

Report to the profession

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The Canadian Chiropractic Examining Board (CCEB) is now in its fortieth year of providing quality measurement and evaluation services to the chiropractic profession in Canada. Dr. James Langford and his wife Lorraine are to be acknowledged for their significant contribution in the early days of the organization. The CCEB now provides both written knowledge and clinical skills examinations. External consultants are utilized on both examinations to ensure that the examinations are of high quality and to provide guidance to the CCEB and its Board of Governors. The CCEB is committed to expert consulting, research and publication, and external accreditation. The following is a description of the current measurement and evaluation practices, future advancements to the examinations, changes in the corporate structure and governance model, and sustainability of the examination processes. (JCCA 2002; 46(3):201–205)

Introduction

As previously reported in this journal,¹ the CCEB was created as a committee of the Canadian Chiropractic Association (CCA) in 1962. Dr. Jim Langford is to be acknowledged for his leadership, vision, and persistence in creating the CCEB. Both Dr. Langford and his wife Lorraine contributed a significant part of their professional

and personal lives to the maintenance and advancement of the CCEB. Dr. Langford was Chairman from 1962 until 1985. In 1985 the author was appointed Chair by the CCA and functioned in that capacity until 1992. Dr. Murray McEwen was Chair until 2001, and Dr. Brian Seaman is currently Chair of the Board of Governors.

In 1962 the CCEB offered a written examination that

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covered the subjects required by the Drugless Practitioners Act of the Province of Ontario. A practical, clinical examination was offered in 1998 to the Province of Alberta, and subsequently became accepted by all provinces due to the efforts of Dr. Murray McEwen and Dr. Daniel Saint-Germain from 1998 until 2001. Both examinations have been required for a chiropractor to practice in any province in Canada since 2000. Both examinations are offered multiple times per year, in multiple sites, and in both official languages. The written examination is offered in March and September each year in Calgary, Toronto and Trois-Rivières. The clinical examination is offered every three months (early March, June, September and December). The clinical examination is administered in each of three centres twice a year (Calgary, Toronto, Québec) with all three sites being involved in the June examination, the Calgary site hosting the March examination, the Toronto site hosting the September examination, and the Québec site hosting the December examination.

Administrative and governance changes

In 1962 the CCEB existed as a committee under the CCA, and was responsible to that organization. In 1987 the CCEB became a not-for-profit federal corporation with a Board of Governors. In 2000 the CCEB changed its by-laws to increase provincial representation in its governance model. Currently all provincial licensing bodies are corporate members of the CCEB and have the privilege and responsibility of electing the Board of Governors, providing direction to the corporation and reviewing the financial stewardship of the corporation. The Board of Governors currently consists of: Dr. Brian Seaman, Chair; Dre Johanne Martel, Vice-chair; Dr. Ray Graham, Chief Financial Officer; two public members, Ms. Deb Manz from Alberta and one vacant position; and three governors who are chiropractors, Drs. Armstrong, Fermanian, and Nykoliation.

Providing a clinical examination tripled the workload of the CCEB office, and to meet the increased needs, the CCEB moved into its own headquarters in January 2001. Prior to that time the CCEB had functioned in office space provided by the Chairs (Langford, Lawson, and McEwen). Until the Fall of 1999, staffing of the CCEB office consisted of the Chair, a full time secretary and a Director of Examination Services. The CCEB currently has four full-time office staff with a chief executive of-

ficer (CEO). The CEO manages the day-to-day functioning of the office and ensures that the vision, goals and policies of the Board of Governors are applied.

Written examination

The CCEB has reported to the profession in this journal previously¹²⁻⁴ about its written examination. The CCEB written examination now consists of three days of testing over content areas developed utilizing a Delphi process in the mid-1990's. The written examination is currently a test of knowledge. Reliability estimates (ALPHA) for this examination are in the mid 0.80s for each examination and the mid 0.90s for all three subjects combined.

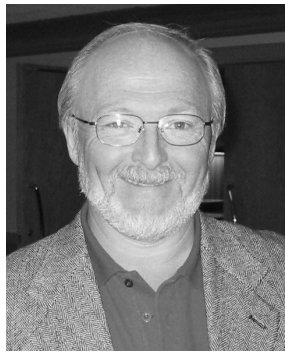
In the near future the CCEB will be changing the written examination to an examination of clinical decision-making (CDM). It is far more important to be able to utilize knowledge to arrive at good clinical decisions than it is to merely know something. The change from the current structure of the written examination (5 option multiple-choice questions) will encourage increased depth of knowledge⁵ and will assist in better evaluating whether a candidate can use the knowledge and make good clinical decisions about diagnosis, care and patient management and be competent to practice as a portal-of-entry health care provider in Canada.

Current literature supports the change to an examination of problem solving and CDM.⁶⁻⁸ The research literature suggests that the best method of testing CDM on a written examination is the long-vignette, extended-matching question.^{9,10} These questions utilize "real" clinical, patient-vignettes that include both relevant information that directs the knowledgeable candidate to the correct answer, and irrelevant information that distract or confuse the less knowledgeable candidate. Thus, the long-vignette, extended-matching question allows the CCEB to create questions that mimic clinical practice. The frequency of questions and content areas on the new written examination will be based on a validation project that is in progress and will reflect the age groups, gender, and clinical presentations of patients to chiropractors in Canada.⁷ The CCEB is adopting a clinical-presentation model of examination similar to that of the Medical Council of Canada.^{11,12}

Clinical examination

The clinical examination has only been offered by the

**Table 1
Board of Governors**



Dr. Hugh Armstrong



Dr. Sylvia Fermanian



Dr. Ray Graham



Ms. Deb Manz



Dre Johanne Martel



Dr. Jim Nykoliation



Dr. Brian Seaman

CCEB since 1998 but has undergone continual advancement. The clinical examination consists of a practical section and a diagnostic imaging section. The diagnostic imaging section is a digital presentation of twelve cases

over one hour, and the practical section is an objective structured clinical examination (OSCE). The OSCE utilizes professional actors to portray patient problems. Candidates are tested over two and one-half hours, tracking

some 175 specific skills. Reliability estimates for the OSCE examination are from 0.89 to 0.94 (all variables included). The OSCE consists of 10 stations of 10 minutes each. The stations are: 2 patient interview stations, two physical examination stations, 2 multiple-directed physical examination stations, 2 combined history and physical examination stations, 1 informed consent station, and 1 chiropractic adjusting station. All stations are structured to include “real world” problems that chiropractors see on a regular basis. Spread throughout the stations are presentations that evaluate the “clinically relevant legal, ethical and organizational aspects of practice” (CLEO).

Standardized examinees (actors who are trained as candidates) are being utilized to ensure the consistency of scoring from site-to-site (up to 3 sites per evaluation period), day-to-day, morning-to-afternoon, and track-to-track (up to 5 tracks in one centre). The data from the OSCE is analyzed using eight factorial main effects and interaction analysis of variance (ANOVA) and the only variable contributing significantly to score is the college/country of graduation. This is consistent with a study done last year that revealed that performance on the CCEB examinations is best correlated with pre-chiropractic college cumulative grade-point-averages and that graduates from Canadian colleges have higher pre-chiropractic cumulative grade-point-averages than their counterparts in the US and international.¹³

Further analysis is being performed on the OSCE data with regard to the need to adjust for examiner severity/leniency.¹⁴⁻¹⁷

Volunteers

The CCEB examinations rely heavily on volunteers. Since 1998, with the addition of the clinical examination, our reliance on volunteers has increased significantly. Over 200 chiropractors volunteer with the CCEB annually. The volunteers contribute at a significant level, in a meaningful way, and their contribution is valued and appreciated. To support our volunteers we have an active volunteer support program that includes the opportunity to attend one or two quality seminars each year with no charge. The CCEB is always interested in speaking with chiropractors who would like to get involved in our examinations.

Consulting and sustainability

For many years the CCEB relied heavily on the combined

expertise of the Chair (Dr. Murray McEwen) and the Director of Examination Services (the author). Under the direction of the Board of Governors, the CEO has been directed to ensure that the processes – both examination and organizational – are sustainable. Part of the sustainability is currently being addressed by administrative and staff training. The most significant issue with ensuring sustainability is the use of external consultants.

Harpe and Associates Ltd. has been providing consulting services to the CCEB since the Fall of 2001. Prior to that time, Harpe and Associates Ltd. provided consulting services on an “as needed” basis. Dr. Peter Harasym, Ph.D., as the President and Chief Executive Officer of Harpe and Associates Ltd. provides consulting services and examination administration services to both the written and clinical examinations. All scoring of candidate responses on the clinical examination is done on professionally generated computer score sheets. Approximately 50,000 individual score sheet items are tracked for the June Clinical Skills Examination. With input from Harpe and Associates Ltd. the clinical examination is achieving recognition – both from within the profession and outside the profession. Abstracts have been accepted at the Ottawa Conference on Medical Education in July 2002 and at the Research in Medical Education Conference of the American Association of Medical Colleges in November 2002. Reports are generated at the end of each examination that direct the CCEB on how its examinations can be further improved. The 5-year goal is to move the currently administered pencil and paper written examination to a latent trait and computer adapted testing mode of delivery.

Research and certification

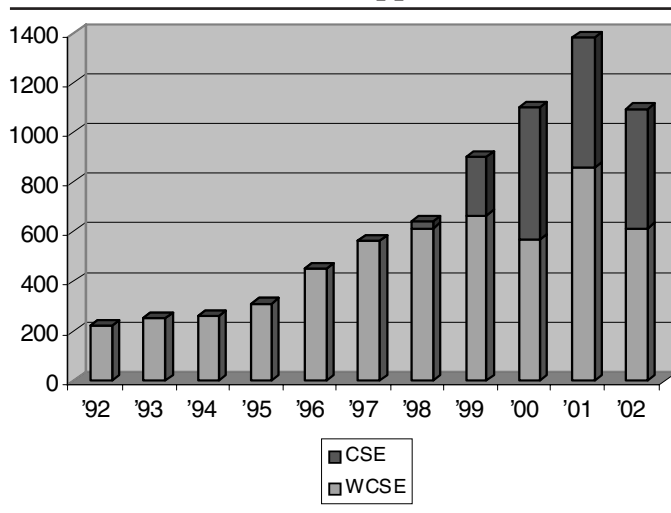
The CCEB is actively involved in research of its examinations. The presentations and publications discussed earlier provide an opportunity for thoughtful debate and peer review of processes, procedures and advancements. Steps are also underway to have CCEB certification procedures to be accredited by an outside certification body (National Organization for Competency Assurance), of which the CCEB is a member. Such research, publication, presentation and external review will ensure the high standards being set by the CCEB.

Concluding comments

There have been significant advancements to the evalua-

tion and measurement of chiropractors prior to licensure over the forty-year history of the Canadian Chiropractic Examining Board. The CCEB adopted a new governance and administrative model to meet the rapid growth of services and increasing candidate demand. Graph 1 demonstrates the changes in candidate applications for the written and clinical examinations since 1992.

Graph 1
Candidate Applications



Highly trained administrative staff, competent and valued volunteers, a committed and educated Board of Governors, and world recognized consultants ensure that candidates will be tested by fair, reliable, and valid examinations. The Board of Governors recently committed to the following mission statement. “Our mission is to preserve, protect, improve, and promote the quality of health care offered by the chiropractic profession through the certification of competent Doctors of Chiropractic using fair and valid testing procedures that meet and/or exceed the Canadian regulatory chiropractic licensure standards.”

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