1.60	3.43	123
	West Australia	1.95	1.50	3.07	44
	NATIONAL AVERAGES	1.85	1.49	3.06	UNWEIGHTED*
		1.87	1.48	3.11	WEIGHTED**

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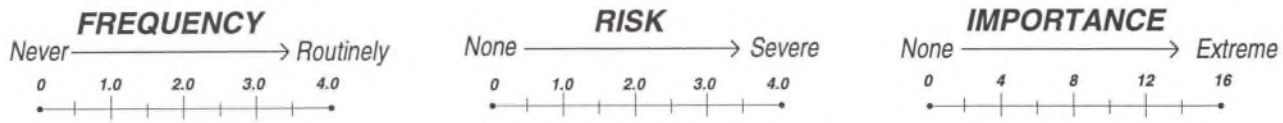
* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.



	STATE/TERRITORY	SUPPORTIVE TECHNIQUE Frequency	Risk Factor	Importance	Number Reporting
SUPPORTIVE TECHNIQUE 40. Monitor effectiveness of non-adjustive technique	Australian Territory	2.38	1.31	3.31	13
	New South Wales	3.15	1.57	5.36	111
	Northern Territory	3.80	1.80	6.80	5
	Queensland	2.74	1.48	4.28	87
	South Australia	2.83	1.55	4.80	76
	Tasmania	3.40	1.60	5.60	10
	Victoria	3.11	1.79	5.93	123
	West Australia	2.91	1.36	4.41	44
	NATIONAL AVERAGES	2.98	1.58	5.09	UNWEIGHTED*
		3.01	1.60	5.19	WEIGHTED**

	STATE/TERRITORY	CASE MANAGEMENT Frequency	Risk Factor	Importance	Number Reporting
CASE MANAGEMENT 41. Discuss alternatives with patient	Australian Territory	2.85	1.69	5.23	13
	New South Wales	2.63	1.79	5.01	111
	Northern Territory	2.80	1.60	4.40	5
	Queensland	2.66	1.85	5.34	87
	South Australia	2.67	1.63	4.61	76
	Tasmania	3.00	1.90	5.80	10
	Victoria	2.76	1.91	5.66	123
	West Australia	2.61	1.84	4.93	44
	NATIONAL AVERAGES	2.69	1.81	5.19	UNWEIGHTED*
		2.68	1.81	5.19	WEIGHTED**

CASE MANAGEMENT 42. Recommend and/or arrange for other services	Australian Territory	2.54	2.08	5.92	13
	New South Wales	2.81	2.30	6.87	111
	Northern Territory	3.60	2.60	9.20	5
	Queensland	2.43	2.17	5.66	87
	South Australia	2.53	2.16	5.84	76
	Tasmania	2.40	2.20	6.10	10
	Victoria	2.85	2.26	6.84	123
	West Australia	2.66	2.11	6.20	44
	NATIONAL AVERAGES	2.68	2.22	6.39	UNWEIGHTED*
		2.71	2.23	6.49	WEIGHTED**

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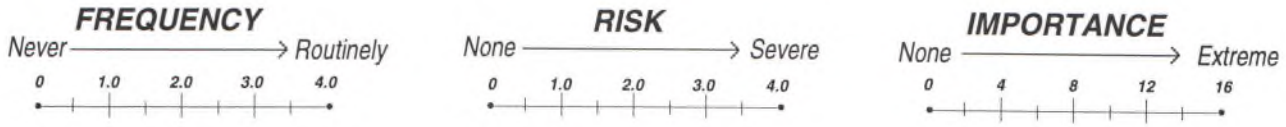


	STATE/TERRITORY	CASE MANAGEMENT Frequency	Risk Factor	Importance	Number Reporting
CASE MANAGEMENT 43. Modify case management	Australian Territory	3.31	2.62	9.00	13
	New South Wales	3.55	2.51	9.11	111
	Northern Territory	3.60	2.40	8.40	5
	Queensland	3.38	2.21	7.75	87
	South Australia	3.37	2.29	8.22	76
	Tasmania	3.90	2.70	10.50	10
	Victoria	3.53	2.37	8.55	123
	West Australia	3.32	2.11	7.39	44
	NATIONAL AVERAGES	3.46	2.35	8.42	UNWEIGHTED*
		3.48	2.37	8.51	WEIGHTED**
CASE MANAGEMENT 44. Encourage patient to change habits/ lifestyle	Australian Territory	3.85	2.38	9.15	13
	New South Wales	3.66	2.11	7.75	111
	Northern Territory	3.60	2.00	7.20	5
	Queensland	3.72	2.05	7.72	87
	South Australia	3.49	1.97	7.14	76
	Tasmania	3.30	2.70	9.10	10
	Victoria	3.62	2.25	8.26	123
	West Australia	3.61	1.84	6.73	44
	NATIONAL AVERAGES	3.63	2.11	7.75	UNWEIGHTED*
		3.63	2.11	7.77	WEIGHTED**
CASE MANAGEMENT 45. Maintain written record	Australian Territory	3.69	2.23	8.46	13
	New South Wales	3.78	2.13	8.16	111
	Northern Territory	4.00	2.60	10.40	5
	Queensland	3.59	2.13	7.94	87
	South Australia	3.59	1.93	7.26	76
	Tasmania	3.70	2.60	9.60	10
	Victoria	3.63	2.22	8.24	123
	West Australia	3.43	1.93	6.80	44
	NATIONAL AVERAGES	3.64	2.12	7.93	UNWEIGHTED*
		3.66	2.12	7.96	WEIGHTED**

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.

TREATMENT PROCEDURES

Pages 14-15 of the survey directed participants to indicate the primary technique approach used in their practices, as well as whether or not they had used during the previous two years any of the adjustive and non-adjustive techniques listed. Response data by state/territory are shown on the following tables as a percent.

Treatment Procedure	FREQUENCY OF CONDITIONS								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd */ Wtd**
PRIMARY TECHNIQUE APPROACH									
Upper Cervical	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	.2 / .3
Full Spine	91.7	91.7	80.0	97.6	95.8	88.9	94.0	95.3	94.2 / 93.9
Other	8.3	7.4	20.0	2.4	4.2	11.1	6.0	4.7	5.6 / 5.8

Treatment Procedure	FREQUENCY OF CONDITIONS								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd */ Wtd**
ADJUSTIVE TECHNIQUE									
Activator	69.2	70.9	80.0	75.9	62.7	40.0	76.2	84.1	72.5 / 72.7
Applied kinesiology	69.2	50.0	80.0	57.5	64.0	60.0	66.4	63.6	60.3 / 59.3
Barge	0.0	5.5	0.0	2.3	11.8	0.0	0.0	0.0	3.6 / 3.8
Cox/Flexion-Distraction	15.4	24.5	80.0	9.2	29.3	30.0	18.9	9.3	20.0 / 20.6
Cranial	46.2	52.7	60.0	65.5	65.3	30.0	53.3	52.3	56.7 / 56.2
Diversified	92.3	90.9	100.0	90.8	92.0	100.0	91.8	84.1	91.0 / 91.0
Gonstead	69.2	51.8	80.0	69.0	74.7	70.0	80.3	93.2	71.2 / 69.1
Grostic	0.0	0.0	40.0	2.3	1.3	20.0	0.0	0.0	1.5 / 1.0
Life upper cervical	0.0	0.9	0.0	5.7	3.9	0.0	1.6	2.3	2.6 / 2.3
Logan Basic	7.7	21.8	60.0	34.5	38.2	40.0	39.3	34.9	33.0 / 32.0
Meric	7.7	6.4	20.0	19.5	13.3	20.0	10.7	11.6	12.0 / 11.1
NIMMO/Tonus receptor	38.5	62.7	80.0	62.1	68.4	70.0	80.3	72.7	68.7 / 68.8
NUCCA	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	.2 / .2
Palmer upper cervical/HIO	23.1	12.7	20.0	27.6	27.6	40.0	16.4	37.2	22.1 / 20.3
Pettibon	7.7	1.8	0.0	0.0	1.3	0.0	.8	2.3	1.3 / 1.3
Pierce-Stillwagon	38.5	20.0	20.0	33.3	30.3	0.0	10.7	16.3	21.5 / 20.6
SOT	76.9	61.8	80.0	64.4	62.7	40.0	70.5	63.6	65.0 / 65.0
Thompson	53.8	49.1	40.0	55.2	57.3	30.0	57.4	69.8	55.3 / 54.7
Toftness	0.0	1.8	20.0	1.1	2.6	0.0	.8	4.7	1.9 / 1.8
Other	15.4	16.4	60.0	21.8	28.9	20.0	17.2	23.3	20.8 / 20.0

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.

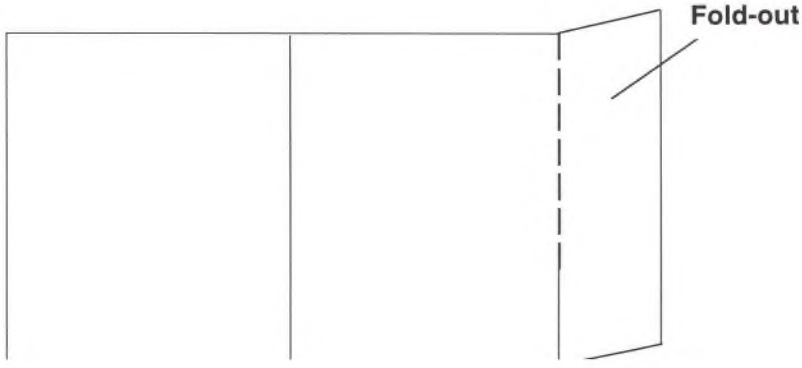
Reference of Survey Information by State/Territory

The table which appeared on Page 93 has been reprinted on this fold-out to facilitate the reading and comparing of state/territory data provided in the tables in this chapter.

	STATE/TERRITORY DATA							
	Australian Territory	New So. Wales	Northern Territory	Queensland	South Australia	Tasmania	Victoria	West Australia
Total number of **registered** practitioners*	21	440	8	177	178	12	361	84
Estimated number of **registered full-time** practitioners**	20	363	8	159	148	11	302	79
Number of **surveys mailed**	21	209	8	155	155	12	199	84
Number of **surveys returned** by full-time registered practitioners	13	113	5	87	74	10	123	44

* This study was based on 1281 members of the Chiropractors' Association of Australia in 1992.

** From survey responses



Treatment Procedure	FREQUENCY OF CONDITIONS								NATIONAL AVERAGES
	Australian Territory	New So. Wales	Northern Territory	Queens-land	South Australia	Tasmania	Victoria	West Australia	Unwtd */ Wtd**
NON-ADJUSTIVE TECHNIQUE									
Acupressure or meridian therapy	46.2	56.4	60.0	49.4	52.6	70.0	63.9	59.1	56.7 / 57.1
Acupuncture	7.7	18.2	20.0	17.2	17.1	10.0	9.0	9.3	14.2 / 14.4
Biofeedback	7.7	3.6	0.0	6.9	9.2	10.0	4.9	0.0	5.4 / 5.1
Bedrest	84.6	74.5	80.0	71.3	65.8	80.0	73.0	84.1	73.4 / 73.4
Bracing with lumbar support, cervical collar, or other devices	69.2	70.9	40.0	65.5	56.6	50.0	73.8	81.8	68.5 / 69.3
Casting or athletic taping/strapping	69.2	58.2	60.0	50.6	53.9	40.0	67.2	54.5	58.0 / 58.8
Corrective or therapeutic exercise	100.0	96.4	100.0	94.3	94.7	90.0	96.7	95.5	95.7 / 95.9
Diathermy-shortwave or microwave	0.0	13.6	0.0	5.7	2.6	0.0	12.3	2.3	8.2 / 9.3
Direct current, electrodiagnosis, or iontophoresis	0.0	10.0	0.0	3.4	1.3	0.0	7.4	7.0	5.8 / 6.5
Electrical stimulation-TENS, high-volt, low-volt, EMS	23.1	29.1	60.0	17.2	18.4	0.0	35.2	9.3	24.5 / 26.0
Foot orthotics or heel lifts	92.3	65.5	40.0	56.3	71.1	70.0	72.1	74.4	67.8 / 67.7
Homeopathic remedies	53.8	32.7	0.0	28.7	43.4	40.0	34.4	30.2	34.3 / 34.1
Hot pack/moist heat	69.2	54.5	40.0	63.2	55.3	50.0	59.8	50.0	57.4 / 57.2
Ice pack/cryotherapy	92.3	86.4	80.0	83.9	84.2	50.0	86.9	90.9	85.4 / 85.9
Infrared-baker, heat lamp or hot pad	30.8	30.0	0.0	17.2	18.4	20.0	15.6	18.2	20.3 / 21.3
Interferential current	7.7	14.5	40.0	6.9	3.9	10.0	17.2	14.0	12.0 / 12.7
Massage therapy	76.9	74.5	60.0	70.1	82.9	100.0	82.8	75.0	77.7 / 77.6
Nutritional counseling, therapy or supplements	76.9	84.5	80.0	80.5	84.2	70.0	87.7	81.4	83.7 / 84.2
Paraffin bath	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.4 / 0.5
Traction	30.8	48.2	40.0	27.6	39.5	50.0	50.0	37.2	41.8 / 43.3
Ultrasound	23.1	42.7	20.0	23.0	30.3	10.0	37.7	15.9	31.7 / 33.9
Ultraviolet therapy	0.0	0.9	0.0	0.0	2.6	0.0	0.8	0.0	0.9 / 0.9
Vibratory therapy	30.8	39.1	40.0	14.9	21.1	10.0	30.3	9.3	25.8 / 28.0
Whirlpool or hydrotherapy	15.4	5.5	20.0	2.3	11.8	10.0	10.7	7.0	7.9 / 7.8
Other	15.4	12.7	0.0	17.2	22.4	30.0	15.6	14.0	16.3 / 15.7

* **Unweighted (Unwtd) data:** Responses indicated "Unwtd" represent the arithmetic average based upon all responses.

* * **Weighted (Wtd) data:** Responses indicated "Wtd" were weighted by state/territory as explained in Chapter 5.

Chapter 11
Overview of Survey Response Data

For ease of reference, a summary of the New Zealand survey response data appears in this chapter. Addressed in capsulized form is the chiropractic practitioner, the patient, the patients' conditions, and activities or treatments typically performed. These data were based on responses of members of the Chiropractors' Association of New Zealand, see page 49.

The "Typical" Chiropractor

The NBCE job analysis survey generally depicts the typical chiropractor as male who was born in New Zealand (Table 11.1). The practitioner receives referrals from and makes referrals to medical physicians.

The typical chiropractor does not have post-graduate certification or specialty training, is the only doctor in the office, and practices in one location. On occasion, chiropractic care is delivered outside the office setting, such as in a patient's home.

The characteristic chiropractor has been practicing in the same location for an entire career which has spanned five to 15 years or longer. Weekly practice consists of 36.7 hours with the majority of time spent on direct patient care, followed by time spent on patient education, and business management.

New Zealand Practitioner/Respondent Demographic Summary

GENDER

Male	95.5%	Female	4.5%

PLACE OF BIRTH

New Zealand	87.7%	Europe	0.0%
Britain	7.7%	China	0.0%
Australia	3.1%	Vietnam	0.0%
Canada	1.5%	Other	0.0%
North America	0.0%		

Highest Level of NON-CHIROPRACTIC EDUCATION

High School Diploma	60.9%	Other	6.3%
Associate Degree	17.2%	Master's Degree	0.0%
Baccalaureate Degree	15.6%	Doctoral Degree	0.0%

SPECIALTY BOARD CERTIFICATION

None/Does not apply	94.0%
Other	6.0%
American Board of Chiropractic Orthopedists	0.0%
Canadian Specialty Certification Program	0.0%
American Chiropractic Board of Radiology	0.0%
ICA College of Thermography	0.0%
ICA College on Chiropractic Imaging	0.0%
Chiropractic Rehabilitation Association	0.0%
American Chiropractic Academy of Neurology	0.0%
American Chiropractic Board of Nutrition	0.0%
American Chiropractic Board of Sports Physicians	0.0%
American Board of Chiropractic Internists	0.0%
ICA Council on Applied Chiropractic Sciences	0.0%

INSTITUTION GRANTING DEGREE

Palmer	40.6%	Cleveland-Los Angeles	0.0%
Royal Melbourne	30.4%	Life-West	0.0%
Sherman	13.0%	Logan	0.0%
Anglo-European	8.7%	Los Angeles	0.0%
Canadian Memorial	4.3%	National	0.0%
Life	1.4%	New York	0.0%
Other	1.4%	Northwestern	0.0%
Cleveland-Kansas City	0.0%	Texas	0.0%

TABLE 11.1

The "Typical" Patient

A typical patient may be profiled as a female of European descent who is 31 to 50 years of age.

Overall, patients cover a wide range of occupations, with no occupational group having a majority. According to survey responses, chiropractic patients seen most frequently were from the following occupational groups: white collar/secretarial, tradesmen/skilled laborer, and homemaker (Table 11.2).

Summary of Reported New Zealand Patient Demographics

GENDER			
Male	44.3%	Female	55.7%
AGE			
17 or younger	14.0%	51 to 64	21.1%
18 to 30	20.9%	65 or older	13.6%
31 to 50	30.4%		
ETHNIC ORIGIN			
Aboriginal	0.5%	Italian	4.2%
Chinese	8.8%	United Kingdom	19.2%
European Descent	45.8%	Vietnamese	1.2%
Greek	3.5%	Polynesian	15.5%
Indonesian	1.4%		
OCCUPATION			
White collar/Secretarial			15.3%
Tradesman/Skilled Labor			14.7%
Homemaker			14.7%
Retired or other			13.3%
Unskilled Labor			11.8%
Executive/Professional			10.1%
Student			10.0%
Professional/Amateur athlete			10.0%

TABLE 11.2

Conditions

On a daily basis, the typical chiropractic practitioner will routinely see patients that present with complaints of back pain and neck pain. The conditions which are often diagnosed through history and examination, in decreasing order of frequency, are as follows: spinal subluxation/joint dysfunction, headaches,osteoarthritis/degenerative joint disease,peripheral neuritis or neuralgia, high or low blood pressure, vertebral facet syndrome, extremity subluxation/joint dysfunction, and muscular strain/tear.

Miscellaneous disorders which are also often diagnosed in chiropractic patients include abnormal anterior to posterior spinal curves, allergies, various respiratory disorders, intervertebral disc syndromes, osteoporosis, scoliosis, tendinitis/tenosynovitis, and many other conditions such as those listed on page 133.

Diagnosis and Case Management

In assessing new patients and their conditions, chiropractic practitioners routinely take case histories; perform physical and neuromusculoskeletal exams; and take X-rays on a new patient.

As the patient's condition changes, or as the patient presents with a new condition, the

case management is revised, and the patient is encouraged to make appropriate lifestyle changes as part of routine chiropractic care.

The typical New Zealand chiropractor utilizes 7.4 chiropractic adjustive techniques, with the most frequently utilized techniques being Gonstead and Diversified. Chiropractors utilize an average of 7.5 non-adjustive techniques including making various recommendations that are supportive to the chiropractic adjustment.

Corrective or therapeutic exercise was recommended by 88.6% of the practitioners during the past two years, while approximately two-thirds or more of the practitioners utilized or recommended the following: Ice Pack/Cryotherapy (70.0%), Nutritional Counseling, etc (68.6%), Bedrest (67.1%).

Summary of Routine Chiropractic Activities

The overview of chiropractic practice suggested by the data is that a chiropractor uses case histories supported by physical examination, neuromusculoskeletal examination, and radiographic examination to determine the appropriateness of chiropractic care for the individual patient.

In general, the doctors felt that lack of appropriate performance in these categories when indicated may present risk to the patient. These doctors also routinely used, among other things, chiropractic examination and adjustive/manipulative techniques, as well as frequently using supportive procedures in treating their patients.

Chiropractors routinely used case management activities such as encouraging patients to make appropriate changes in habits or lifestyle. They frequently discussed alternative courses of action with patients and recommended or arranged for services of other health professions when necessary.

Respondent Comments

Question 1: Beneficial Trends

The first question on the survey asked the respondent "What trends or developments during the next decade would be most **beneficial** to the chiropractic profession?" A total of 70 chiropractors responded to this question. Each chiropractor provided one or more trends.

The most frequently reported trends/developments included:

- increasing chiropractic research into the efficacy/cost-effectiveness of chiropractic treatment (26% of respondents)
- achieving insurance equality or parity with medicine in public and private health care plans (16% of respondents)

- developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic treatment (24% of respondents)
- establishing a chiropractic college in New Zealand (13% of respondents)

For other issues mentioned by respondents, refer to Table 11.3.

Question 2: Detrimental Trends

The second question on the survey asked the respondent "What trends or developments during the next decade would be most **detrimental** to the chiropractic profession?" A total of 69 chiropractors responded to this question. Each chiropractor provided one or more trends. The most frequently reported trends/developments included:

- continuing trend of overutilization of chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practices (9% of respondents)
- training non-chiropractic health care provider in adjustive/manipulative skills; use of manipulation by non-chiropractors (12% of respondents)
- losing governmental recognition/support for chiropractic; losing insurance coverage for chiropractic health services in public health plans (9% of respondents)
- losing radiological examination procedures from chiropractic scope of practice ((10% of respondents)
- allowing the chiropractic profession to be absorbed into medical practice or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession (22% of respondents)
- decreasing unity within the chiropractic profession; factionalism and infighting among chiropractors (14% of respondents)

For other issues mentioned by respondents, refer to Table 11.4.

QUESTION 1: BENEFICIAL TRENDS

What trends or developments during the next decade would be most BENEFICIAL to the chiropractic profession?

RESPONSES (Percent of responses nationwide appears after comment)

1. Increasing chiropractic research into the efficacy/ cost-effectiveness of chiropractic treatment. (26%)
2. Achieving parity with medicine in coverage for chiropractic services in medicare, workers' comp. and other public/private health plans. (16%)
3. Increasing emphasis on the total health care/ preventive health care benefits of chiropractic treatment. (4%)
4. Maintaining continuing education and professional skills maintenance/post graduate programs for chiropractors. (3%)
5. Obtaining hospital privileges/access to hospital laboratories, imaging facilities and referral rights for chiropractors. (10%)
6. Establishing standards of care/practice guidelines for chiropractic. (10%)
7. Developing an effective public relations/education program to increase the public's awareness of the benefits of chiropractic care. (24%)
8. Establishing the chiropractic profession as the primary/most effective or sole provider of adjustive/manipulative care. (1%)
9. Re-establishing traditional chiropractic philosophy as the basis for chiropractic practice. (10%)
10. Increasing the emphasis on the holistic approach to patient care; additional emphasis on nutrition, herbology, and other holistic treatment approaches. (1%)
11. Improving the interprofessional cooperation/relations with medicine and allied health providers; cross-referral of patients. (7%)
12. Establishing uniform educational standards/requirements for chiropractors; increasing educational standards/requirements. (3%)
13. Achieving unity within the chiropractic profession.(6%)
14. Providing information/ education to other health providers concerning the benefits and nature of chiropractic practice. (1%)
15. Increasing political action to secure favorable legislation for chiropractic. (6%)
16. Establishing a chiropractic college in New Zealand. (13%)
17. Providing a two-year internship for new graduates of chiropractic colleges prior to licensure; providing placement programs for new graduates. (37%)

Response No.	New Zealand
1	26
2	16
3	4
4	3
5	10
6	10
7	24
8	1
9	10
10	1
11	7
12	3
13	6
14	1
15	6
16	13
17	37

Percent of responses nationwide

TABLE 11.3

QUESTION 1: DETRIMENTAL TRENDS

What trends or developments during the next decade would be most DETRIMENTAL to the chiropractic profession?

RESPONSES (Percent of responses nationwide appears after comment)

1. Continuing the trend to over utilize chiropractic services; adopting unethical practice management seminar techniques in place of sound clinical practice procedures. (7%)
2. Continuing use of treatment techniques ofquestionable/ unproven clinical value. (3%)
3. Training non-chiropractic health care providers in adjustive/ manipulative skills; use of manipulation by non-chiropractors. (12%)
4. Losing governmental recognition/ support for chiropractic; failure to achieve inclusion in public/ private health care plans. (9%)
5. Including chiropractic in medicare/public funded health plans; allowing government/ bureaucratic determination of scope of chiropractic practice. (4%)
6. Losing radiological examination procedures from chiropractic scope of practice. (10%)
7. Failing to aggressively promote chiropractic to the public. (1%)
8. Allowing the chiropractic profession to be absorbed into medicine or to become an allied medical provider; losing chiropractic's identity as a separate and distinct profession. (22%)
9. Continuing trend of unethical advertising in the yellow pages and in other media. (1%)
10. Excluding chiropractic from the mainstream of healthcare providers; increasing alienation from medicine and other health professions. (14%)
11. Decreasing unity within chiropractic profession; factionalism and infighting among chiropractors. (3%)
12. Failing to take positive action to improve/ advance the profession; failure of chiropractic leadership to provide direction for profession. (6%)
13. Allowing profession to become narrowly focused on "straight" philosophy. (6%)
14. Losing status as primary contact/portal of entry providers. (6%)
15. Losing political initiative; increasing anti-chiropractic legislation. (3%)
16. Failing to pursue research; failing to prove efficacy/cost-effectiveness of chiropractic care. (3%)
17. Failing to define scope of practice; failing to develop practice standards or standards of care. (6%)
18. Losing university status for chiropractic colleges. (1%)
19. Narrowing scope of chiropractic practice; becoming"back doctors." (6%)
20. Losing control of registration for chiropractors/chiropractic educational institutions. (1%)

Response No.	New Zealand
1	7
2	3
3	12
4	9
5	4
6	10
7	17
8	22
9	1
10	14
11	3
12	6
13	6
14	6
15	3
16	3
17	6
18	1
19	6
20	1

Percent of responses nationwide

TABLE 11.4

Chapter 12
The Chiropractic Practitioner in New Zealand

This chapter examines the demographic data pertaining to the chiropractic practitioner/survey respondent. The survey questions began with personal data, then addressed education, specialization, work environment, and more.

Preliminary Criteria

Following some preliminary questions, the survey sought to qualify each respondent. As discussed in Chapter 5, the only criterion for participation was that the individual be a licensed, full-time practitioner of chiropractic.

Question number 4 on the first page of the survey asked if the respondent was currently in active full-time chiropractic practice.

If the individual answered "no" to this question, he/she was instructed to return the uncompleted questionnaire. Eighty-eight percent of practicing respondents reported their practice to be full-time (Figure 12.1).

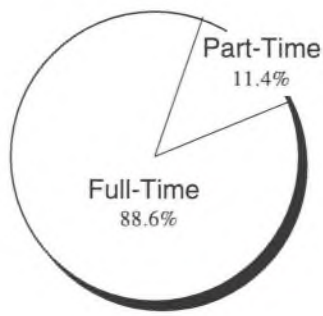


FIGURE 12.1
Full-time Respondents*

The next question asked the participants how many hours per week they devoted to their practices. The number of hours reported averaged 36.7 (Figure 12.2).

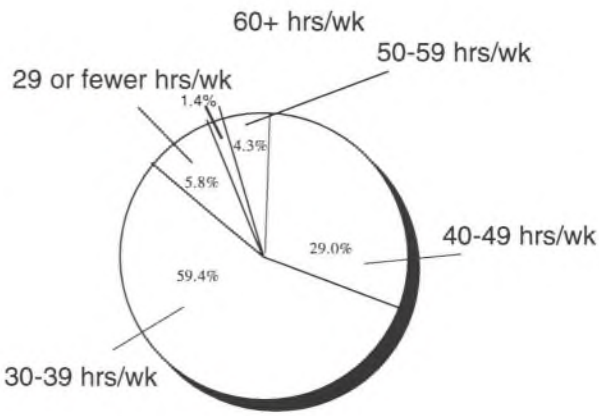


FIGURE 12.2
Hours per Week*

*Data are not weighted

Personal Demographics

In addition, the full-time practitioners who participated in the study were asked to provide demographic data about themselves.

The survey responses revealed that 95.5% of the participants were male and 4.5% were female. In comparison with information taken from the *United States Job Analysis of Chiropractic,* 86.7% of American practitioners are male and 13.3% are female.

Place of Birth

Overall, 87.7% of the respondents were born in New Zealand while the remaining were born in Britain, Australia or Canada (Figure 12.3).

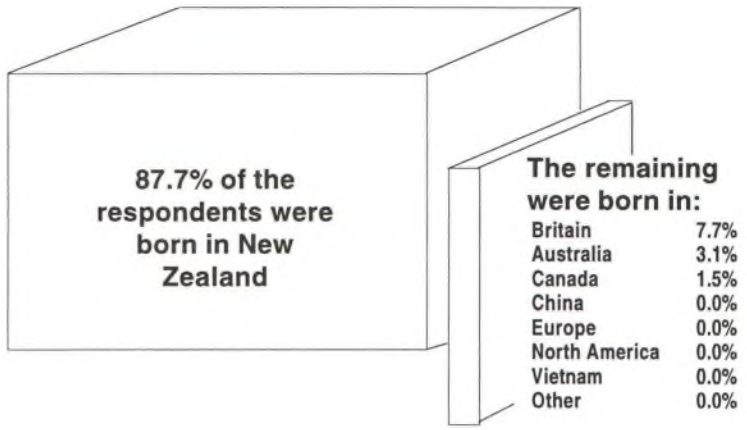


FIGURE 12.3
Respondents' Place of Birth

Level of Education

The participants were asked to mark the highest level of non-chiropractic education they had achieved. Approximately 17% of the respondents had an Associate degree and 15.6% had a Baccalaureate degree. The "Other" category was marked by 6.3% of the respondents (Figure 12.4).

Specialization

Concerning post-graduate specialty board eligibility or certification, 94.0% had none, and 6.0% indicated they had certification in areas other than those listed (Table 11.1).

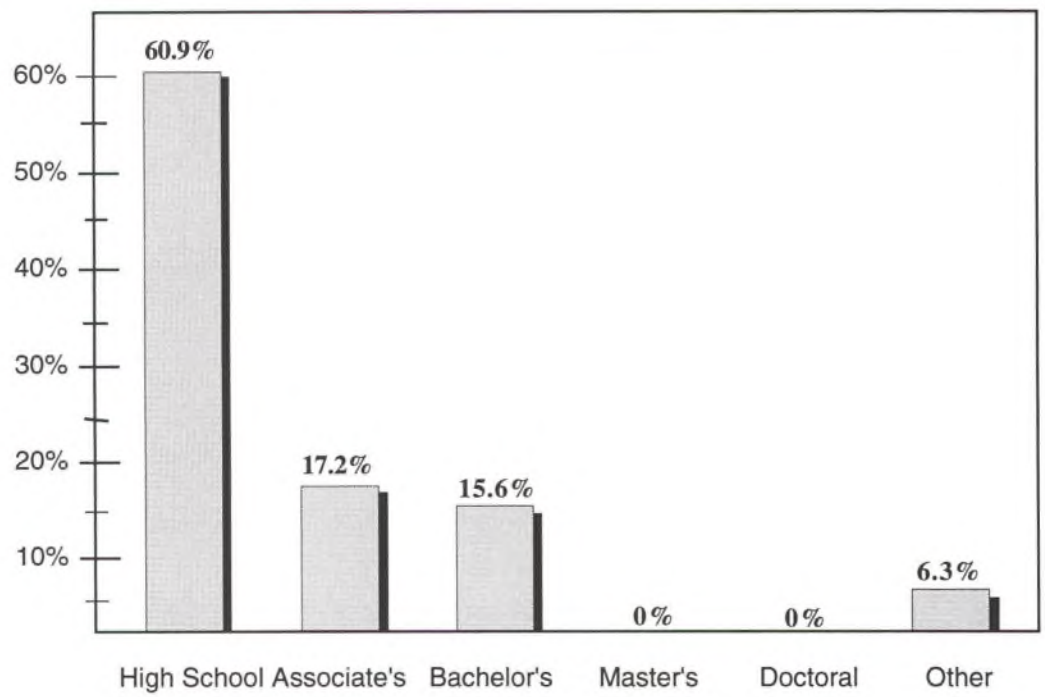


FIGURE 7.4
Non-chiropractic Education

Chiropractic Colleges Represented

Respondents next indicated the college which conferred their Doctor of Chiropractic degree (Table 7.1). The percent of graduates from each Chiropractic college was as follows:

Palmer	**40.6%**	**Cleveland-Kansas City**	**0.0%**
Royal Melbourne	**30.4%**	**Cleveland-Los Angeles**	**0.0%**
Sherman	**13.0%**	**Institut Francais**	**0.0%**
Anglo-European	**8.7%**	**Life-West**	**0.0%**
Canadian Memorial	**4.3%**	**Logan**	**0.0%**
Life	**1.4%**	**Los Angeles**	**0.0%**
Other	**1.4%**	**National**	**0.0%**

TABLE 12.5
Source of Chiropractic Degree*

Respondent's Work Environment

Relative to the respondents' work environment, 70.6% of those participating in the survey indicated they currently practiced in a setting where they are the only doctor in the office, while 29.4% indicated there are two or more doctors in the office in which they practice. None of the respondents indicated that they are working either as a junior associate, examining doctor or in a capacity other than those previously reported.

Practice Locations

Concerning whether those completing the survey currently practice in one or more office location, approximately 71.4% indicated one location while 28.6% said they practiced in more than one location (Figure 12.6).

FIGURE 12.6

Do you practice in more than one office location?

* See Appendix for complete listing of colleges.

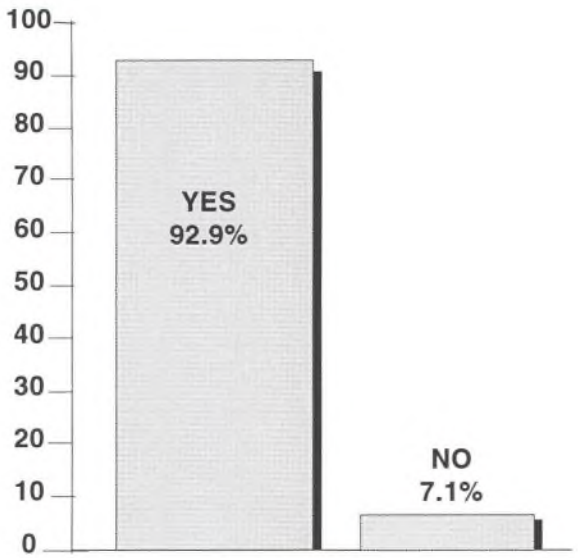


FIGURE 12.7
Do you ever deliver chiropractic care outside an office setting?

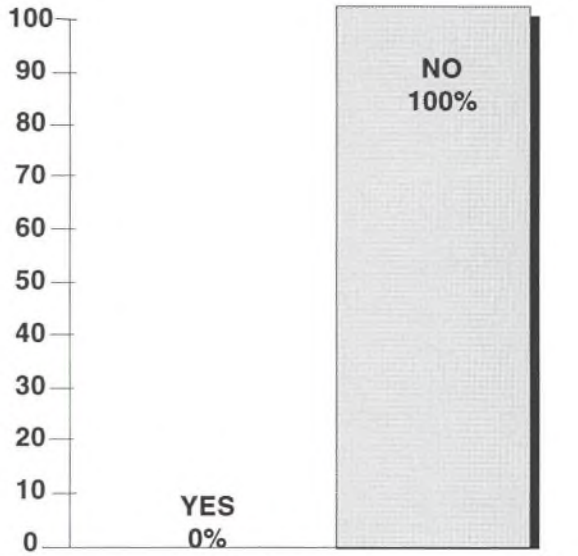


FIGURE 12.8
Do you have staff privileges at a hospital?

Delivery of Care

In regard to whether the respondents EVER delegate certain patient care to a chiropractic assistant, 44.3% said "yes" while 55.7% indicated "no" (Figure 12.7).

Concerning the occasional delivery of chiropractic care outside the office setting, 92.9% indicated they do while 7.1% said they do not deliver care outside the office setting (Figure 12.8).

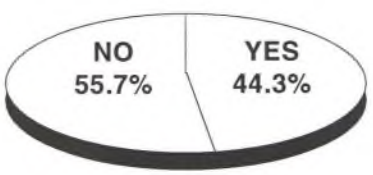


FIGURE 12.9
Do you delegate some of your patient care to a chiropractic assistant?

Hospital Staff Privileges

In regard to having staff privileges at a hospital, 100% of the respondents said they do not (Figure 12.8).

Chiropractors referred to and received referrals from medical practitioners. Of the survey respondents, 98.6% reported that they had received referrals from medical practitioners within the past two years, while 1.4% indicated they had not.

Experience and Orientation

The initial survey questions established how long the practitioners had been practicing in the state in which they are currently located. In answer to these questions, 40.0% said they had been practicing for 5 to 15 years in their current state; another 37.1% had been practicing for more than 15 years while 22.9% indicated they had been practicing for less than 5 years (Figure 12.10).

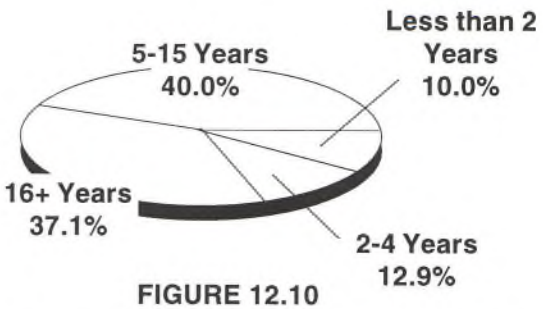


FIGURE 12.10

How long have you been in practice in the area in which you are currently located?

Total Length of Practice

Responses as to how long they had been in practice altogether, including their current state and other states or countries, were similar to the previous survey question regarding experience and orientation. A total of 43.5% had been practicing 5 to 15 years, 42.0% had been practicing more than fifteen years while 14.4% had been practicing less than five years (Figure 12.11).

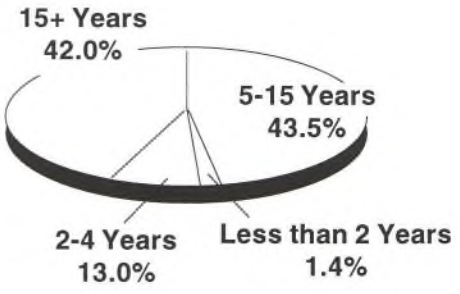


FIGURE 12.11

How long have you been practicing altogether?

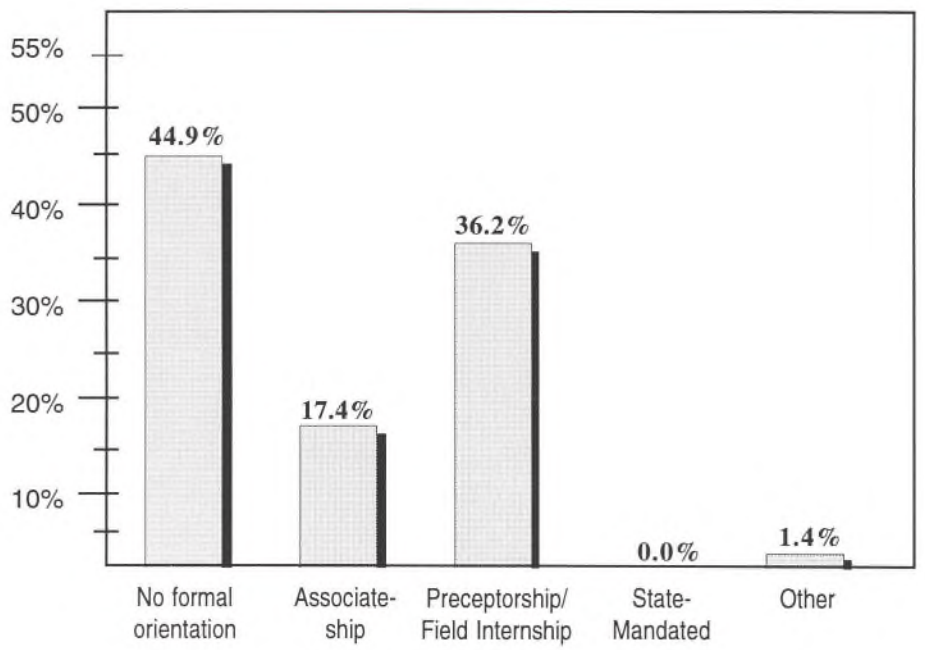


FIGURE 12.12

What kind of orientation did you receive in your first field practice setting?

Clinical Orientation

When asked to indicate the type of clinical orientation the survey respondents had received in their first practice setting, the following responses were given as indicated in Figure 12.12: 44.9% indicated they had received no formal orientation, 17.4% said they had an associateship while 36.2% indicated they had a preceptorship or field internship. The "other" category was designated by 1.4% of the respondents. None of the respondents indicated they had participated in a state/territory-mandated training program.

Breakdown of Time/Types of Patients

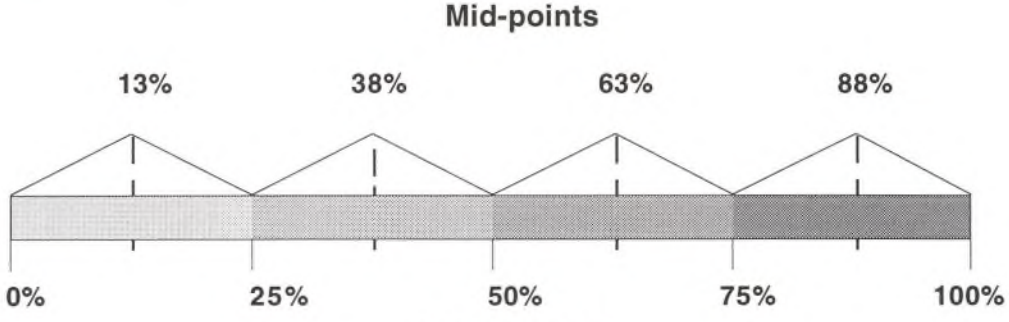


FIGURE 12.13

Percentage of Time and Types of Patients
A mid-point of the percentage range was utilized to calculate an overall percentage for practitioner's use of time and patient demographics (pages 3-4 of the survey).

In exploring the percentage of time chiropractors typically spend on various aspects of their practices (business management, direct patient care, patient education, and research), information was gathered by way of a percentage scale with five answer choices. Additionally, respondents indicated patient Sex, Age, Ethnic Origin, and Occupation on a similar 5-point scale.

The mid-point of the percentage range was utilized to calculate each overall percentage (Figure 12.13). For example, if the respondent indicated that 1-25% of his/her time was spent on research, this was converted to a mid-point of 13%. In like manner, the 26-50% answer choice was converted to a mid-point value of 38%; 51-75% to 63%; and 76-100% to 88%. (Data were scaled within each question so that the score totaled 100%.)

By scoring responses in this manner, an average percentage was calculated. (Standard errors for these questions were similar to other questions reported on a percentage scale.) The respondents indicated that 60.0% of their time was typically spent on direct patient care, while patient education involved 19.0% of their time, with approximately 15.9% spent on business management. Little or no time (5.1%) was spent on research. (Percentages for patient demographic data were obtained in the same manner and are reported on pages 120 and 132.)

Chapter 13
The Chiropractic Patient in New Zealand

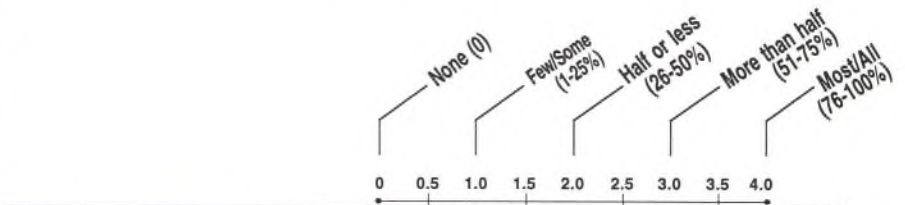
In this chapter, information gathered from Pages 4-8 of the job analysis survey is explored. This portion of the survey relates to the chiropractic patient as perceived by the practitioner/ respondent.

The survey asked that practitioners describe their patients in terms of gender, age, ethnic origin, occupation, and condition. A typical patient is an individual who enters a chiropractor's office complaining of some specific pain symptomatology: a headache of one type or another; a pain in the middle or lower back, neck, shoulder, arm, leg, or other area, all of which may or may not be concurrent with a spinal subluxation or other joint dysfunction.

As a result of proper history taking, physical examination, neuromusculoskeletal examination, and other diagnostic procedures, a diagnosis is made which may or may not include a subluxation.

In completing the portion of the survey relating to the patient, the respondent chiropractors were asked to estimate the distribution of patients in each of the indicated categories.

A five-point scale combining percentages with a corresponding label for each segment of the scale was used. The responses in each category were averaged. The results appear in Table 13.1 and in charts throughout this chapter.



New Zealand Patient Demographics		AVG
SEX	Male	2.01
	Female	2.53
AGE	17 or younger	.99
	18 to 30	1.47
	31 to 50	2.14
	51 to 64	1.49
	65 or older	.96
ETHNIC ORIGIN	Aboriginal	.03
	Chinese	.54
	European Descent	2.83
	Greek	.21
	Indonesian	.09
	Italian	.26
	United Kingdom	1.19
	Vietnamese	.07
	Polynesian	.96
OCCUPATION	Executive/Professional	1.21
	White Collar/Secretarial	1.57
	Professional/AmateurAthlete	1.03
	Tradesman/Skilled Laborer	1.51
	Unskilled Laborer	1.04
	Homemaker	1.51
	Student	1.03
	Retired or Other	1.37

TABLE 13.1

Sex/Gender of Patients

Chiropractors estimated that more than half of their patients are female (55.7%%) while less than half (44.3%) are male (Figure 13.1). In comparison, information from the *United States Job Analysis of Chiropractic* indicated that 40.7% of chiropractic patients are female while 59.3% are male.

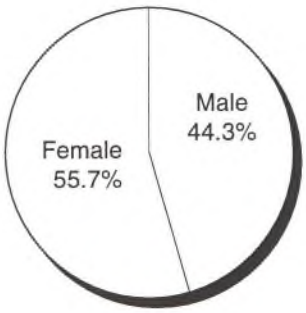


FIGURE 13.1
Patient Gender*

Age of Patients

In relation to age, 14.0% of patients were age 17 or younger; 20.9% were 18 to 30; 30.4% were 31 to 50; 21.1% were 51 to 64; and 13.6% were 65 or older (Figure 13.2).

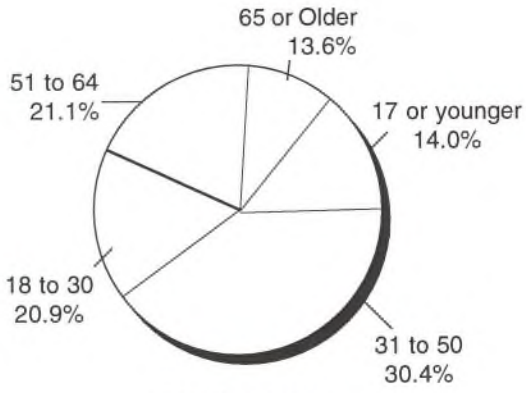


FIGURE 13.2
Patient Age*

Ethnic Origin

Almost half of the patients (45.8%) were of European descent (Table 13.1). This was followed by patients from the United Kingdom (19.2%), Polynesia (15.5%), China (8.8%), Italy (4.2%), Greece (3.5%), Indonesia (1.4%), and Vietnam (1.2%) .

Patient Occupation

Concerning patient occupation, no single occupational group is one which chiropractors treat predominately. All groups are represented, and no single occupational group appears to represent more than 15.3% of chiropractic practice (Figure 13.3).

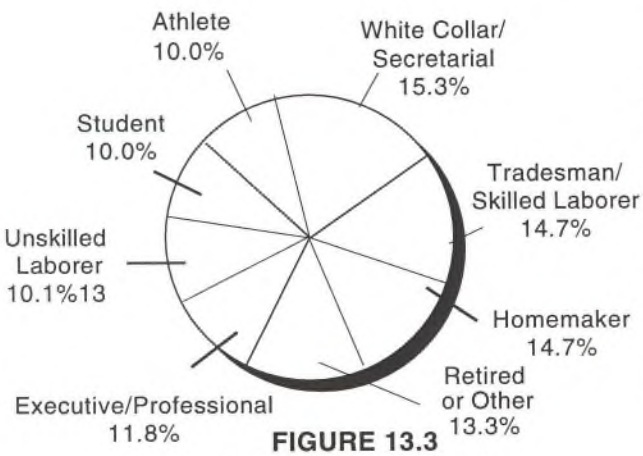


FIGURE 13.3
Patient Occupation*

Patient Conditions

Following the section on patient demographics, chiropractors were asked to con-

* See page 64 for explanation of percentages.

sider their practices during the past two years, and indicate how often they had seen patients with the **presenting and/or concurrent** conditions listed. A zero-to-four rating scale was used. The list of conditions used on the survey form and reflected in this report was not meant to be all-inclusive. Listed below are conditions seen by chiropractors in descending order of frequency.

Frequency of Presenting and Concurrent Patient Conditions	
ROUTINELY SEEN	Spinal subluxation/joint dysfunction
	Headaches
OFTEN SEEN	Osteoarthritis/degenerative joint disease
	Peripheral neuritis or neuralgia
	High or low blood pressure
	Vertebral facet syndrome
	Extremity subluxation/joint dysfunction
	Hyperlordosis of cervical or lumbar spine
	Muscular strain/tear
	Allergies
	Asthma, emphysema or COPD
	Intervertebral disc syndrome
	Osteoporosis/osteomalacia
	Scoliosis
	Tendinitis/tenosynovitis
	Obesity
	Articular joint congenital/developmental anomaly
	Kyphosis of thoracic spine
	Menstrual disorder
	Skeletal congenital/developmental anomaly
	Respiratory viral or bacterial infection
	Radiculitis or radiculopathy
SOMETIMES SEEN	Pregnancy
	Eye or vision disorder
	Ear or hearing disorder
	Acne, dermatitis or psoriasis
	Upper respiratory or ear infection
	Loss of equilibrium
	Nutritional disorders
	Sprain or dislocation of any joint
	TMJ syndrome

TABLE 13.2 ***(Continued on next page)***
Presenting and Concurrent Patient Conditions

Frequency of Presenting and Concurrent Patient Conditions	
SOMETIMES SEEN (CONT.)	Carpal or tarsal tunnel syndrome
	Thoracic outlet syndrome
	Hiatus or inguinal hernia
	Diabetes
	Bursitis or synovitis
	Occupational or environmental disorder
	Psychological disorders
	Systemic/rheumatoid arthritis or gout
	Eating disorders
	Thyroid or parathyroid disorder
	Angina or myocardial infarction
	Gastrointestinal bacterial or viral infection
	Integument bacterial or fungal infection
	Disorder of throat or larynx
	Hemorrhoids
	Infection of kidney or urinary tract
	Disorder of nose or sense of smell
	Colitis or diverticulitis
	Skin cancer
	Ulcer of stomach, intestine or colon
	Herpes simplex or zoster
RARELY SEEN	Anemia
	Prostate disorder
	Muscular atrophy
	Cranial nerve disorder
	Adrenal disorder
	Stroke or cerebrovascular condition
	Vertebrobasilar artery insufficiency
	Murmur or rhythm irregularity
	Non-cancerous disorder of breast
	Fracture
	Peripheral artery or vein disorder
	Spinal canal stenosis
	Pigment disorders
	Immunological disorder
	Female infertility
	ALS, multiple sclerosis or Parkinson's
	Kidney stones

TABLE 13.2 ***(Continued on next page)***
Presenting and Concurrent Patient Conditions

Frequency of Presenting and Concurrent Patient Conditions	
RARELY SEEN (CONT.)	Endocrine or metabolic bone disorder
	Male infertility or impotency
	Arterial aneurysm
	Measles/German measles
	Appendicitis, cholecystitis or pancreatitis
	Tearing or rupture of nerve/plexus
	Chickenpox
	Tumor of breast or female reproductive system
	Joint tumor or neoplasm
	Mumps
	Cardiovascular congenital anomaly
	Aseptic necrosis or epiphysitis
	Muscular dystrophy
	Pituitary disorder
	Hereditary disorder
	Bone tumor
	Whooping cough
	Chronic kidney disease or failure
	Parasitic disorder
	Thymus or pineal disorder
	Bacterial infection of joint
	Tumor of gastrointestinal tract
	Cancer of the marrow or lymphatic system
	Brain or spinal cord tumor
VIRTUALLY NEVER SEEN	Tumor of lung or respiratory passages
	Herpes II
	Atelectasis or pneumothorax
	Tumor of male reproductive system
	Tumor of eye, ear, nose or throat
	Chlamydia
	Endocrine tumor
	Muscle tumor
	Tumor of the kidney or bladder
	Polycythemia
	Male reproductive congenital anomaly
	Venereal warts
	AIDS-related complex
	Gonorrhea
	Syphilis

TABLE 13.2
Presenting and Concurrent Patient Conditions

Articular/Joint

Articular/Joint conditions were considered first by respondents (Table 13.3). Spinal subluxations or joint dysfunctions were seen routinely in chiropractors' offices. Articular/ Joint conditions such as osteoarthritis, degenerative joint disease, vertebral facet syndrome, extremity subluxations/joint dysfunctions, hyperlordosis of the cervical or lumbar spine, intervertebral disc syndrome, scoliosis, articular joint congenital/developmental anomaly were often seen. Most other conditions in the Articular/Joint area were sometimes seen. Only four of the conditions listed in this area were rarely seen.

Neurological

Neurological conditions were considered next (Table 13.3). Patients presenting with a headache were seen routinely in chiropractors' offices. Peripheral neuritis or neuralgia was seen often, as was radiculitis or radiculopathy. Other related conditions were seen sometimes or rarely .

Skeletal

The next section involved Skeletal conditions (Table 13.4). Osteoporosis/osteomalacia and congenital developmental anomalies were often seen. According to response data, all other skeletal conditions were rarely seen.

Muscular

In the Muscular section, muscular strain/tear was often seen, as was tendinitis/tenosynovitis (Table 13.4). Other muscular conditions were seen rarely or never.

Cardiovascular

In the Cardiovascular section, high or low blood pressure was often seen (Table 13.4). All other conditions were sometimes or rarely seen.

Respiratory

In the Respiratory section, asthma, emphysema or COPD, and viral or bacterial infections were often seen; occupational or environmental disorders were sometimes seen (Table 13.4). The other two conditions were so infrequently seen as to be termed "never".

Integument

In the section addressing Integument conditions, it was found that acne, dermatitis or psoriasis, bacterial or fungal infections, and herpes simplex or zoster, were sometimes seen (Table 13.4). Skin cancer and pigment disorders were rarely seen.

Gastrointestinal

In the Gastrointestinal area, hernias, bacterial or viral infections, ulcers, hemorroids, colitis and diverticulitis were sometimes seen (Table 13.5). Patients having the other conditions listed were rarely seen.

Renal/Urological

In the Renal/Urological area, infection of the kidney or urinary tract was sometimes seen (Table 13.5). Other conditions listed were rarely or never seen.

Male Reproductive

In the Male Reproductive area, patients presenting with concurrent conditions in this area were rarely or never seen in most chiropractic offices (Table 13.5).

Female Reproductive

In the Female Reproductive area, menstrual disorders were often seen, and pregnancy was sometimes seen. Other conditions listed were rarely seen (Table 13.5).

Hematological/Lymphatic

In the Hematological/Lymphatic area, all conditions were rarely or never seen in the typical chiropractor's office (Table 13.5).

Endocrine/Metabolic

In the Endocrine/Metabolic area, obesity was often seen in chiropractors' offices; thyroid or parathyroid disorders, and diabetes were sometimes seen (Table 13.6). Other conditions were rarely or never seen.

Childhood Disorders

In the area of Childhood Disorders, upper respiratory or ear infections were sometimes seen (scoliosis and congenital/developmental anomalies are listed with Articular/Joint conditions). All other conditions were rarely seen in a chiropractor's office (Table 13.6).

Venereal

In the Venereal area, the conditions listed were typically never seen in a chiropractor's office (Table 13.6).

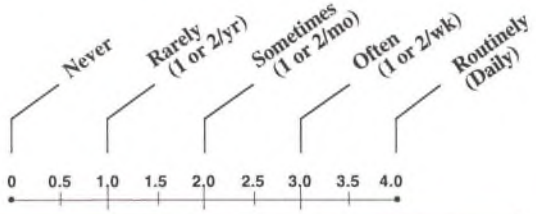
EENT (eye, ear, nose, and throat)

In the EENT (eye, ear, nose, and throat) section, eye or vision disorders were sometimes seen, as were ear or hearing disorders. Disorders of the nose, throat, and larynx were rarely seen. Tumors of the eye, ear, nose, or throat were typically never seen (Table 13.6).

Miscellaneous

In the miscellaneous section, patients with allergies were often seen. Nutritional, psychological, and eating disorders were sometimes seen (Table 13.6). The other area listed, AIDS-related complex, was typically never seen in a chiropractic practice.

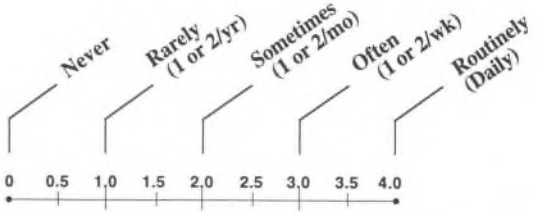
The following tables present the frequency of presenting and concurrent conditions as they were rated on a zero-to-four scale.



Presenting and Concurrent Condition: Articular/Joint	AVG
Spinal subluxation/joint dysfunction	3.86
Extremity subluxation/joint dysfunction	3.10
Sprain or dislocation of any joint	2.19
Vertebral facet syndrome	3.14
Intervertebral disc syndrome	2.76
Thoracic outlet syndrome	2.00
Hyperlordosis of cervical or lumbar spine	3.01
Kyphosis of thoracic spine	2.61
Aseptic necrosis or epiphysitis	0.77
Scoliosis	2.74
Congenital/developmental anomaly	2.66
Osteoarthritis/degenerative joint disease	3.47
Systemic/rheumatoid arthritis or gout	1.83
Bacterial infection of joint	0.60
Bursitis or synovitis	1.93
Carpal or tarsal tunnel syndrome	2.11
TMJ syndrome	2.17
Joint tumor or neoplasm	0.79
Spinal canal stenosis	1.27

Presenting and Concurrent Condition: Neurological	AVG
Headaches	3.73
Peripheral neuritis or neuralgia	3.41
ALS, multiple sclerosis or Parkinson's	1.19
Tearing or rupture of nerve/plexus	0.89
Stroke or cerebrovascular condition	1.34
Vertebrobasilar artery insufficiency	1.34
Cranial nerve disorder	1.40
Radiculitis or radiculopathy	2.51
Loss of equilibrium	2.27
Brain or spinal cord tumor	0.57

TABLE 13.3
Frequency of Articular/Joint, and Neurological Conditions



Presenting and Concurrent Condition: **Skeletal**	AVG
Fracture	1.29
Osteoporosis/osteomalacia	2.75
Congenital/developmental anomaly	2.54
Endocrine or metabolic bone disorder	1.06
Bone tumor	0.72
Presenting and Concurrent Condition: Muscular	**AVG**
Muscular Strain/Tear	2.93
Tendinitis/tenosynovitis	2.71
Muscular dystrophy	0.75
Muscular atrophy	1.45
Muscle tumor	0.29
Presenting and Concurrent Condition: Cardiovascular	**AVG**
High or low blood pressure	3.22
Angina or myocardial infarction	1.70
Arterial aneurysm	0.96
Peripheral artery or vein disorder	1.29
Murmur or rhythm irregularity	1.30
Congenital anomaly	0.78
Presenting and Concurrent Condition: Respiratory	**AVG**
Viral or bacterial infection	2.52
Asthma, emphysema or COPD	2.81
Occupational or environmental disorder	1.88
Atelectasis or pneumothorax	0.41
Tumor of lung or respiratory passages	0.49
Presenting and Concurrent Condition: Integument	**AVG**
Acne, dermatitis or psoriasis	2.42
Bacterial or fungal infection	1.67
Herpes simplex or zoster	1.52
Pigment disorders	1.23
Skin cancer	1.55

TABLE 13.4
Frequency of Skeletal, Muscular, Cardiovascular, Respiratory, and Integument Conditions

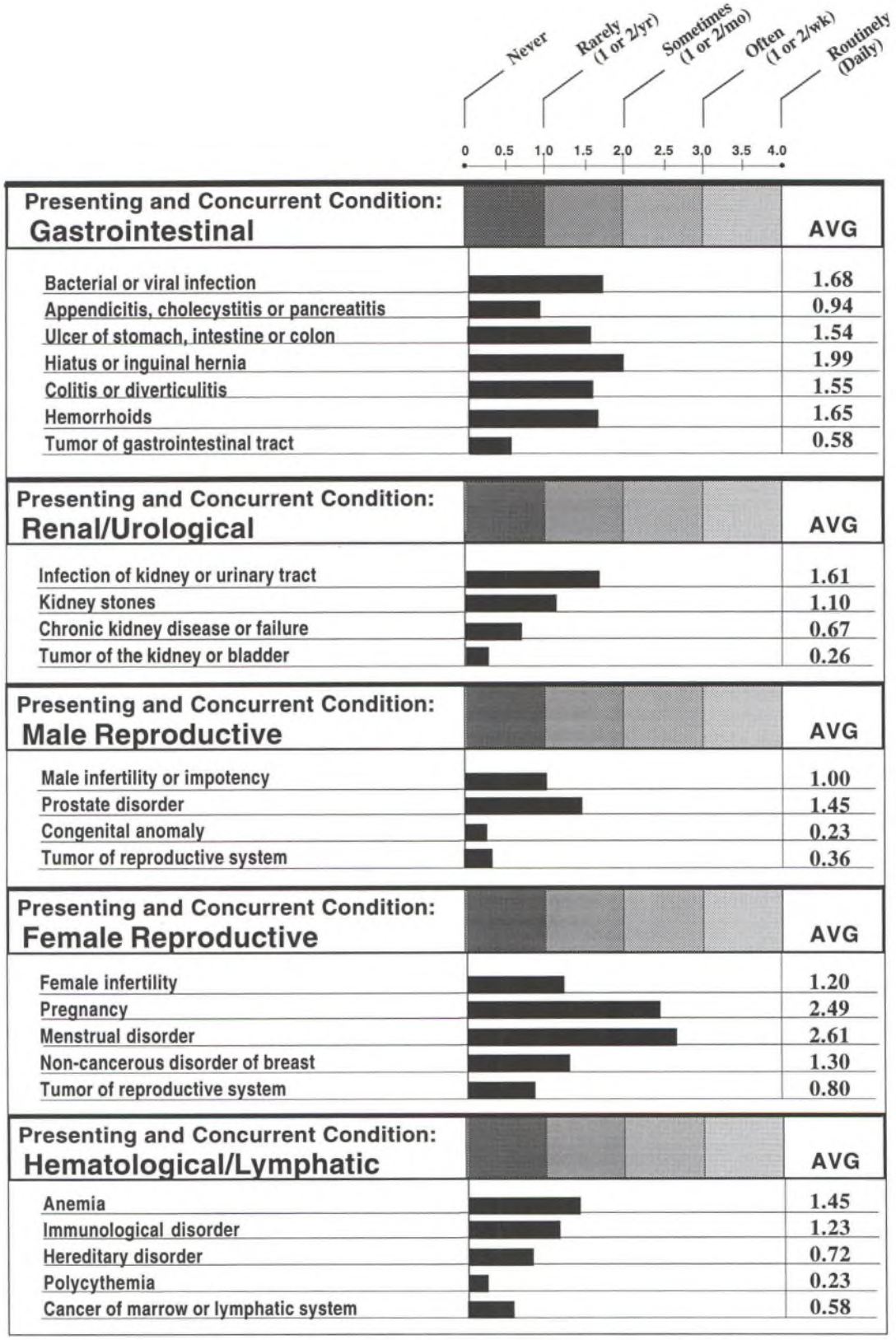


TABLE 13.5
Frequency of Gastrointestinal, Renal/Urological, Male Reproductive, Female Reproductive, and Hematological/Lymphatic Conditions

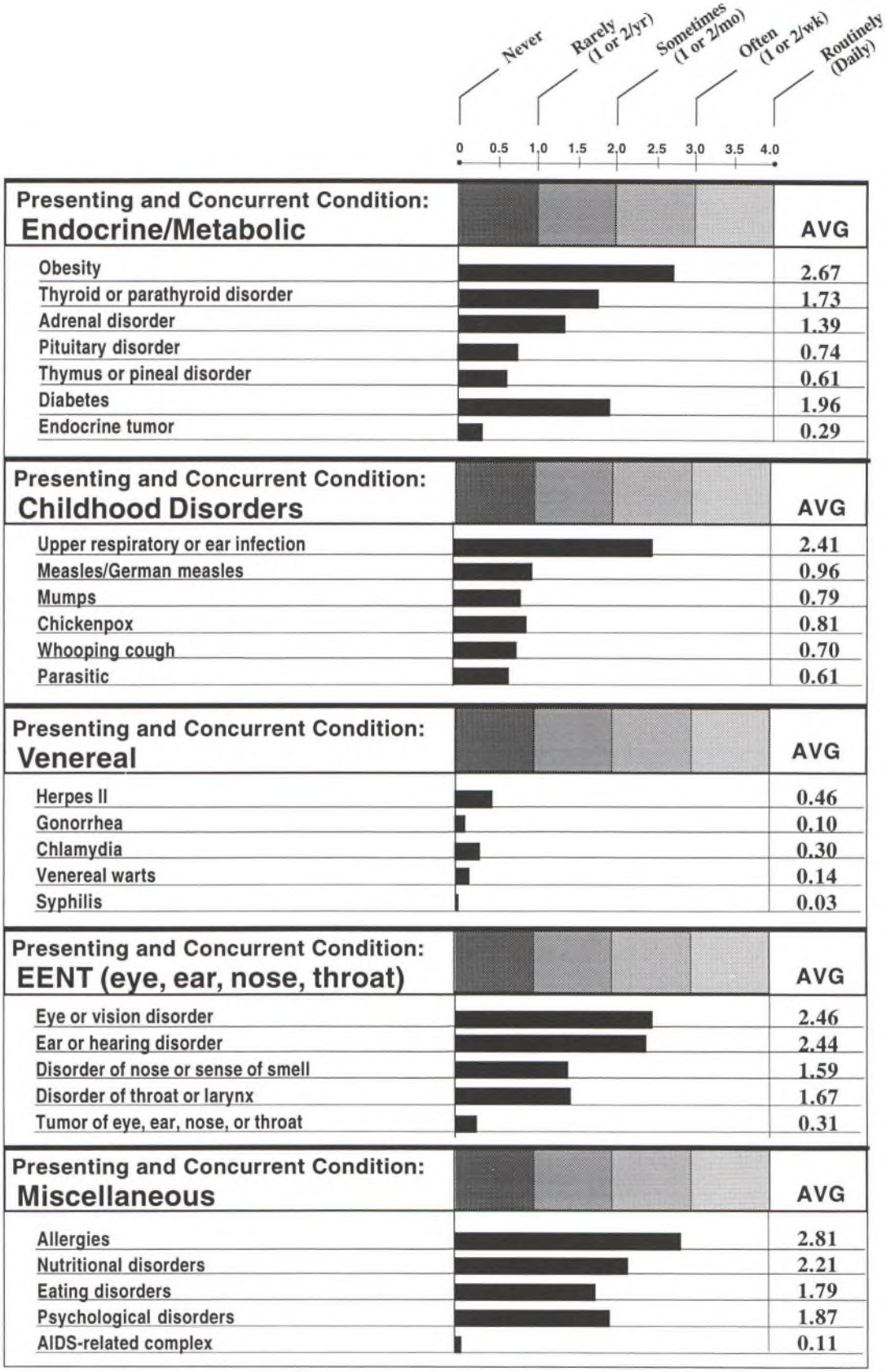


TABLE 13.6
Frequency of Endocrine/Metabolic, Childhood Disorders, Venereal, and EENT Conditions

Chapter 14
Practice Patterns

Presented in this chapter are the activities chiropractors performed in their practices. There are 45 activities divided into nine major categories, ranging from case history to case management.

The respondent practitioners were asked to rate the **frequency**, (how often they performed the activity) and the perceived **risk** to patient health and safety if the activity were performed poorly or omitted. The frequency and risk factor ratings for the activities were averaged by individual activity and by general category. From the frequency and risk scales the **importance** scale was generated by obtaining the product of frequency and risk.

Below are the rating scales for this section of the NBCE job analysis:

Rating Scales
utilized in assessing activities

FREQUENCY	x	RISK	=	IMPORTANCE
0 = Never (does not apply)		0 = No risk		0 = Not important
1 = Rarely (1-25%)		1 = Little risk		4
2 = Sometimes (26-50%)		2 = Some risk		8
3 = Frequently (51-75%)		3 = Significant risk		12
4 = Routinely (76-100%)		4 = Severe risk		16 = Extremely important

TABLE 14.1

Practitioners were also asked to indicate the **primary technique** used in their practices, i.e. upper cervical, full spine, or another technique.

Finally, practitioners were asked to indicate which **adjustive and non-adjustive techniques** they had utilized in their practices during the past two years.

Rating the Activities

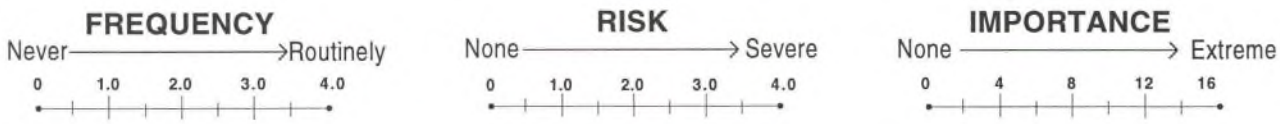
Consistent with other parts of the survey, zero-to-four rating scales were utilized. Values of the **importance** factor could range from zero to 16, due to the way in which they were derived.

The **importance** factor is commonly obtained in job analyses. It indicates the significance of an activity when taking into account both the frequency with which the activity is performed, and the risk to patients when the activity is performed poorly or omitted.

Case History

The survey results indicated that case histories were performed **frequently** (category average of 3.44), presenting a **significant** risk to patient health and safety if performed poorly or omitted (category average of 2.51).

Chiropractors **routinely** took an initial case history from a new patient, and **frequently** performed all other activities in this category.



Activity	Frequency	Risk	Importance
Case History			
Take initial case history	Routinely 4.00	Significant 3.14	12.57
Identify condition from case history	Frequently 3.34	Significant 2.59	9.11
Perform focused case history	Frequently 3.23	Some 2.47	8.51
Take S.O.A.P. or case progress notes	Frequently 3.34	Some 2.14	8.03
Determine technique/case management	Frequently 3.30	Some 2.16	7.89
Update case history	Frequently 3.43	Significant 2.59	9.37

TABLE 14.2
Case History

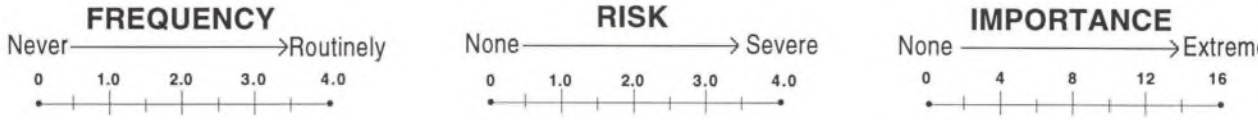
The respondents indicated that the inadequate taking of or omission of an initial case history from a new patient would present a **significant** risk to patient health and safety and **rated this activity highest in importance of the 45 activities chiropractors performed.**

The other case history activities that rated high in **importance** were updating the case history from a patient whose condition had changed or who presented with a new condition, and identifying the nature of a patient's condition using the information from a case history (Table 14.2).

Physical Examination

Physical examination activities were performed **frequently** (category average of 3.45), and presented a **significant** risk to patient health and safety if the activities were performed poorly or omitted (category average of 2.66).

Chiropractors **routinely** performed a physical examination on a new patient. All other activities in this category were **frequently** performed. Survey results also indicated that practitioners rated performing a physical examination on a new patient highest in **importance** in the physical exam area (Table 14.3).



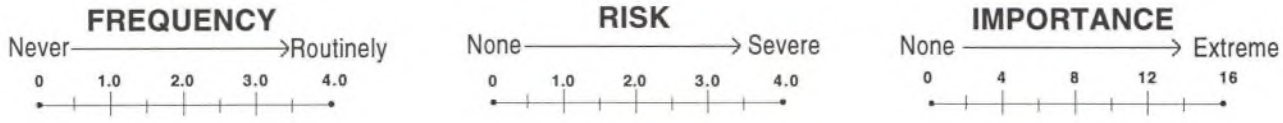
Activity	Frequency	Risk	Importance
Physical Examination			
Perform physical examination	Routinely 3.77	Significant 2.99	11.74
Assess general state of health	Frequently 3.43	Significant 2.54	9.13
Perform regional examination	Frequently 3.27	Significant 2.54	9.03
Update physical examination	Frequently 3.34	Significant 2.56	8.96

TABLE 14.3
Physical Examination

Neuromusculoskeletal Examination

Neuromusculoskeletal examination activities were performed **frequently** (category average of 3.11), presenting a **significant** risk to patient health and safety if performed poorly or omitted (category average of 2.51).

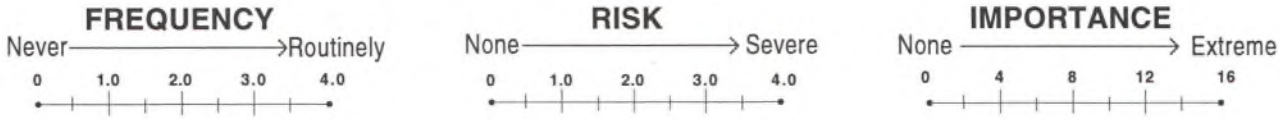
Chiropractors **routinely** performed general orthopedic and neurological examinations on new patients, and **frequently** performed all other NMS exams listed in this category. They indicated that poor performance or inappropriate omission of these activities presented **significant** or **some** risk to patient health and safety.



Activity	Frequency	Risk	Importance
Neuromusculoskeletal Examination			
Perform orthopedic and/or neurological exam	Routinely 3.50	Significant 2.66	9.76
Perform focused orthopedic and/or neurological exam	Frequently 2.80	Some 2.47	7.51
Determine patient condition using orthopedic/neurological exam	Frequently 3.11	Significant 2.51	8.46
Determine additional lab/X-ray/etc.	Frequently 3.09	Some 2.49	8.30
Update orthopedic/neurological tests	Frequently 3.03	Some 2.40	7.83

TABLE 14.4
Neuromusculoskeletal Examination

The highest **importance** values were associated with performing general orthopedic or neurological examinations on new patients, and with determining the nature of a patient's condition using information from the orthopedic and neurological examinations (Table 14.4).



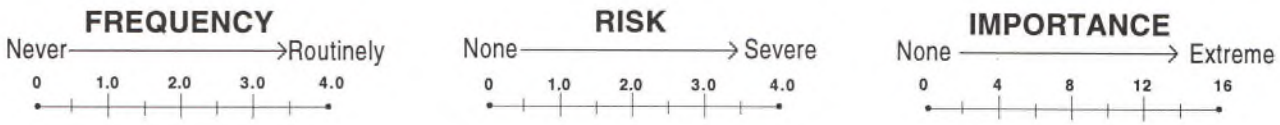
Activity	Frequency	Risk	Importance
X-Ray Examination			
Perform X-ray on new patient	Routinely 3.63	Significant 2.90	11.09
Determine presence of pathology, fracture, etc	Routinely 3.76	Significant 3.30	12.49
Determine instability/joint dysfunction	Sometimes 2.31	Some 2.06	5.70
Determine presence of subluxation	Frequent.ly 3.20	Some 1.79	6.41
Update X-ray/perform new X-ray	Frequently 2.90	Significant 2.64	8.19

TABLE 14.5
X-Ray Examination

X-ray Examination

X-ray Examination activities were **frequently** performed (category average of 3.16), presenting **significant** risk to patient health and safety if performed poorly or omitted (category average of 2.54).

Practitioners **routinely** took X-rays on new patients and determined the presence of pathology, fracture, dislocations, or other significant findings using information from an X-ray examination. Determining the presence of pathology, fracture, dislocations or other significant findings was rated highest in **importance** of the activities chiropractors performed in this category (Table 14.5).



Activity	Frequency	Risk	Importance
Laboratory and Special Studies			
Draw blood, collect urine, or other laboratory procedures	Virtually never 0.17	Little 0.87	0.26
Order laboratory tests	Virtually never 0.46	Little 1.03	0.86
Refer patient for MRI, CT, EKG, etc.	Rarely 1.00	Some 1.60	2.10
Confirm diagnosis/health-threatening condition	Rarely 0.94	Some 1.67	2.59
Augment history, examination, or X-ray	Rarely 1.11	Little 1.46	2.41

TABLE 14.6
Laboratory and Special Studies

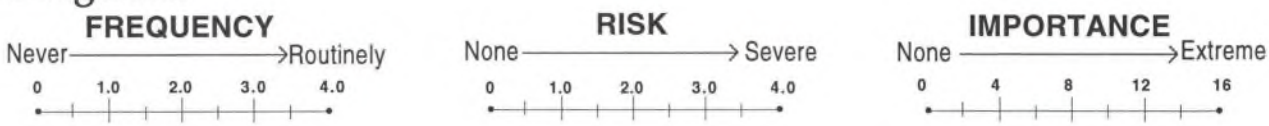
Laboratory and Special Studies

Laboratory and special studies examinations were **rarely** performed (category average of 0.74), presenting **little** risk to patient health and safety if performed poorly or omitted (category average of 1.33).

Practitioners **rarely** confirmed a diagnosis or ruled out health-threatening conditions using information from laboratory results or specialized studies. The data indicated that they perform so **rarely** the activities of ordering laboratory tests, drawing blood, collecting urine,

or other laboratory procedures that these are termed "virtually never." Overall, this category had the lowest **importance** values (Table 14.6).

Diagnosis



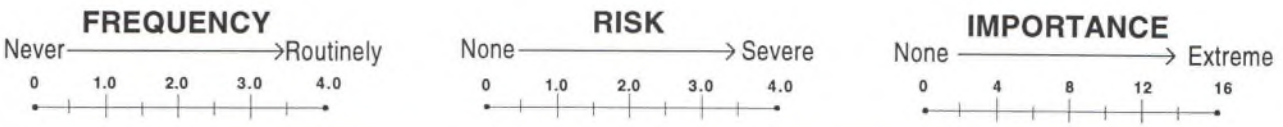
Activity	Frequency	Risk	Importance
Diagnosis			
Relate problems to process	Frequently 2.67	Some 2.44	7.27
Distinguish between urgent/less urgent	Frequently 3.20	Significant 3.13	10.51
Predict effectiveness of chiropractic	Frequently 3.29	Some 1.56	5.39
Refer patient to other practitioner	Sometimes 2.09	Significant 2.50	5.51
Arrive at diagnosis/impression	Frequently 3.20	Some 2.27	7.99

TABLE 14.7
Diagnosis

Diagnosis activities were performed **frequently** (category average of 2.89), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 2.38).

Chiropractors **frequently** arrived at a diagnosis or clinical impression on the basis of the patient's case history and examination findings. They **frequently** distinguished between life- or health-threatening conditions and less urgent conditions and predicted the effectiveness of chiropractic care in treating the patient's condition, and related problems identified in the history and examination findings to a pathologic, pathophysiologic or psychopathologic process. Chiropractors **sometimes** referred patients to other health care practitioners based on information from the history and examination findings.

The area rated highest in **importance** was distinguishing between life- or health-threatening conditions and less urgent conditions (Table 14.7).



Activity	Frequency	Risk	Importance
Chiropractic Technique			
Perform specific chiropractic examination	Routinely 3.81	Significant 2.53	9.96
Utilize instruments	Sometimes 2.13	Little 1.21	3.66
Determine case management/technique	Routinely 3.90	Some 1.99	7.76
Perform chiropractic adjustive techniques	Routinely 3.97	Some 2.47	9.83
Update chiropractic examination	Routinely 3.63	Some 2.26	8.47

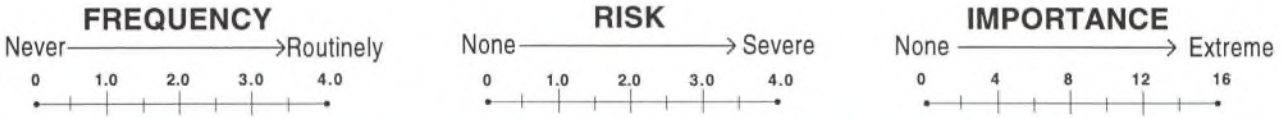
TABLE 14.8
Chiropractic Technique

Chiropractic Technique

Chiropractic techniques (excluding use of instruments) were **frequently** utilized (category average of 3.49 excluding instruments), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 2.09).

Instruments were **sometimes** utilized; all other activities in this category were **routinely** performed.

Practitioners indicated a**significant** risk to patient health and safety if specific chiropractic examination procedures on patients with spinal or extra-spinal joint conditions were



Activity	Frequency	Risk	Importance
Supportive Technique			
Evaluate patient condition	Frequently 3.06	Some 1.89	6.30
Determine use of supportive technique	Frequently 3.03	Some 1.73	5.64
Perform procedures other than adjustive	Frequently 2.74	Some 1.71	5.13
Refer patient to other practitioner	Sometimes 1.61	Some 1.53	2.93
Monitor effectiveness of non-adjustive technique	Frequently 2.54	Some 1.50	4.54

TABLE 14.9
Supportive Techniques

performed poorly or omitted; this same activity was rated highest in **importance** of activities listed in this category (Table 14.8).

Supportive Technique

Supportive techniques were performed **frequently** (category average of 2.60), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 1.67).

Chiropractors **frequently** evaluated the patient's condition to determine if procedures other than adjustive techniques were indicated. In addition, determining the use of supportive techniques, performing treatment procedures other than adjustive techniques, and monitoring the effectiveness of non-adjustive techniques or therapeutic procedures were also **frequently** performed. Referring patients to a physical therapist, massage therapist, nutritionist or other health care practitioner is **sometimes** exercised.

The survey respondents indicated **some** risk to patient health and safety should any of these supportive techniques be performed poorly or omitted.

The highest importance rating was given to the evaluation of the patient's condition to determine if procedures other than adjustive techniques are indicated (Table 14.9).

FREQUENCY
Never → Routinely
0 1.0 2.0 3.0 4.0

RISK
None → Severe
0 1.0 2.0 3.0 4.0

IMPORTANCE
None → Extreme
0 4 8 12 16

Activity	Frequency	Risk	Importance
Case Management			
Discuss alternatives with patient	Frequently 2.60	Some 1.90	5.31
Recommend/arrange for other services	Frequently 2.56	Significant 2.67	7.44
Modify case management	Routinely 3.50	Some 2.46	8.81
Encourage patient to change habits/lifestyle	Routinely 3.60	Some 2.26	8.37
Maintain written record	Frequently 3.46	Some 2.14	8.00

TABLE 14.10
Case Management

Case Management

Case Management activities were performed **frequently** (category average of 3.14), presenting **some** risk to patient health and safety if performed poorly or omitted (category average of 2.29).

Case management activities **routinely** performed included encouraging the patient to make appropriate changes in habits or lifestyle to prevent reoccurrences of the condition, and modifying or revising case management as the patient's condition improved or failed to improve. All other activities in this category were performed frequently.

In the activities pertaining to case management, respondents indicated that modifying or revising case management as the patient's condition improved or failed to improve was rated highest in **importance** (Table 14.10).

Treatment Procedures

Practitioners were asked to indicate the primary technique approach they used in their practices. Results indicated that 100% utilized **full spine** as a primary approach, while **upper cervical** and **other** were not noted by any of the respondents (Table 14.11).

Specific Adjustive Techniques

Results indicated that 50 to 90% of the respondents utilized 9 of the adjustive techniques, ranging from diversified to cranial. Palmer Upper Cervical Technique was utilized by approximately 46% of the respondents (Table 14.11). All other techniques were utilized by less than one-quarter of the practitioners. Results also indicated that the responding practitioners used an average of 7.4 specific adjustive techniques in their practices.

Non-Adjustive Techniques

As indicated in Table 14.11, approximately two-thirds or more of the practitioners utilized 4 of the supportive techniques listed. The range begins with Corrective Exercises (88.6%) and ends with Bed Rest (67.1%). A majority of the practitioners also utilized foot orthotics, acupressure, bracing and massage therapy. Data indicated that the average number of supportive techniques utilized by practitioners was 7.5.

Chiropractic Treatment Procedures in New Zealand

Primary Approach	%
Full Spine	100.0%
Upper Cervical	-0-
Other	-0-

Adjustive Techniques	%
Diversified	91.4
Gonstead	91.4
NIMMO/Tonus Receptor	74.3
Applied Kinesiology	72.9
SOT	70.0
Logan Basic	60.0
Thompson	58.6
Activator	54.3
Cranial	50.0
Palmer Upper Cervical/HIO	45.7
Cox/Flexion-Distraction	22.9
Pierce-Stillwagon	18.6
Meric	14.3
Other	14.3
Toftness	2.9
Life Upper Cervical	1.4
Barge	0.0
Grostic	0.0
NUCCA	0.0
Pettibon	0.0

Non-Adjustive Techniques	%
Corrective or Therapeutic Exercise	88.6
Ice Pack/Cryotherapy	70.0
Nutritional Counseling	68.6
Bedrest	67.1
Foot Orthotics/Lifts	62.9
Acupressure/Meridian Therapy	61.4
Bracing	58.6
Massage Therapy	55.7
Traction	45.7
Hot Pack	44.3
Casting/Taping	42.9
Homeopathic Remedies	30.0
Vibratory Therapy	15.7
Other	12.9
Electrical Stimulation	8.6
Acupuncture	4.3
Whirlpool/Hydrotherapy	4.3
Biofeedback	2.9
Diathermy	2.9
Infrared Baker	1.4
Interferential Current	1.4
Ultrasound	1.4
Ultraviolet Therapy	1.4
Direct Current	0.0
Paraffin Bath	0.0

TABLE 14.11
Percent of Chiropractic Practitioners Utilizing Various Chiropractic Treatment Procedures

Epilogue

It is common for an abundance of newly acquired information to produce a proportionate number of questions. Given this trend, the questions raised by data from the NBCE *Job Analysis of Chiropractic in Australia and New Zealand* came as no surprise.

These questions include the obvious: "Who might use this new data, and how might it appropriately be applied?" Those closely connected with the study additionally asked such questions as, "Have we accomplished our objectives?" "What are the limitations of the data gathered?" and "Would we want to make any procedural modifications in similar studies conducted in the future?"

To a very large degree, the applications of the data will remain fluid, to be considered, weighed and implemented according to a broad set of needs found in disparate corners of society. Academicians may find the job analysis data useful for one purpose, while state/territorial and provencial registration authorities may find it useful for another. Individual health care providers may benefit by comparing the data to their own habits and knowledge.

In exploring the possibilities of further data applicability, the following criteria should be acknowledged: 1) the elements which were measured, and 2) the methods by which those elements were rated. The job analysis sought to determine the conditions the chiropractor typically encounters, the treatment he/she is likely to administer or recommend, and the risk associated with rendering this treatment.

A job analysis is equipped to provide information about the conditions and activities licensed chiropractic practitioners should be best prepared to handle -- those they encounter most often, and those which are accompanied by the greatest risk. This information can be quite valuable. For example:

- Chiropractic colleges typically seek to teach and thoroughly test student proficiency in the activities chiropractors will be called upon to perform routinely and those which carry a significant degree of risk.

- Registration authorities typically endeavor to assess registration candidates' knowledge and skills in areas that they as practitioners are likely to encounter, particularly those which carry a significant degree of risk.

As stated at the beginning of this report, the NBCE "sought to provide the 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." Those who guided and conducted the job analysis project firmly believe this objective has been achieved.

It was not the NBCE's objective to define a chiropractic scope of practice; this is determined legislatively on a state,territorial or provencial basis. Nor was it the intention of the NBCE to establish guidelines for practice, to promote any particular philosophical doctrine, or to infer judgments.

In evaluating the limitations of this study, several areas surfaced during the project. Some of these --such as the accuracy of registration lists provided by the Chiropractors' Associations, the recollections of the respondents, and the number of individuals (approximately 35% in Australia, and approximately 25% in New Zealand) who failed to respond to the survey -- were largely outside NBCE control.

In other areas, the NBCE proceeded on the basis of job analysis research and procedural precedent. Areas inevitably accompanied by the possibility of imprecision included: the survey text upon which the resulting data hinged; the supposition that all respondents would similarly interpret the survey's rating scales and terms; and the interpretation of the importance factor within the study.

A wealth of information beyond that published in this text still lies within the data amassed by the NBCE job analysis survey instrument. Time, staff, and funding limitations required that this publication report the project findings in an abbreviated or summarized form.

The NBCE conducted similar job analyses in the United States and Canada as requested by various representatives of chiropractic licensure and education in those countries. A four-volume set including two volumes addressing chiropractic in the United States, a Canadian volume and an Australian/New Zealand volume are currently available from the NBCE.

APPENDICES

Appendix A

THE AUSTRALASIAN COUNCIL ON CHIROPRACTIC AND OSTEOPATHIC EDUCATION LIMITED

Reg. Office: 941 Nepean Highway, Mornington, Victoria, 3931 Tel: (059) 75 3546 Int: + 61 59 753546

A.C.N. 006 318 104

Please reply to: Prof. A.M. Kleynhans, PO Box 98, Epping, Victoria 3076, Australia.

Dear Colleague,

I am pleased to advise that you have been selected to participate in a very important part of a major chiropractic research project being undertaken by the Australasian Council on Chiropractic and Osteopathic Education (ACCOE) with the kind collaboration of the U.S. National Board of Chiropractic Examiners. For the first time in the history of the chiropractic profession, a scientific study has been designed to document the tasks, duties and professional responsibilities of chiropractic practitioners on a national scale.

The National Office of Overseas Skills Recognition in the Department of Employment, Education and Training, has made a grant available to ACCOE to undertake a study to establish competency-based professional standards for chiropractors.

Part of this project consists of a Practice Analysis of chiropractors in which we invite YOU to participate. An easy to complete questionnaire will be sent to you within two weeks. We urge you to kindly complete it upon arrival and return it in a reply paid envelope which will be provided.

We are particularly fortunate to have the U.S. National Board of Chiropractic Examiners assist us with the Practice Analysis component of the project. The NBCE has spent a great deal of money and used the best available advice on the design of an excellent questionnaire which has already been completed by specially selected colleagues, like yourself, in the U.S.A. and Canada. Had it not been for the NBCE, we would not have been able to include this component in our research.

With your help, it will also be possible to compare chiropractic practice in Australia and New Zealand with that in the U.S.A. and Canada.

In order that results of this project reflect the practice of chiropractors across a wide range of practice settings, it is important that you return a completed questionnaire. In a few days, you will be receiving your survey. We look forward to your response.

Sincerely,

Professor Andy Kleynhans, Principal Investigator
ACCOE Competency Standards Research Project

Pre-Survey Letter

Appendix B

THE AUSTRALASIAN COUNCIL ON CHIROPRACTIC AND OSTEOPATHIC EDUCATION LIMITED

Reg. Office: 941 Nepean Highway, Mornington, Victoria, 3931 Tel: (059) 75 3546 Int: +61 59 753546

A.C.N. 005 315 104

Please reply to: Prof. A.M. Kleynhans, PO Box 98, Epping, Victoria 3076, Australia.

Dear Colleague,

As stated in a letter sent to you some days ago, you have been selected as a representative of chiropractors in your geographic area to participate in a milestone study of chiropractic practice.

Data from the enclosed questionnaire will serve to document what chiropractors across Australia and New Zealand are doing in their practices. Results of the survey will be used to prepare a comprehensive report describing the chiropractic profession and documenting future examination needs. No individual responses will be reported; responses will be reported on a group basis only.

As you are aware, a project of this magnitude will involve many weeks of analyses and reporting after all survey forms are returned to us and forwarded to the National Board in the U.S.A. The results of this survey will be included in the ACCOE Report #1 - Competency-based Professional Standards for Chiropractors, to be published at the end of the year.

If you have any questions, please feel free to call me on 03-468-2440 B/H or 03-715-1108 A/H (preferred).

Sincere appreciation is expressed to the U.S. National Board of Chiropractic Examiners for their tremendous assistance with the project to establish competency-based professional standards for chiropractors in Australia and New Zealand.

YOUR RESPONSE IS CRITICAL TO THE SUCCESS OF THIS IMPORTANT STUDY.

Please return your completed survey instrument to me as soon as possible, but preferably no later than 30TH SEPTEMBER, 1992, in the enclosed self-addressed, postage-paid envelope. Thank you very much for your assistance.

Yours sincerely,

Andy Kleynhans.

Professor Andy Kleynhans, Principal Investigator,
ACCOE Competency Standards, Research Project.

Survey Cover Letter

NATIONAL BOARD OF
HIROPRACTIC
EXAMINERS

Appendix C

Survey of Chiropractic Practice

questionnaire is part of a comprehensive study of chiropractic practice being conducted by the National Board of opractic Examiners.

se use a soft (No. 1 or No. 2) lead pencil. DO NOT use a ball-point pen, nylon-tip or felt-tip pen, fountain pen, marker, olored pencil. Be careful to avoid making stray marks on the form.

: questions have several alternative answers. Choose the answer that best applies to your practice and blacken the e beside it. To change your answer, erase your first mark completely and then blacken the correct circle.

w questions ask you to write in information. Print your answer in the space following the question. Be careful to print ly in the space provided.

answers will be kept confidential. Your individual responses to the questions will not be released.

What trends or developments during the next decade would be most **beneficial** to the chiropractic profession?

_____

_____

_____

_____

_____

What trends or developments during the next decade would be most **detrimental** to the chiropractic profession?

_____

_____

_____

_____

_____

3. Have you ever worked full-time in an occupation other than chiropractic?
   - ○ Yes
   - ○ No

4. Are you currently in active full-time chiropractic practice?
   - ○ Yes
   - ○ No

If you answered "No" to question 4, don't answer any further questions. Simply return the questionnaire in the postage-paid envelope. **It's very important that you return the questionnaire.** Please put it in the mail today.

5. How many hours per week do you practice chiropractic?

   _____ (Hours per week)

6. The final report describing the study will include a list of individuals who responded to this survey. Would you like us to include your name in the list?
   - ○ Yes
   - ○ No

NATIONAL BOARD OF CHIROPRACTIC EXAMINERS
901 54th Avenue
Greeley, Colorado 80634

011880

PLEASE DO NOT MARK IN THIS AREA

DEMOGRAPHIC DATA

In this section you are asked to provide background information that will be summarized to describe the group that completed this questionnaire. No individual responses will be reported.

1. **Sex**
   - ○ Male
   - ○ Female

2. **Place of birth**
   - ○ Australia
   - ○ Britain
   - ○ Canada
   - ○ China
   - ○ Europe
   - ○ New Zealand
   - ○ North America
   - ○ Vietnam
   - ○ Other _____

3. **Highest level of non-chiropractic education attained:**
   - ○ High School Diploma
   - ○ Associate Degree
   - ○ Baccalaureate Degree
   - ○ Master's Degree
   - ○ Doctoral Degree
   - ○ Other _____

4. **Post-graduate chiropractic specialty board eligibility or certification:**
   - ○ None/Does not apply
   - ○ American Chiropractic Board of Sports Physicians
   - ○ American Board of Chiropractic Orthopedists
   - ○ American Chiropractic Academy of Neurology
   - ○ American Chiropractic Board of Radiology
   - ○ Chiropractic Rehabilitation Association
   - ○ American Chiropractic Board of Nutrition
   - ○ American Board of Chiropractic Internists
   - ○ ICA College on Chiropractic Imaging
   - ○ ICA College of Thermography
   - ○ ICA Council on Applied Chiropractic Sciences
   - ○ Other _____

5. **Institution that conferred Doctor of Chiropractic Degree:**
   - ○ Anglo-European College of Chiropractic
   - ○ Canadian Memorial Chiropractic College
   - ○ Cleveland Chiropractic College, Kansas City
   - ○ Cleveland Chiropractic College, Los Angeles
   - ○ Institut Francais de Chiropractie
   - ○ Life College, School of Chiropractic
   - ○ Life Chiropractic College, West
   - ○ Logan College of Chiropractic
   - ○ Los Angeles College of Chiropractic
   - ○ National College of Chiropractic
   - ○ New York Chiropractic College
   - ○ Northwestern College of Chiropractic
   - ○ Palmer College of Chiropractic
   - ○ Palmer College of Chiropractic, West
   - ○ Parker College of Chiropractic
   - ○ Pennsylvania College of Straight Chiropractic
   - ○ Phillip Institute of Technology, School of Chiropractic
   - ○ Sherman College of Straight Chiropractic
   - ○ Southern California College of Chiropractic
   - ○ Sydney College of Chiropractic.
   - ○ Texas Chiropractic College
   - ○ Western States Chiropractic College
   - ○ Other _____

WORK ENVIRONMENT

Which of the following best describes your position in the office where you work?

- ○ Individual practitioner/only doctor in office
- ○ One of two or more doctors in office
- ○ Junior associate or examining doctor
- ○ Other _____

Do you practice in more than one office location?

- ○ Yes
- ○ No

Do you delegate some of your patient care, such as case history taking, the taking or developing of X-rays, or the administration of therapy, to a chiropractic assistant?

- ○ Yes
- ○ No

4. **Do you ever deliver chiropractic care outside an office setting, such as in a patient's home?**
   - ○ Yes
   - ○ No

5. **Do you have staff privileges at a hospital?**
   - ○ Yes
   - ○ No

6. **Have you received patient referrals from medical practitioners in the past two years?**
   - ○ Yes
   - ○ No

EXPERIENCE AND ORIENTATION

How long have you been practicing in the state in which you are currently located?

- ○ less than 2 years
- ○ 2-4 years
- ○ 5-15 years
- ○ more than 15 years

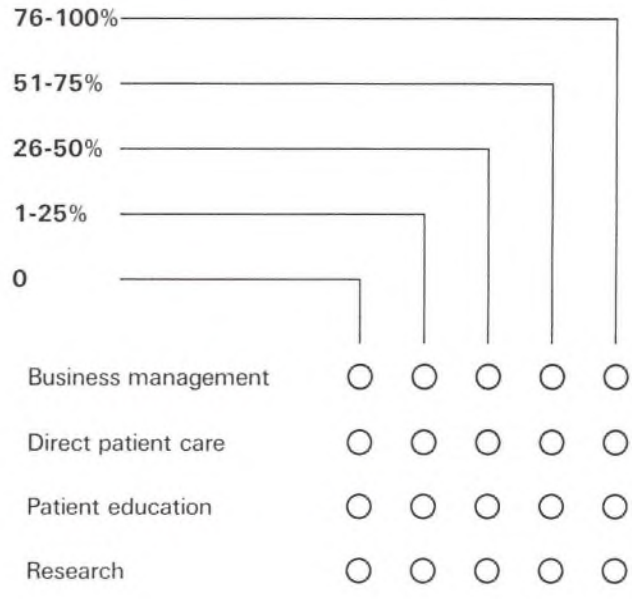
How long have you been in practice altogether, including your current state and other states or countries?

- ○ less than 2 years
- ○ 2-4 years
- ○ 5-15 years
- ○ more than 15 years

What kind of clinical orientation did you receive in your first field practice setting?

- ○ No formal orientation
- ○ A preceptorship/field internship
- ○ An associateship
- ○ A state-mandated training program
- ○ Other _____

4. **Approximately what percentage of your time is spent on each of the following functions during a typical week?**



TYPES OF PATIENTS

For every 100 patients that you see in your practice, how many of these patients are from each of the following sex, age, ethnic, and occupational categories?

4 = MOST/ALL (76-100%)
3 = MORE THAN HALF (51-75%)
2 = HALF OR LESS (26-50%)
1 = FEW/SOME (1-25%)
0 = NONE (0)

		0	1	2	3	4
SEX	• MALE	○	○	○	○	○
	• FEMALE	○	○	○	○	○
AGE	• 17 or younger	○	○	○	○	○
	• 18 to 30	○	○	○	○	○
	• 31 to 50	○	○	○	○	○
	• 51 to 64	○	○	○	○	○
	• 65 or older	○	○	○	○	○
ETHNIC ORIGIN	• ABORIGINAL	○	○	○	○	○
	• CHINESE	○	○	○	○	○
	• EUROPEAN DESCENT	○	○	○	○	○
	• GREEK	○	○	○	○	○
	• INDONESIAN	○	○	○	○	○
	• ITALIAN	○	○	○	○	○
	• UNITED KINGDOM	○	○	○	○	○
	• VIETNAMESE	○	○	○	○	○
	• OTHER _____	○	○	○	○	○
OCCUPATION	• Executive/Professional	○	○	○	○	○
	• White collar/Secretarial	○	○	○	○	○
	• Professional/Amateur athlete	○	○	○	○	○
	• Tradesman/Skilled Labor	○	○	○	○	○
	• Unskilled Labor	○	○	○	○	○
	• Homemaker	○	○	○	○	○
	• Student	○	○	○	○	○
	• Retired or other	○	○	○	○	○

TYPES OF CONDITIONS

ring the past two years in your practice, how often have you seen patients with the following presenting or ıcurrent conditions?

4 = ROUTINELY (Daily)
3 = OFTEN (1 or 2 per week)
2 = SOMETIMES (1 or 2 per month)
1 = RARELY (1 or 2 per year)
0 = NEVER

ARTICULAR/JOINT

	0	1	2	3	4
• spinal subluxation/joint dysfunction	○	○	○	○	○
• extremity subluxation/joint dysfunction	○	○	○	○	○
• sprain or dislocation of any joint	○	○	○	○	○
• vertebral facet syndrome	○	○	○	○	○
• intervertebral disc syndrome	○	○	○	○	○
• thoracic outlet syndrome	○	○	○	○	○
• hyperlordosis of cervical or lumbar spine	○	○	○	○	○
• kyphosis of thoracic spine	○	○	○	○	○
• aseptic necrosis or epiphysitis	○	○	○	○	○
• scoliosis	○	○	○	○	○
• congenital/developmental anomaly	○	○	○	○	○
• osteoarthritis/degenerative joint disease	○	○	○	○	○
• systemic/rheumatoid arthritis or gout	○	○	○	○	○
• bacterial infection of joint	○	○	○	○	○
• bursitis or synovitis	○	○	○	○	○
• carpal or tarsal tunnel syndrome	○	○	○	○	○
• TMJ syndrome	○	○	○	○	○
• joint tumor or neoplasm	○	○	○	○	○
• spinal canal stenosis	○	○	○	○	○

NEUROLOGICAL

	0	1	2	3	4
• headaches	○	○	○	○	○
• peripheral neuritis or neuralgia	○	○	○	○	○
• ALS, multiple sclerosis or Parkinson's	○	○	○	○	○
• tearing or rupture of nerve/plexus	○	○	○	○	○
• stroke or cerebrovascular condition	○	○	○	○	○
• vertebrobasilar artery insufficiency	○	○	○	○	○
• cranial nerve disorder	○	○	○	○	○
• radiculitis or radiculopathy	○	○	○	○	○
• loss of equilibrium	○	○	○	○	○
• brain or spinal cord tumor	○	○	○	○	○

(During the **past two years**)

4 = ROUTINELY (Daily)
3 = OFTEN (1 or 2 per week)
2 = SOMETIMES (1 or 2 per month)
1 = RARELY (1 or 2 per year)
0 = NEVER

		0	1	2	3	4
SKELETAL	• fracture	○	○	○	○	○
	• osteoporosis/osteomalacia	○	○	○	○	○
	• congenital/developmental anomaly	○	○	○	○	○
	• endocrine or metabolic bone disorder	○	○	○	○	○
	• bone tumor	○	○	○	○	○
MUSCULAR	• muscular strain/tear	○	○	○	○	○
	• tendinitis/tenosynovitis	○	○	○	○	○
	• muscular dystrophy	○	○	○	○	○
	• muscular atrophy	○	○	○	○	○
	• muscle tumor	○	○	○	○	○
CARDIOVASCULAR	• high or low blood pressure	○	○	○	○	○
	• angina or myocardial infarction	○	○	○	○	○
	• arterial aneurysm	○	○	○	○	○
	• peripheral artery or vein disorder	○	○	○	○	○
	• murmur or rhythm irregularity	○	○	○	○	○
	• congenital anomaly	○	○	○	○	○
RESPIRATORY	• viral or bacterial infection	○	○	○	○	○
	• asthma, emphysema or COPD	○	○	○	○	○
	• occupational or environmental disorder	○	○	○	○	○
	• atelectasis or pneumothorax	○	○	○	○	○
	• tumor of lung or respiratory passages	○	○	○	○	○
INTEGUMENT	• acne, dermatitis or psoriasis	○	○	○	○	○
	• bacterial or fungal infection	○	○	○	○	○
	• herpes simplex or zoster	○	○	○	○	○
	• pigment disorders	○	○	○	○	○
	• skin cancer	○	○	○	○	○

uring the past two years)

4 = ROUTINELY (Daily)
3 = OFTEN (1 or 2 per week)
2 = SOMETIMES (1 or 2 per month)
1 = RARELY (1 or 2 per year)
0 = NEVER

	0	1	2	3	4
GASTROINTESTINAL					
• bacterial or viral infection	○	○	○	○	○
• appendicitis, cholecystitis or pancreatitis	○	○	○	○	○
• ulcer of stomach, intestine or colon	○	○	○	○	○
• hiatus or inguinal hernia	○	○	○	○	○
• colitis or diverticulitis	○	○	○	○	○
• hemorrhoids	○	○	○	○	○
• tumor of gastrointestinal tract	○	○	○	○	○
RENAL/UROLOGICAL					
• infection of kidney or urinary tract	○	○	○	○	○
• kidney stones	○	○	○	○	○
• chronic kidney disease or failure	○	○	○	○	○
• tumor of the kidney or bladder	○	○	○	○	○
MALE REPRODUCTIVE					
• male infertility or impotency	○	○	○	○	○
• prostate disorder	○	○	○	○	○
• congenital anomaly	○	○	○	○	○
• tumor of reproductive system	○	○	○	○	○
FEMALE REPRODUCTIVE OR BREAST					
• female infertility	○	○	○	○	○
• pregnancy	○	○	○	○	○
• menstrual disorder	○	○	○	○	○
• non-cancerous disorder of breast	○	○	○	○	○
• tumor of breast or reproductive system	○	○	○	○	○
HEMATOLOGICAL/ LYMPHATIC					
• anemia	○	○	○	○	○
• immunological disorder	○	○	○	○	○
• hereditary disorder	○	○	○	○	○
• polycythemia	○	○	○	○	○
• cancer of the marrow or lymphatic system	○	○	○	○	○

(During the **past two years**)

4 = **ROUTINELY (Daily)**
3 = **OFTEN (1 or 2 per week)**
2 = **SOMETIMES (1 or 2 per month)**
1 = **RARELY (1 or 2 per year)**
0 = **NEVER**

		0	1	2	3	4
ENDOCRINE/ METABOLIC	• obesity	○	○	○	○	○
	• thyroid or parathyroid disorder	○	○	○	○	○
	• adrenal disorder	○	○	○	○	○
	• pituitary disorder	○	○	○	○	○
	• thymus or pineal disorder	○	○	○	○	○
	• diabetes	○	○	○	○	○
	• endocrine tumor	○	○	○	○	○
CHILDHOOD DISORDERS	• upper respiratory or ear infection	○	○	○	○	○
	• measles/German measles	○	○	○	○	○
	• mumps	○	○	○	○	○
	• chickenpox	○	○	○	○	○
	• whooping cough	○	○	○	○	○
	• parasitic	○	○	○	○	○
VENEREAL	• herpes II	○	○	○	○	○
	• gonorrhea	○	○	○	○	○
	• chlamydia	○	○	○	○	○
	• venereal warts	○	○	○	○	○
	• syphilis	○	○	○	○	○
EENT	• eye or vision disorder	○	○	○	○	○
	• ear or hearing disorder	○	○	○	○	○
	• disorder of nose or sense of smell	○	○	○	○	○
	• disorder of throat or larynx	○	○	○	○	○
	• tumor of eye, ear, nose or throat	○	○	○	○	○
MISCELLANEOUS	• allergies	○	○	○	○	○
	• nutritional disorders	○	○	○	○	○
	• eating disorders	○	○	○	○	○
	• psychological disorders	○	○	○	○	○
	• AIDS-related complex	○	○	○	○	○

ACTIVITIES PERFORMED

RUCTIONS: This section contains a list of activities that chiropractors may perform in their practices. Some of these ities may not apply to your practice. Please respond to the statements in terms of what you are now doing or have doing over the **past two years** in your practice.

Using the rating scale

ach item in this inventory, you are asked to make two judgments using the FREQUENCY and RISK FACTOR rating s presented below.

QUENCY: How often do you perform the activity in a **typical series of 100 patients** or in a group of the type of patients specified?

0 Never (does not apply to my practice)
1 Rarely (1-25%)
2 Sometimes (26-50%)
3 Frequently (51-75%)
4 Routinely (76-100%)

(FACTOR: In your opinion, what would be the risk factor to public health or patient safety of **poor performance** or **omission** of the activity by a chiropractor?

0 No risk
1 Little risk
2 Some risk
3 Significant risk
4 Severe risk

0 Never (does not apply)
1 Rarely (1-25%)
2 Sometimes (26-50%)
3 Frequently (51-75%)
4 Routinely (76-100%)

0 No risk
1 Little risk
2 Some risk
3 Significant risk
4 Severe risk

XAMPLES	FREQUENCY					RISK FACTOR				
	0	1	2	3	4	0	1	2	3	4
Order or perform an electrocardiogram as part of an initial or routine physical examination.	●	○	○	○	○	○	●	○	○	○
Order an electrocardiogram or refer a patient with a suspected heart problem to a cardiologist.	○	○	○	○	●	○	○	○	○	●
Determine the appropriate placements of chest leads for an EKG.	●	○	○	○	○	●	○	○	○	○
nterpret an EKG tracing.	○	●	○	○	○	○	○	○	●	○

: You may perform a procedure rarely, but the risk factor may be significant if performed poorly or omitted. Conversely, you may perform a procedure frequently, but omission of the activity may not necessarily present a significant risk to public health or patient safety.

These examples are hypothetical and are not intended to influence your rating of the procedures.

ACTIVITIES

Using the rating scale

For each item in this inventory, you are asked to make two judgments using the rating scales presented. In the colu labeled **"FREQUENCY,"** use the scale provided to indicate how often you perform the activity in a **typical series of 1 patients** or in a group of the **type of patients specified.** In the column labeled **"RISK FACTOR,"** use the scale to prov your opinion of what would be the risk to public health or patient safety of **poor performance** or **omission** of the acti by a chiropractor.

0 Never (does not apply)
1 Rarely (1-25%)
2 Sometimes (26-50%)
3 Frequently (51-75%)
4 Routinely (76-100%)

0 No risk
1 Little risk
2 Some risk
3 Significant risk
4 Severe risk

CASE HISTORY	FREQUENCY					RISK FACTOR			
	0	1	2	3	4	0	1	2	3
1. Take an initial case history from a new patient.	○	○	○	○	○	○	○	○	○
2. Identify the nature of a patient's condition using the information from the case history.	○	○	○	○	○	○	○	○	○
3. Perform a focused case history in order to determine what additional examination procedures or tests may be needed.	○	○	○	○	○	○	○	○	○
4. Take S.O.A.P. notes or case progress notes on subsequent patient visits.	○	○	○	○	○	○	○	○	○
5. Determine the appropriate technique or case management procedure using the information from the S.O.A.P. notes or case progress notes.	○	○	○	○	○	○	○	○	○
6. Update case history for a patient whose condition has changed or who presents with a new condition.	○	○	○	○	○	○	○	○	○
PHYSICAL EXAMINATION	FREQUENCY					RISK FACTOR			
	0	1	2	3	4	0	1	2	3
7. Perform a physical examination on a new patient.	○	○	○	○	○	○	○	○	○
8. Assess the patient's general state of health using the information from the physical examination.	○	○	○	○	○	○	○	○	○
9. Perform a regional physical examination to futher define the nature of the patient's presenting complaint, or to determine what, if any, further testing procedures may be indicated.	○	○	○	○	○	○	○	○	○
10. Update certain physical examination procedures periodically or when patient's condition changes.	○	○	○	○	○	○	○	○	○

0 Never (does not apply)
1 Rarely (1-25%)
2 Sometimes (26-50%)
3 Frequently (51-75%)
4 Routinely (76-100%)

0 No risk
1 Little risk
2 Some risk
3 Significant risk
4 Severe risk

MS EXAMINATION

	FREQUENCY					RISK FACTOR				
	0	1	2	3	4	0	1	2	3	4
. Perform a general orthopedic and/or neurological examination on a new patient.	○	○	○	○	○	○	○	○	○	○
. Perform a focused orthopedic and/or neurological examination based on the findings from the orthopedic and/or neurological survey.	○	○	○	○	○	○	○	○	○	○
. Determine the nature of a patient's condition using information from the orthopedic and/or neurological examination.	○	○	○	○	○	○	○	○	○	○
. Determine what additional laboratory, X-ray, special study, and/or referral may be indicated using information from the orthopedic and/or neurological examination.	○	○	○	○	○	○	○	○	○	○
Update appropriate orthopedic and/or neurological tests periodically or as patient's condition changes.	○	○	○	○	○	○	○	○	○	○

-RAY EXAMINATION

	FREQUENCY					RISK FACTOR				
	0	1	2	3	4	0	1	2	3	4
Perform an X-ray examination on new patients, and develop X-rays, either manually or with automatic processor.	○	○	○	○	○	○	○	○	○	○
Determine the presence of pathology, fracture, dislocations or other significant findings using information from an X-ray examination.	○	○	○	○	○	○	○	○	○	○
Determine areas of instability or dynamic joint dysfunction using information from a stress X-ray.	○	○	○	○	○	○	○	○	○	○
Determine the possible presence of a subluxation or a spinal listing using findings from an X-ray examination.	○	○	○	○	○	○	○	○	○	○
Update the X-ray examination or perform new X-rays on a patient whose condition has changed or who has a new condition.	○	○	○	○	○	○	○	○	○	○

ABORATORY AND SPECIAL STUDIES

	FREQUENCY					RISK FACTOR				
	0	1	2	3	4	0	1	2	3	4
Draw blood, collect urine, or perform laboratory or other specialized procedures in your office.	○	○	○	○	○	○	○	○	○	○
Order laboratory tests from hospital or private laboratory.	○	○	○	○	○	○	○	○	○	○
Refer patients for MRI, CT scan, EKG or other specialized procedure.	○	○	○	○	○	○	○	○	○	○
Confirm a diagnosis or rule out health-threatening conditions using information from laboratory or specialized studies.	○	○	○	○	○	○	○	○	○	○
Augment history, examination or X-ray findings using information from laboratory or specialized studies.	○	○	○	○	○	○	○	○	○	○

0 Never (does not apply)
1 Rarely (1-25%)
2 Sometimes (26-50%)
3 Frequently (51-75%)
4 Routinely (76-100%)

0 No risk
1 Little risk
2 Some risk
3 Significant risk
4 Severe risk

DIAGNOSIS	FREQUENCY					RISK FACTOR			
	0	1	2	3	4	0	1	2	3
26. Relate problems identified in the history and examination findings to a pathologic, pathophysiologic, or psychopathologic process.	○	○	○	○	○	○	○	○	○
27. Distinguish between life- or health-threatening conditions and less urgent conditions using information from the history and examination findings.	○	○	○	○	○	○	○	○	○
28. Predict the effectiveness of chiropractic care for the individual patient using information from the history and examination findings.	○	○	○	○	○	○	○	○	○
29. Refer patients to other health care practitioners based on information from the history and examination findings.	○	○	○	○	○	○	○	○	○
30. Arrive at a diagnosis or clinical impression on the basis of history and examination findings.	○	○	○	○	○	○	○	○	○

CHIROPRACTIC TECHNIQUE	FREQUENCY					RISK FACTOR			
	0	1	2	3	4	0	1	2	3
31. Perform specific chiropractic examination procedures on patients with spinal or extra-spinal joint conditions.	○	○	○	○	○	○	○	○	○
32. Utilize instruments unique to chiropractic or primarily in the chiropractic domain as part of the patient examination.	○	○	○	○	○	○	○	○	○
33. Determine the appropriate chiropractic case management or technique using information from a chiropractic examination.	○	○	○	○	○	○	○	○	○
34. Perform chiropractic adjustive techniques.	○	○	○	○	○	○	○	○	○
35. Update chiropractic examination procedures on subsequent visits to determine appropriate use of technique or case management.	○	○	○	○	○	○	○	○	○

SUPPORTIVE TECHNIQUE	FREQUENCY					RISK FACTOR			
	0	1	2	3	4	0	1	2	3
36. Evaluate the patient's condition to determine if procedures other than adjustive techniques may be indicated.	○	○	○	○	○	○	○	○	○
37. Determine indications or contraindications for the use of a supportive technique.	○	○	○	○	○	○	○	○	○
38. Perform treatment procedures other than adjustive techniques in the management of patient care.	○	○	○	○	○	○	○	○	○
39. Refer patients to a physical therapist, massage therapist, nutritionist or other health care practitioner based on patient's condition.	○	○	○	○	○	○	○	○	○
40. Monitor the effectiveness of non-adjustive techniques or therapeutic procedures.	○	○	○	○	○	○	○	○	○

0 Never (does not apply)
1 Rarely (1-25%)
2 Sometimes (26-50%)
3 Frequently (51-75%)
4 Routinely (76-100%)

0 No risk
1 Little risk
2 Some risk
3 Significant risk
4 Severe risk

CASE MANAGEMENT

	FREQUENCY					RISK FACTOR				
	0	1	2	3	4	0	1	2	3	4
1. Discuss alternative courses of action with patient based on assessment of patient's condition.	○	○	○	○	○	○	○	○	○	○
2. Recommend and/or arrange for services of other health professionals when patient's condition warrants.	○	○	○	○	○	○	○	○	○	○
3. Modify or revise case management as patient's condition improves or fails to improve.	○	○	○	○	○	○	○	○	○	○
4. Encourage patient to make appropriate changes in habits or lifestyle that will result in prevention of reoccurrences or improvement of health.	○	○	○	○	○	○	○	○	○	○
5. Maintain written record of problem(s), goals, intervention strategies, and case progress.	○	○	○	○	○	○	○	○	○	○

OTHER ESSENTIAL ACTIVITIES

you feel that there are additional procedures that you use in your practice which are absolutely essential to the ealth or safety of your patients, please describe these procedures in the space provided below.

TREATMENT PROCEDURES

Please indicate the primary technique approach that you use in your practice.

- ○ Upper cervical
- ○ Full spine
- ○ Other _____

Please indicate whether or not you have used the following adjustive techniques in your practice during the past two ye

YES	NO	ADJUSTIVE TECHNIQUE
○	○	Activator
○	○	Applied kinesiology
○	○	Barge
○	○	Cox/Flexion-Distraction
○	○	Cranial
○	○	Diversified
○	○	Gonstead
○	○	Grostic
○	○	Life upper cervical
○	○	Logan Basic
○	○	Meric
○	○	NIMMO/Tonus receptor
○	○	NUCCA
○	○	Palmer upper cervical/HIO
○	○	Pettibon
○	○	Pierce-Stillwagon
○	○	SOT
○	○	Thompson
○	○	Toftness
○	○	Other _____

ease indicate whether or not you have used the following non-adjustive supportive techniques in your practice during the st two years.

YES	NO	NON-ADJUSTIVE TECHNIQUE
○	○	Acupressure or meridian therapy
○	○	Acupuncture
○	○	Biofeedback
○	○	Bedrest
○	○	Bracing with lumbar support, cervical collar, etc.
○	○	Casting or athletic taping/strapping
○	○	Corrective or therapeutic exercise
○	○	Diathermy - shortwave or microwave
○	○	Direct current, electrodiagnosis or iontophoresis
○	○	Electrical stimulation - TENS, high-volt, low-volt, EMS
○	○	Foot orthotics or heel lifts
○	○	Homeopathic remedies
○	○	Hot pack/moist heat
○	○	Ice pack/cryotherapy
○	○	Infrared - baker, heat lamp or hot pad
○	○	Interferential current
○	○	Massage therapy
○	○	Nutritional counseling, therapy or supplements
○	○	Paraffin bath
○	○	Traction
○	○	Ultrasound
○	○	Ultraviolet therapy
○	○	Vibratory therapy
○	○	Whirlpool or hydrotherapy
○	○	Other _____

THANK YOU very much for your contribution to this important research study. If you wish to make any comments r suggestions, please use the space below.

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PLEASE DO NOT MARK IN THIS AREA

Appendix D
Listing of Survey Participants in Australia

The names of those job analysis survey participants who authorized their inclusion in this report appear below. A complete listing of participants is on file at NBCE headquarters.

AUSTRALIAN TERRITORY
J M BEACHER D C
NICOLAOS GONDZIOULIS D C
CHARLES W KEYNES D C
PAUL R LE-LIEVRE D C
KEITH J MCDOWALL D C
FIONA M MCKENZIE D C
THEONI STATHIS D C
MARK P TAPPER D C
SHARON L WILLIAMS D C

NEW SOUTH WALES
ANTONIO ALESSI D C
ROYCE ALLENSON D C
PHILLIP T ARENTZ D C
G NEIL AUSTIN D C
MARIA BERNARD D C
CLIVE R BOND D C
ROSS B BRIDLE D C
GEOFFREY E CAMERON D C
LESLIE L CARROLL D C
MARY ANN CHANCE-PETERS D C
JOHN CICE D C
COLIN D CLAREY D C
PAUL M CONDON D C
JOHN D COVETZ D C
GRAHAM R DALGLISH D C
ROBERT D DAVIS D C
JOHN F DE VOY D C
MARK P DEAL D C
PHILLIP J DEVEREAUX D C
KEVIN DU-VAL D C
RONALD C DUNCAN D C
CATHERINE ELKIN D C
JOHN S FRANZI D C
CHI K FUNG D C
WAYNE D GARD D C
PETER J GRIEVE D C
MICHAEL HALL D C
CHRISTOPHER D HEGGIE D C
MICHAEL D HOARE D C
RODERICK N HOOK D C
DAVID P HUSBAND D C
BRADLEY A HYNARD D C
KLARA M INGALL D C
W JOHN IRVINE D C
JOHN L KELLY D C
BERNARD LYLE D C
ANDREW MACFARLANE D C
FRANK MARCELLINO D C
JAMES R MARSH D C
KEN MCAVINEY D C
IAN MCLEOD D C
LEONIE J MCMAHON D C
ANTHONY B MEMMOLO D C
DWAYNE R MINTER D C

NORTHERN TERRITORY
ROBERT K HACKETT D C
GLENN LU D C
PAUL D PRINGLE D C

QUEENSLAND
MURRAY B ANDERSON D C
DARYL R ANSELL D C
MICHAEL R AUCOTIN D C
LEO BARNATHAN D C
ALISTAIR E BAXTER D C
NEVILLE J BEATTIE D C
RUSSELL A BRADY D C
SUSANNE L CALDECOTT D C
JOHN CAPPOLA D C
KEITH H CHARLTON D C
SCOTT W CHAMPION D C
JAMES D CROCKETT D C
KENNETH A DAVEY D C
PETER J DERIG D C
DAVID J DOYLE D C
WILLIAM A ECONE D C
NOEL J ELLIOTT D C
HARALD FALGE D C
JAMES D FARMER D C
JOHN FROELICH D C
HOWARD FRYE D C
DARYL E FURNESS D C
STEVEN W GRIFFITH D C
CARI J HAMILTON D C
EARL E MURRAY D C
GLENN R NOLAN D C
HOWARD W O'MEARA D C
GEORGE I PAPWORTH D C
BRIAN L PARKER D C
ROXANNE L PAYNE D C

SOUTH AUSTRALIA
JOSEPH BOND D C
SIMON A BREEN D C
STEPHEN P BROWN D C
ROBERT BURGESS D C
BRENDON C CHAPMAN D C
TERRY C CRISP D C
MARY E DANIELS D C
KYM R DAVIS D C
BEVAN G DINNING D C
PHILLIP R DONATO D C
JOHN L DRAPER D C
MICHAEL F GREIG D C
PAUL D HANNAN D C
ANTHONY J HEADLAND D C
BRETT A HOULDEN D C
KENNETH W HUGHES D C
ANTHONY R HUMAN D C
ALEXANDER JEFFERS D C
VICTOR J JOPPICH D C
KRISHNA KESWANI D C
DAVID F KIMBER D C
BRENTON KLEMM D C
GERRY B KULBYS D C
PAUL LAWRENCE D C
GRAHAM E LE-LIEVRE D C
JOHN E LONGBOTTOM D C
JAMES G MADIGAN D C
JONATHAN D MAN D C
ROBERT MARIN D C
DONALD K MCCLEARY D C
SUZANNE J MCEWEN D C
ANDRE D MENASH D C
BERNARD NADOLNY D C
KLAUS R NEBEL D C
NAOMI PERRY D C
ENRICO PIEROTTI D C
GREGREY J PLADSON D C
MARIA I POWELL D C
DAVID A PRIEST D C
ANICA RANT D C
ODETTE T READER D C
BERNARD C SETFORD D C
CHRISTOPHER J SLAUGHTER D C
SCOTT A SPRINGER D C
DAVID B STAPLETON D C
KEVIN A SZEKELY D C
DEREK C THOMPSON D C
MARK J TONKIN D C
JOHN A TROWSE D C
GRAHAM WATHERSTON D C
KYM A WILLIAMS D C
GLENN W WORTHINGTON-EYRE D C

WESTERN AUSTRALIA
WAYNE ADAMS D C
CHARLES BRO D C
SIMON B CARLIN D C
GAVIN L COCKRAN D C
PAUL D DILLON D C
STEPHEN FARRELL D C
ROSS E FUNNELL D C
G BEVAN GOODREID D C
ESYLTT GRAHAM D C
BRADLEY R GRANT D C
TERRENCE E HAYNES D C
DENNIS D HEGLUND D C
DOUGLAS L HERRON D C
ANTHONY G IVORY D C
ANDERS E JENSEN D C
GRAEME B LOTON D C
DAVID P LOURIE D C
ROBERT L MATTIN D C
DAVID R MINNS D C
NOEL J PATTERSON D C
LESLIE S PEREIRA D C
GEOFFREY R PITMAN D C
DENNIS N PLANE D C
MONICA PLANE D C
DAVID B PONTON D C
MICHAEL POWDERLEY D C
KATHLEEN B ROBERTS D C
BRENNAN J ROSE D C
ROBERT C SCOTT D C
THOMAS A SCOTT D C
PAUL G STAERKER D C
ROBERT L TODD D C
PHILIP J WILLIAMS D C
DOUGLAS O WINTER D C
SHIRLEY I WINTER D C

TASMANIA
EVERETT M HORCH D C
DENNIS MANSFIELD D C
HANS J MUELLER D C
PAUL R SEARLE D C
GEOFFREY J STANTON D C
D BRUCE THAYER D C
SHANE J WATTERSON D C

VICTORIA
SHAWN ACKERS D C
RICHARD A AMES D C
FARNOUSH AZARIMARV D C
RUSSELL BANKS D C
STEPHEN J BARDSLEY D C
ALEXANDER J BAXTER D C
MICHAEL A BAY D C
ROBIN F BIRCHALL D C
DAVID A BLACK D C
GRAEME F BLENNERHASSETT D C
PAUL A BOUX D C
WALTER G BOWERS D C
PETER BRESNAHAN D C
DOUGLAS C BRINSMEAD D C
JUSTIN L BROWN D C
ALAN J BRUCE D C
PETER BRYNER D C
DAVID N CAHILL D C
ASHLEY CAMPBELL-BIRD D C
DONALD J CANNON D C
ANTHONY G M CAPIAGHI D C
SERGIO A CARLEI D C
CRAIG S CARTER D C
WAYNE M CHAMBERS D C
JAN CHARLTON D C
TIM W CLARE D C
GREGORY J CONLAN D C
GREG CONNELL D C
JOHN A COOK D C
PHILLIP T CORBETT D C
ANTHONY J COXON D C
ANDREW J CRAMB D C
NICOLA N D'AMICO D C
ANTHONY DAWSON D C
IAN M DEITCH D C
JOEL DIXON D C
PHILIP J DRYSDALE D C
PETER J DUN D C
W BRUCE ELLIS D C
KENNETH J EWEN D C
JANUS J FAWKE D C
PAUL G FISHER D C
ANTHONY FORNO D C
TIMOTHY FREE D C
KENNETH R GIVEN D C
PETER A GLYNN D C
JOHN E GOWERS D C
PETER D GRANT D C
JACK GURMAN D C
ROBERT J HENNESSEY D C
KEVIN HORSEY D C
MICHAEL E HOUGHTON D C
R GRAHAM HUNT D C
WARWICK A HUTCHINSON D C
GEOFFREY A JACKSON D C
FRANK M JOWETT D C
PAUL D KELLY D C
HELI KIVIMAA-WOOD D C
CHRISTOS KOMINATOS D C
GARY C KREW D C
WILLIAM J LADSON D C
ERNEST H LAWRENCE D C
STAMATIS LIVERIADIS D C
CHRISTOPHER J LONG D C
LISA LOVETT D C
LEO MAGUIRE D C
ROSS W MCILVEEN D C
HELEN MCKENZIE D C
RODNEY MCVICAR D C
DAVID A MORTON D C
PAUL D MUDGE D C
CAROLINE MUNDAY D C
MARK J NAVIN D C
JULIUS J NOVOTNY D C
JOHN PANTAZOPOULOS D C
ROBERT E PEACOCK D C
FRANK O PEDERICK D C
JOHN F PETTIT D C
STANLEY POON D C
PETER P PORTELLI D C
STEVEN PRATT D C
TIMOTHY J RAVEN D C
IAN ROBERTSON D C
WILLIAM F RUSSELL D C
LEE R SANDLEY D C
WAYNE P SEDDON D C
MORGAN G SIMMONDS D C
GRAEME L SINCLAIR D C
NEIL M SMITH D C
MARK C SPEECHLEY D C
KENNETH J STEWART D C
OWEN E STORRIE D C
DALE A SYNON D C
ROHAN W TEASDALE D C
BRUCE W THOMPSON D C
EMIL S TURUDIA D C
PETER D ULBRICK D C
JOSEPHUS L VAN DEN HOEK D C
PETER F VANWUNNIK D C
NORMAN G VRADENBURG D C
CHRIS WEBSTER D C
JORGEN WILHELM D C
MICHAEL WOOD D C
BRIAN S YEE D C

Appendix E
Listing of Survey Participants in New Zealand

The names of those job analysis survey participants who authorized their inclusion in this report appear below. A complete listing of participants is on file at NBCE headquarters.

NEW ZEALAND
D P BACKHOUSE D C
T G R BRAUN D C
W N BROWNE D C
J M BRUIN D C
P M BRUNTON D C
C M BURKE D C
J R BURT D C
L P BUSCOMB D C
A L CALDER D C
P A CAMPBELL D C
R P CHEYNE D C
A J CHIVERS D C
M J CLIFFORD D C
W D DICK D C
J W DUGGAN D C
B M DUNNINGHAM D C
A G ELLEY D C
L J GILMORE D C
N J HALDANE D C
C L HILL D C
P R HILLIER D C
B G IRELAND D C
B F KELLY D C
G R KING D C
A MACAULAY D C
B M MCKELLOW D C
P L MCMASTER D C
R L MORSE D C
S R MORSE D C
L C MUDGWAY D C
D B MURPHY D C
H W H PHELPS D C
P F PLATT D C
T J POND D C
G L RIXON D C
R E ROE D C
P V ROSE D C
S C ROUGHAN D C
P R SAWYER D C
P N SCOTT D C
D R SIM D C
D M SISSONS D C
R T SMITH D C
D J D SNOW D C
G D STEWART D C
J W STINEAR D C
R G TAYLOR D C
E A TIMINGS D C
R J TODD D C
A TYNDALL D C
P VAN ZWEEDEN D C
J VODANE D C
A S WADE D C
G J WHITE D C
W WILLIAMS D C

Appendix F
Glossary of Terms or References

ACCE
Australasian Council on Chiropractic Education.

activator technique
A system of adjustment using a hand held, manually assisted, spring-activated device which delivers a controlled thrust.

acupressure/Meridian therapy
The practice of applying digital pressure to stimulate certain sites on the skin to affect functional mechanisms of the body. This therapy is based on the belief that these sites are organized along meridians which carry the life force that innervates the body.

acupuncture
The practice of insertion of needles into specific exterior body locations to relieve pain, to induce surgical anesthesia, and for therapeutic purposes.

adjustment
A forceful thrust which is meticulously controlled as to its direction, amount of force employed, and the quickness with which it is applied.

adrenal disorder
A dysfunction of the adrenal gland which is located near the kidney.

AMA
American Medical Association

amyotropic lateral sclerosis (ALS), multiple sclerosis or Parkinson's disease
Nervous system disorders characterized by demyelinization and degeneration of neural tissue.

angina pectoris
A condition marked by recurrent pain in the chest or left arm, caused by an inadequate blood supply to the heart muscle.

APA
American Psychological Association

applied kinesiology
Applied kinesiology focuses on the identification and correction of proprioceptive dysfunction of ligaments and of the muscle spindle cells and golgi tendons. In addition, applied kinesiology is concerned with the vascular, lymphatic, and other systems supporting proper muscle dynamics.

arterial aneurysm
An enlargement of one aspect of an artery caused by weakness in the arterial wall.

aseptic necrosis
A condition which is not a specific disease entity but caused by disruption in normal circulation to the involved bone. It can result in pain, loss of bone density, bone collapse or fracture. Some possible areas of involvement include the hip, shoulder, elbow, wrist, knee, or heel.

associateship
A practice arrangement between two or more chiropractors. Commonly entered into by recent chiropractic college graduates in order to gain clinical practice experience.

asthma
A condition marked by recurrent attacks of wheezing due to spasmodic contraction of the bronchi.

atelectasis or pneumothorax
Collapse of a part or the whole of the lungs due to absence of gas in the lung cavity or the presence

of air or gas in the pleural cavity located between the lung and chest wall.

Barge technique
A system of x-ray analysis, palpation, and adjusting procedures directed at correcting vertebral misalignments involving a shifting of the nucleus pulposus.

B.E.S.T. Technique
Bio-Energetic Synchronization Technique.

biofeedback
A training technique designed to enable an individual to gain some element of control over autonomic body functions. The technique is based on the learning principle that a desired response is learned when received information (feedback) indicates that a specific thought complex or action has produced the desired response.

bursitis or synovitis
Inflammation of the bursa or synovial membrane. Bursitis is occasionally accompanied by a calcific deposit in the underlying supraspinatus tendon.

carpal or tarsal tunnel syndrome
Peripheral nerve compression syndromes; carpal tunnel syndrome affects the median nerve in the carpal tunnel of the wrists; and tarsal tunnel syndrome affects the posterior tibial nerve or plantar nerves in the tarsal tunnel of the foot.

cervical spine
The first seven vertebra, the first of which articulates with the base of the cranium, and the seventh articulates with the uppermost vertebra of the thorax.

certification
A voluntary program that typically recognizes individuals that have the education or training beyond the basic level of competency necessary to practice in a profession.

chiropractic
Chiropractic is a branch of the healing arts which is concerned with human health and disease processes. Doctors of chiropractic are physicians who consider an individual to be an integrated being but give special attention to spinal mechanics, musculoskeletal, neurological, vascular, nutritional, and environmental relationships.

chlamydia
A sexually transmitted disease caused by the bacteria of the family chlamydiaceae.

colitis or diverticulitis
Inflammation of the colon or the diverticulum.

concurrent condition
A bodily condition which may include illness, malfunction, or disease for which the patient is not reporting to the chiropractor for care. The condition is called "concurrent" because it is present with another condition for which the person is seeking care.

congenital/developmental anomaly
An abnormality that is present at birth or appears in later development.

content-related evidence of validity
Evidence that shows the extent to which the content domain of a test is appropriate relative to its intended purpose. Such evidence is used to establish that the test includes a representative or critical sample of the relevant content domain and that it excludes content outside that domain.

COPD
Chronic Obstructive Pulmonary Disease. Generalized airway obstruction, particularly of small airways, associated with combinations of chronic bronchitis, asthma, and emphysema.

correlation coefficient
An index which can range from -1.00 through 0 to +1.00, indicating the extent to which two variables relate.

Cox/Flexion-Distraction technique
A system of procedures using distraction, or doctor-controlled tractive forces applied to a specific level of the spine with or without articular facet adjustment.

cranial nerve disorder
A condition affecting one or more of the twelve pairs of cranial nerves.

cranial technique
A technique to correct immobilities and asymmetries of the cranial bones.

cryotherapy
The use of cold as a treatment modality.

CT scan
Computed tomograms which combine the use of computers with advances in X-ray technology to produce sectional images in almost any anatomical plane of the body.

D.C.
Doctor of Chiropractic

Delphi study
A method of study originally developed by the RAND Corporation to arrive at reliable predictions about the future of technology; widely used when convergence of opinion through group consensus is needed.

dermatitis
Inflammation of the skin.

diathermy
Therapeutic use of high-frequency electric current to produce a thermal effect (heat) in the deep tissues of the body.

direct current
An electrical current which flows in one direction only. When used medically it is called the galvanic current; this current has distinct and marked polarity and marked secondary effects. These secondary effects include thermal changes and pain control. Galvanic stimulation may also be used to move fluids, exercise muscles, and relax spasticity.

diversified technique
Full spine chiropractic adjustive technique designed to correct vertebral malpositions and fixations in the most efficacious manner possible with respect to the clinical circumstances. In general, each college teaches its own diversified technique.

electrical stimulation
The use of an electrical current in the 1-4000Hz range to elicit a desired physiologic response.

emphysema
A pathological accumulation of air in tissues or organs; applied especially to swelling of the alveoli or of the tissue connecting the alveoli in the lungs, accompanied by tissue atrophy and breathing impairment.

endocrine or metabolic bone disorder
Condition of the endocrine or metabolic system that produces a pathological effect on bone tissue.

epiphysitis
Inflammation of an epiphysis or of the cartilage that separates it from the main bone.

extra-spinal joint conditions
Conditions involving the joints not of the spinal column, e.g. ankle, knee, shoulder, fingers, etc.

extremity subluxation/joint dysfunction
Refers to an incomplete or partial dislocation in which the articular surfaces have not lost contact. A certain degree of joint fixation exists which prevents normal joint motion and a return of the joint to its normal juxtaposition. Extremity subluxation may involve static properties (malposition) and/or dynamic properties (joint fixation) both of which result in joint dysfunction.

FCER
Foundation for Chiropractic Education and Research

FCLB
Federation of Chiropractic Licensing Boards

field internship
Practicing under the license and/or direct supervision of one or more physicians in an existing fee-for-service practice.

field test
A trial test of the survey of chiropractic given to 30 practitioners. Used to identify and modify any problems participants may have had in understanding and completing the survey.

finite population correction term
A factor included in the standard error formula which reduces the standard error as the proportion of the population sampled increases.

frequency factor
The estimated number of times the practitioner completing the survey performed the specified activity.

full spine
A chiropractic treatment approach which assesses all spinal levels as compared to approaches which focus on selected areas of the spine.

Gonstead technique
A "full spine" chiropractic method developed by Dr. Clarence Gonstead which utilizes radiographic analysis, instrumentation, and palpation to locate and specifically determine the malposition of subluxated vertebrae, which are then corrected manually.

Grostic technique
An upper cervical technique developed by Dr. John D. Grostic, Sr. that utilizes a specific measured analysis of the cervical spine together with manual adjusting to re-establish biomechanical balance of the spine.

hiatus or inguinal hernia
The protrusion of a loop or a part of an organ or tissue through an abnormal opening.

HMO
Health Maintenance Organizations

homeopathic remedies
Substances which are capable of producing in healthy persons symptoms like those of the disease being treated. Extremely small dosages are used to stimulate the body's natural defenses against the disease.

hyperlordosis of cervical or lumbar spine
Increased anterior curvature of cervical or lumbar spine.

iatrogenic
A result of treatment by a doctor

ICA
International Chiropractic Association

impairment evaluation
An evaluation to determine if there is an impairment of a body part.

immunological disorder
Disorder of the immune system.

importance
In the analysis of the survey, Frequency and Risk were multiplied together and the resultant product was labeled "importance".

interferential current
A physiotherapy modality which consists of two medium frequency currents that cross deep within a body part, and in so doing, trigger the formation of a third current that radiates from the inside to the outside of the target tissue, providing therapeutic treatment to the tissues.

infrared baker lamp
A source of superficial heat utilizing radiation

with a wave length between 7,700 and 14,000 Angstroms. Units are generally classified as either luminous or nonluminous.

integument
The skin as the covering of the body. Also known as integumentum.

interim survey form
The survey form administered to a small sampling of chiropractors and used to refine the form used for the study called "Survey of Chiropractic Practice".

intervertebral disc syndrome
A conglomeration of signs and symptoms usually consisting of episodic low back pain with possible symptoms of unilateral sciatic pain, progressive buttock, thigh, calf, and heel pain. There may also be a "C" scoliosis away from the side of pain, splinting, and a flattening of the lumbar spine. Weakness, numbness, and decreased reflexes may be noted in the involved extremity. This is a clinical diagnosis of disc herniation not verified by surgical intervention.

job analysis
Any of several methods of identifying the tasks performed on a job or the knowledge, skills and abilities required to perform that job.

job inventory
A list of tasks and functions performed on a job. The basis for forming a job analysis.

kyphosis of thoracic spine
Increased posterior convexity of the thoracic spine.

LBP
Low back pain

licensure
The process of obtaining a license which is required by law in order to enter a profession. It is the most restrictive form of occupational regulation because it prohibits anyone from engaging in the activities covered by the scope of practice without permission from a regulatory agency.

Life upper cervical technique
An upper cervical technique that utilizes a specific measured analysis of the cervical spine and a mechanical adjusting instrument to re-establish biomechanical balance of the spine.

Logan basic
A full spine technique that utilizes a system of body mechanics and adjusting procedures developed by Dr. Hugh B. Logan.

lumbar spine
The portion of the spine between the thorax and pelvis; e.g. low back vertebrae.

manipulation
The therapeutic application of manual force. Spinal manipulative therapy broadly defined includes all procedures in which the hands are used to mobilize, adjust, manipulate, apply traction, massage, stimulate, or otherwise influence the spine and paraspinal tissues with the aim of influencing the patient's health.

mean
Arithmetic average.

Meric technique
A system of analysis and adjusting in which the body is divided into zones.

methodology
The design of a study or procedures utilized in a study.

MRI
Magnetic Resonance Imaging. A diagnostic imaging modality that uses a magnet, radio frequency transmission and reception, and has the ability to discriminate the location of a signal arising from the body of a patient in a three-dimensional coordinate system.

muscular atrophy
Wasting away of muscle tissue.

muscular dystrophy
Degenerative genetic disease characterized by weakness and atrophy of muscles.

muscular strain/tear
Injury caused by an over-exertion or over-stretching of some part of the musculature and ligamentous structures.

National Advisory Committee
Committee composed of representatives from state examining boards, chiropractic educators, and private practitioners to offer guidance to the job analysis project.

National Board of Chiropractic Examiners (NBCE)
International testing agency for the chiropractic profession.

NBCE Job Analysis Steering Committee
Committee composed of representatives of the Board of Directors of the National Board of Chiropractic Examiners, given the responsibility of guiding the job analysis project.

neuralgia
Pain which extends along the course of one or more nerves.

neurological exam
Examination of the nervous system.

neuromusculoskeletal examination (NMS)
A series of specific tests performed to determine the structural integrity and functional capacity of the bones, muscles, and nerves of the body.

NIMMO/Tonus receptor technique
System of deep connective tissue and fascial manipulation developed by Dr. Raymond Nimmo.

NUCCA technique
An upper cervical technique developed and endorsed by the National Upper Cervical Chiropractic Association; the objective of this technique is to balance the pelvis and spinal column to the body's vertical axis.

NZCB
New Zealand Chiropractic Board.

objective structured clinical examination
An examination characterized by the use of standardized patients who are extensively trained to reliably portray a health condition.

orthopedic exam
Examination of structures involved in locomotion including joints, muscles, ligaments and connective tissue.

orthotics
An orthopedic appliance or apparatus used to support, align, prevent, or correct deformities or to improve the function of parts of the body.

osteoarthritis/degenerative joint disease
A disease occurring primarily in older people, characterized by degeneration of the cartilage and hypertrophy of bone. Generally accompanied by pain and stiffness.

osteopath
A healthcare practitioner whose treatment is based on the theory that the body is capable of making its own remedies against disease and other toxic conditions. Osteopaths in North America utilize generally accepted physical, medicinal, and surgical methods of diagnosis and therapy, while placing emphasis on the importance of normal body mechanics and manipulative methods of detecting and correcting faulty structure. Osteopaths in Australia and New Zealand almost exclusively use manipulation in treatment, while medicinal and surgical methods are not utilized.

osteoporosis/osteomalacia
Conditions marked by softening or degenerating of the bone mass sometimes accompanied by pain, tenderness, muscular weakness, leading to bone fractures with minimal trauma.

Palmer upper cervical/HIO technique
A technique that utilizes specific x-ray analysis and adjusting procedures developed by Dr. B.J. Palmer for correction of subluxations in upper cervical vertebrae only.

paraffin bath
The therapeutic application of melted paraffin wax that has been diluted with mineral oil in a predetermined ratio (eg. 4:1). A form of superficial heat transferred by conduction.

pathology
The structural and functional manifestations of disease.

peripheral neuritis
Inflammation, pain, and tenderness of a peripheral nerve.

Pettibon technique
An upper cervical technique that is based on spinal biomechanics and engineering physics theories developed by Dr. Burl Pettibon. The technique utilizes specific x-ray analysis and manual adjusting techniques as well as a mechanical adjusting instrument.

Pierce-Stillwagon technique
A full spine technique that utilizes specific X-ray analysis procedures, instrumentation procedures and adjusting procedures developed by Dr. Walter Pierce and Dr. Glenn Stillwagon.

pigment disorders
A skin disorder characterized by abnormal skin coloring.

pilot test
A preliminary survey conducted by the NBCE to help determine the appropriate format and content of the Survey of Chiropractic Practice.

pituitary disorder
A disorder of the pituitary gland most commonly originating in the anterior lobe of the pituitary gland or in the neurohyophysis.

polycythemia
An increase above normal in the number of red cells in the blood.

practical exam
An exam that requires licensure candidates to perform tasks or procedures which might commonly be required in practice.

Practice Model Log
An instrument developed for self-administration by practicing chiropractors. Doctors provided information on each of 10 consecutive patient visits. Data from the survey were used as an additional source of information about the profession as well as a basis for developing the Interim Survey Form.

preceptorship
Undergraduate and graduate programs in which the chiropractic college may place a student chiropractor or a recent graduate in a licensed chiropractor's office to learn clinical procedures and patient management methods under guidelines established by the sponsoring chiropractic college.

presenting condition
One or more symptoms or other concerns for which the patient is seeking care or advice.

proportional sampling
A form of sampling in which the number selected is a percent of the population.

psoriasis
A condition which produces dry, scaling patches of skin sometimes associated with a distinctive arthritis.

radiculitis or radiculopathy
Inflammation or disease of the root of the spinal nerve.

RAND
A nonprofit institution that seeks to improve public policy through research and analysis.

rating scales
Rating scales attempt to obtain appraisals on a common set of attributes for all raters and ratees and to have these expressed on common quantitative and qualitative scales.

reliability
The degree to which test scores are free of errors of measurement.

return rate
Percent of practitioners selected to complete the Survey of Chiropractic Practice who either returned the survey form or who were accounted for in another manner.

research protocols
Procedures to be followed in a research study.

risk factor
The degree of risk to public health or patient safety perceived by survey respondents relative to omission or poor performance of 45 activities listed in the Survey of Chiropractic Practice.

RMIT University-(Incorporated under former Phillip Institute of Technology)
Royal Melbourne Institute of Technology.

roentgenology
The branch of radiology that deals with the diagnostic and therapeutic use of roentgen rays.

sampling design
The specified method by which individuals are selected to be surveyed.

SMT
Spinal manipulative treatment

S.O.A.P.
Subjective, Objective, Assessment Plan/Procedure. A method of recording information in a patient's record based on a problem-oriented clinical approach.

S.O.T. technique
A system of soft tissue, reflex, diagnostic and adjusting techniques developed by Dr. M.D. DeJarnette; this technique emphasizes the close physiological and biomechanical relationships between the sacrum and the occiput.

SPEC
Special Purposes Examination for Chiropractic. The SPEC is designed to assess licensed or previously licensed chiropractic practitioners in areas reflecting clinical conditions encountered in general practice. The SPEC is now available.

spinal adjustment
The art of replacement of subluxated vertebrae to their normal position for the purpose of relieving impingement of the structures transmitted by the intervertebral foramen, thus restoring to the parts supplied by these nerves their normal innervation. This replacement of subluxated vertebrae usually is accomplished by the application of a definite thrust by the hands of the chiropractor in contact with the subluxated vertebra.

spinal canal stenosis
A significant reduction in diameter of the spinal canal which may result in symptoms of spinal cord or nerve root compression.

standard deviation
The standard deviation is a measure of variability, spread or dispersion of a set of scores around their mean value.

standard error
This is an abbreviation for standard error of estimate, which indicates the accuracy of a score. The standard error of estimate is the standard deviation divided by the square root of the sample size, and corrected for sampling from a finite population.

subluxation
A subluxation is the alteration of the normal dynamics, anatomical, or physiological relationship of contiguous articular structures.

survey instrument
Refers to the questionnaire developed by the NBCE for the Survey of Chiropractic Practice job analysis.

systemic/rheumatoid arthritis or gout
Inflammation of the joints which tends to be chronic and progressive, leading to deformities and disability.

"t-test"
A statistical procedure used to determine whether two means (arithmetic averages) differ significantly from each other.

tendinitis/tenosynovitis
Inflammation of a tendon or inflammation of a tendon and its enveloping sheath.

Thompson technique
A system of analytical and adjusting techniques developed by Dr. J. Clay Thompson that emphasizes the use of a Thompson terminal point adjusting table.

thoracic outlet syndrome
Compression of the brachial plexus or subclavian artery by attached muscles in the region of the first rib and clavicle.

thymus or pineal disorder
The thymus gland is associated with cell-mediated immunity. Pineal gland dysfunction may be responsible for some cases of hypo or hypergonadism but speculation as to the gland's actual function still exists.

thyroid or parathyroid disorder
Dysfunction of the thyroid or parathyroid glands, producing abnormally high or low concentrations of the circulating hormone levels which control the body's metabolic functions.

TMJ syndrome
Those various symptoms of discomfort, pain, or pathosis stated to be caused by loss of vertical dimension, lack of posterior occlusion, or other malocclusion, trismus, muscle tremor, arthritis, or direct trauma to the temporomandibular joint.

Toftness technique
A system of analysis and adjustment of the spine developed by Dr. I.M. Toftness.

traction
Therapeutic technique utilizing axial tension applied to a body segment.

ulcer of stomach, intestine or colon
A lesion on the inner mucous surface of the digestive tract caused by superficial loss of tissue, usually with inflammation.

ultrasound
Therapeutic technique that utilizes high frequency sound waves to produce micromassage and deep heating effects in a body segment.

ultraviolet therapy
Modality that produces radiation with strong actinic properties and is used to produce photochemical effects.

upper cervical vertebrae
The most superiorly located bones of the spine, usually referring to the first and second cervical vertebrae.

validity
The degree to which inferences from test scores are appropriate, meaningful or useful.

vertebral facet syndrome
A condition in which symptoms arise from inflamed, damaged, or dysfunctional vertebral facets; often accompanies increased spinal lordosis and may be secondary to intervertebral disc failure or degeneration.

vertebrobasilar arterial insufficiency
Lack of adequate blood flow through the verte-

bral arteries or their union which forms the basilar artery, ultimately resulting in cerebral ischemia or decreased blood flow to the brain.

vibratory therapy
The use of fingers or a mechanical device to produce oscillations in body tissues or to stimulate proprioceptive nerve functions.

weighting factor
A number used when aggregating data from individuals or subgroups such that the aggregated sample accurately represents the population.

whirlpool/hydrotherapy
Modality that may utilize cold or heated water to produce various mechanical and/or physiological effects on the body or a portion of the body.

Appendix G
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Appendix H
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