

LICENSURE TESTING IN CANADA

This report provides an overview of Canadian licensure testing programs. First, the various terms used in the licensure arena are explained and contrasted. Second, the various requirements of licensure programs are described. Third, types of assessment methodologies are outlined and examples from the Canadian health care context are included.

LICENSURE CONTRASTED WITH CERTIFICATION, REGISTRATION, AND ACCREDITATION

The terms ‘licensure,’ ‘certification,’ ‘registration,’ and ‘accreditation’ are often confused. Schoon and Smith (2000) provide an excellent overview of the topic.

Licensure, certification, and registration are concerned with evaluating persons, whereas **accreditation** is concerned with evaluating organizations or processes. For example, hospitals and universities obtain accreditation based on having the required infrastructure, resources, and processes to carry out their prescribed roles. Accreditation does not evaluate the performance or ability of any single individual, but rather the organization as a whole.

Students who complete an **accredited** education program may not possess all of the knowledge, skills, and abilities required to pass a **licensure** examination. Students can successfully graduate from an accredited education program without necessarily being sufficiently trained in the key components tested on a licensure examination. Most students will have the required competencies to pass the licensure examination, but it is because of those who do not possess the required competencies that licensure examinations exist. Added to this is the unwillingness of some education programs to dismiss students lacking in adequate competence (Short, 1993), and demonstrations of the lack of reliability of some education program-based assessments (i.e., Prislin, Fitzpatrick, Lie, Giglio, Radecki, & Lewis, 1998; Resnick, Taylor, Maudsley, Ruedy, Cohen, Chalmers, & Newman, 1991; Williams, Barrows, Vu, Verhulst, Colliver, Marcy, & Steward, 1987).

Although not strictly accurate (Schoon & Smith, 2000), in the Canadian physiotherapy context, the terms **registration** and **licensure** are used interchangeably.

Licensure is a legal requirement of the jurisdiction in which the candidate wishes to practice (Schoon & Smith, 2000). In other words, it is illegal to practice without a license, and there are laws on the jurisdiction’s books laying out the requirements for being granted a license and the procedures to be followed if a license is to be revoked (Atkinson, 2000). In Canada, the responsibility for professional regulation is almost always in the hands of the individual provinces and territories. Most often, jurisdictions delegate this regulatory role to a board. These boards are often comprised of existing licensed members, but some include public members as well. In the Canadian physiotherapy context, all provincial jurisdictions have delegated the regulatory role to a provincial physiotherapy regulatory board. The authority for regulation in the territorial jurisdictions rests with the jurisdiction.

Certification means that an individual has met a certain standard. This standard has no statutory basis. Certification programs are usually administered by professional non-profit organizations.

Licensure is mandatory whereas **certification** is voluntary. Another fundamental difference between licensure and certification is that licensure is solely concerned with the ‘safety of the public,’ whereas certification is generally more concerned with recognizing specialized knowledge and ability. The final main difference between licensure and certification is that licensure is aimed at entry-level practitioners, whereas certification is often aimed at more experienced or specialized practitioners.

REQUIREMENTS OF LICENSING PROGRAMS

Public Interest

Licensing programs have a mandate of protecting the public and so are in a position of trust. A licensure board must exercise its delegated responsibility to the public by ensuring that qualified practitioners receive a license, and that any unsafe subsequent behaviour be investigated and disciplined. Schoon & Smith (2000, p.220) emphasize this point in stating that the “primary stakeholder of licensure activities is the public, and the only legitimate goal of licensure is to protect the public.”

Licensure programs have two main obligations: 1) ensuring that only safe, competent practitioners enter the profession or occupation; 2) investigating and disciplining existing members who do not conduct themselves in a safe and ethical manner. Usually, the first obligation occupies considerable resources for a licensing board. Included here is the selection and administration of fair eligibility requirements that usually include an examination. In terms of the second obligation, the licensing board has the responsibility to provide a means for the public to lodge complaints, and there must be a disciplinary procedure. An additional obligation in some jurisdictions is a continuing competency program, where the emphasis is on maintaining the competence of individual practitioners.

Legal Issues

James Casey (2000), of Field Atkinson Perraton, in rendering a legal opinion on licensure examinations as they relate to the Agreement on Internal Trade, says:

In my view, the key criteria for competency evaluation tools used in the AIT process are as follows:

1. *Competency based.*
2. *Evidence based.*
3. *The tools should be designed with a systems approach bearing in mind that a variety of quality assurance mechanisms exist in addition to those imposed by the Colleges.*
4. *The tools should be designed to measure “entry-level” competence.*
5. *It must be recognized that there are a variety of ways in which to obtain and maintain competence.*
6. *Where there is no automatic recognition of credentials of an individual, then an assessment of that particular individual’s education, experience and competence needs to be made rather than relying on assumptions about the characteristics of practitioners from that jurisdiction.*
7. *Evaluation systems need to provide a fair opportunity for applicants from other jurisdictions to demonstrate their competence.*

8. *If an applicant from another jurisdiction does not meet the standard qualifications, then the regulator should consider whether the individual can still practice safely by the imposition of terms, conditions or restrictions on the individual's license by the regulator.*

Although these points were made in relation specifically to AIT, they apply in general to licensure examinations and programs.

The legal opinion of Beament Green (1999) regarding the legal requirements and implications of licensure programs notes that a key to maintaining a litigation-free licensure program is to put the safety of the public at the fore, and ensure that candidates are treated fairly. Following accepted standards, ensuring psychometric requirements are met, and being fair and respectful to candidates provides for a good assessment program and will limit the likelihood of successful litigation.

Standards

Several groups have produced sets of standards that form the basis of professional licensing examinations. The most widely accepted and cited set of standards is the “Standards for Educational and Psychological Testing” published by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (1999). Other related sets of standards include:

- *Guidelines for educational and psychological testing*. Canadian Psychological Association, 1987.
- *Principles of fairness: An examining guide for credentialing boards (draft)*, Council on Licensure, Enforcement, and Regulation and National Organization for Competency Assurance, 1992.
- *Code of fair testing practices in education*, Joint Committee on Testing Practices, 1988.
- *Certification: A NOCA handbook*, National Organization for Competency Assurance, 1996.
- *Guidelines for the development, use, and evaluation of licensure and certification programs*, Professional Examination Service, 1995.

The various sets of standards are not mutually exclusive. Although differences exist at the detail level, there is consensus on the basic requirements of a psychometrically sound assessment tool. The criteria laid out in the section on psychometric issues are drawn from generally accepted testing principles, in conjunction with consideration for the more practical aspects of operationalizing an examination program.

Psychometric Issues

A licensure examination needs to be constructed following generally accepted testing principles. These can be gleaned from the various sets of standards described above. One of the most important principles is that a licensure examination be competency based (Impara, 1995). That is, it must be built and scored based on the knowledge, skills, and abilities required for safe, competent practice. Beyond this basic requirement, every licensing examination must demonstrate that it has validity (including reliability).

Broadly speaking, the **validity** of test results is the extent to which the inferences and decisions based on these results are appropriate (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). In other words, do candidates who

successfully complete an examination have the competence to perform at the desired level of proficiency, and do those who do not successfully complete the evaluation process possess less than the necessary level of competence.

Validity needs to be built into an examination program. In licensure testing, this is generally done by conducting a rigorous review of the competencies required for safe and competent practice. These competencies define the content domain from which an examination is built. If an examination is built by sampling from the specified content domain, then that examination can be said to have *content validity*. Another important aspect of validity is that the examination items assess the competencies in a way that is consistent with actual practice. This is termed *face validity* (Anastasi, 1982).

Reliability, one element important to the validity of test results, refers to the accuracy and consistency of an examination result (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999). Reliability is a statistical estimate of the dependability of an examination. The higher the reliability, the higher the likelihood that the same test results would be found if an equivalent examination was administered to the same candidate.

Fairness to Candidates

It is considered an important testing principle that the test results are based solely on the ability of candidates to provide safe, competent practice. It is important that the examination items and policies do not bias on factors (e.g., gender, language) that are not related to safe, competent practice. Similarly, there need to be reasonable and fair policies for dealing with candidates with disabilities.

In addition, examination programs need equivalent examinations to ensure that no matter when or where candidates take the examination, they have the same chance of passing. Put another way, the probability of passing should not depend on whether a candidate takes the examination this year or next year, or in one testing location or another. From year to year, the examination content, degree of difficulty and passing score may vary, but the interpretation of examination scores needs to remain equivalent. This is often accomplished in licensure contexts by setting the passing mark for the examination based on an external standard (this is an important aspect of criterion-referencing). So, the pass mark (and the passing rate) is based on what candidates are required to know, not on a predetermined proportion of passing candidates (known as norm-referencing) (Anastasi, 1982). If all candidates have the requisite knowledge, skills, and abilities, then a passing rate of 100% is appropriate and fair.

Program Sustainability

It is important for a licensure program to invest in its future. This can be done by ongoing research and periodic examination reviews of competencies and testing procedures. Professions and measurement practices change over time, and a licensure program must ensure that it remains current.

ASSESSMENT OPTIONS

Defining and Clarifying Terminology

Before deciding on a particular assessment tool, it is necessary to determine what will be assessed. This is generally done by 1) defining the competencies required of entry-level practitioners, 2) determining which of these competencies are most important from the perspective of public safety; and 3) determining what

can actually be assessed. Once a final set of competencies are derived, an assessment tool (or tools) can be chosen. The tool should match the competencies to be assessed (not the other way around) (Newble, Dawson, Dauphinee, Page, Macdonald, Swanson, Mulholland, Thomson, & van der Vleuten, 1994).

Assessments have different types of questions or items. **Selected response** questions are those where the correct answer is supplied and the candidate must accurately select that response. These types of items include multiple choice items, true/false items, and matching items. **Constructed response** questions are those where the candidate must generate the correct answer or perform a task demonstrating knowledge or skill. Examples include short-answer, fill-in-the blanks, in-baskets, structured interviews, and workplace simulations. Assessments with constructed response questions are usually “truer to life” than assessments with selected response questions.

In addition to evaluating competence, a licensure examination may make candidates more ready for practice. That is, the very act of preparing for the examination may require the candidate to focus on competencies that were not emphasized to the same degree in their educational program. That studying improves retention and recall is axiomatic – how much improvement is realized for any given candidate will depend on the particular education program they completed and on how they themselves encoded the information provided in that program.

Assessment Options

This section provides a very brief overview of some assessment options. A given set of competencies may be best assessed by the use of more than one assessment option. All methods presented here have their proponents and their detractors (Hager, Gonszi, & Athanasou, 1994) – the statements in this section are distilled from the general body of knowledge coupled with direct experience with the methods.

Workplace Simulation

A workplace simulation (also known as an objective structured clinical examination) usually involves placing the candidate in a situation that mimics as closely as possible an actual workplace with actual workplace issues and occurrences. People are trained to play the part of clients, customers or colleagues, and the situations and locations are designed so that every candidate is exposed to the same “test.” This type of assessment has widespread use in health care licensure, primarily because it is a direct measure of a candidate’s skills and abilities. One limitation however, is that only a small number (i.e., 5 to 15) of simulations are practical, and so this method is likely not suitable as the only assessment option from the perspective of complete content coverage (Newble et al., 1994; Prislin et al., 1998; van der Vleuten & Swanson, 1990).

Structured Interview and Oral Examination

A typical interview or oral examination includes several key questions that require the candidate to form a complex response, and depending on the response further “probe” questions may follow. If standardized across candidates with appropriate coverage of the targeted competencies, these types of assessments can be suitable for licensure (although not likely as the only tool). They are relatively inefficient at covering a broad domain of knowledge, but are excellent for evaluating communication skills and critical thinking ability (Osterlind, 1998).

Portfolio and Other Self-assessments

In a portfolio assessment, candidates are typically presented with a list of competencies or standards that they are expected to possess or meet. The candidate would have to provide evidence (essays, transcripts, checklists, etc.) of meeting each standard. Although portfolios and self-assessments may be ideal for identifying learning needs, they are not appropriate for licensure purposes. Because the licensing body is responsible for assessing competence, self-assessment is not suitable for licensure. To date, there is no indication of any licensure programs using portfolios or self-assessment. The probability that candidates will not accurately rate their own ability (either underestimating or overestimating) is too high (Hakel, 1998; Moss, Beck, Ebbs, Matson, Muchmore, Steele, & Taylor, 1992; Osterlind, 1998), affecting the validity of the test results.

Short-answer and Essay

Short-answer and essay questions require the candidate to form a written response to a given statement or questions. The length of the response may range from a sentence or two (short-answer) to several paragraphs (essay). Short-answer and essay questions are more popular in the education setting, but can be adapted to licensure purposes if rigorous scoring routines are developed and adequate content coverage is maintained. These types of assessment are well suited to measuring knowledge and critical thinking skills (Popham, 1990).

Multiple Choice

Multiple choice is the most often used assessment method for licensure examinations. This type of assessment requires the candidate to select the most correct option from a set of alternatives in response to a specific question. Multiple choice examinations have a long research history with well known psychometric properties (Haladyna, 1994). The main draw of multiple choice examinations for licensure testing is that they provide a cost efficient means of reliably evaluating a large number of competencies. Multiple choice examinations are particularly well suited to measuring candidate knowledge, but are generally ill-suited to directly measuring candidate skills and abilities (Haladyna, 1994).

Assessment Methods in Use in Canadian Licensure Programs

In reviewing the assessment methods used in 20 Canadian health professions, 11 have licensure examinations that are national in scope, 7 have licensure examinations at the provincial level only (4 of the 11 national examinations also have a separate provincial component), and one does not have a formal licensure examination. All of these examination programs include a multiple choice component. Of the 19, 10 use some form of workplace simulation (usually an objective structured clinical examination)¹. Other formats in use include short answer (Royal College of Dental Surgeons of Ontario and College of Physicians and Surgeons of Ontario), essay (College of Opticians of Ontario and College of Respiratory Therapists of Ontario), and an oral examination (College of Psychologists of Ontario). Of note is that 13 of the 19 testing programs use more than one assessment method.

¹ College of Chiropractors of Ontario; Royal College of Dental Surgeons of Ontario; College of Dental Technologists of Ontario; College of Denturists of Ontario; College of Massage Therapists of Ontario; College of Midwives of Ontario; College of Opticians of Ontario; College of Optometrists of Ontario; College of Physicians and Surgeons of Ontario; College of Respiratory Therapists of Ontario. The Ontario College of Pharmacists is implementing an OSCE in 2001.

REFERENCES

- American Educational Research Association, American Psychological Association, and National Council on Measurement in Education. (1999). *Standards for educational and psychological tests*. Washington, DC: American Educational Research Association.
- Anastasi, A. (1982). *Psychological testing*. New York, NY: Macmillan Publishing Co., Inc.
- Atkinson, D.J. (2000). Legal issues in licensure policy. In C.G. Schoon & I.L. Smith (Eds.), *The licensure and certification mission*. New York, NY: Professional Examination Service.
- Beament Green. (1999). Current legal issues in certification programs. Assessment Strategies Inc. internal report.
- Canadian Psychological Association. (1987). *Guidelines for educational and psychological testing*. Ottawa, ON: Canadian Psychological Association.
- Casey, J.T. (2000). Letter to the Canadian Alliance of Physiotherapy Regulators.
- Council on Licensure, Enforcement, and Regulation and National Organization for Competency Assurance. (1992). Draft of *Principles of fairness: An examining guide for credentialing boards*.
- Gibson, W.M. & Weiner, J.A. (1996). Licensing and certification test construction: A balancing act. *CLEAR Exam Review, Winter, 23-27*.
- Hager, P., Gonszi, A., & Athanasou, J. (1994). General issues about assessment of competence. *Assessment and Evaluation in Higher Education, 19, 3-16*.
- Hakel, M.D. (Ed.). (1998). *Beyond multiple choice: Evaluating alternatives to traditional testing for selection*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Haladyna, T.M. (1994). *Developing and validating multiple-choice test items*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Impara, J.C. (Ed.). (1995). *Licensure testing: Purposes, procedures, and practices*. Lincoln, NE: Buros Institute of Mental Measurements.
- Joint Committee on Testing Practices. (1988). *Code of fair testing practices in education*. Washington, DC: Joint Committee on Testing Practices.
- Moss, P.A., Beck, J.S., Ebbs, C., Matson, B., Muchmore, J., Steele, D., & Taylor, C. (1992). Portfolios, accountability, and an interpretative approach to validity. *Educational Measurement: Issues and Practice, Fall, 12-21*.
- National Organization for Competency Assurance. (1996). *Certification: A NOCA handbook*. Washington, DC: The National Organization for Competency Assurance.

- Newble, D., Dawson, B., Dauphinee, D., Page, G., Macdonald, M., Swanson, D., Mulholland, H., Thomson, A., & van der Vleuten, C. (1994). Guidelines for assessing clinical competence. *Teaching and Learning in Medicine*, 6, 213-220.
- Osterlind, S. J. (1998). *Constructing test items: Multiple-choice, constructed-response, performance, and other formats*. Boston, MA: Kluwer Academic Publishers.
- Popham, W.J. (1990). *Modern educational measurement*. Englewood Cliffs, NJ: Prentice Hall.
- Prislin, M.D., Fitzpatrick, C.F., Lie, D., Giglio, M., Radecki, S., & Lewis, E. (1998). Use of an objective structured clinical examination in evaluating student performance. *Family Medicine*, 30, 338-344.
- Professional Examination Service. (1995). *Guidelines for the development, use, and evaluation of licensure and certification programs*. New York, NY: Professional Examination Service, Inc.
- Resnick, R., Taylor, B., Maudsley, R., Ruedy, J., Cohen, R., Chalmers, A., & Newman, C. (1991). In-training evaluation – It's more than just a form! *Annals RCPSC*, 24, 415-421.
- Schoon, C.G. & Smith, I.L. (Eds.) (2000). *The licensure and certification mission*. New York, NY: Professional Examination Service.
- Short, J.P. (1993). The importance of strong evaluation standards and procedures in training residents. *Academic Medicine*, 68, 522-525.
- van der Vleuten, C.P.M. & Swanson, D.B. (1990). Reliability issues in objective structured clinical examinations. *Current Developments in Assessing Clinical Competence*, 66-77.
- Williams, R.G., Barrows, H.S., Vu, N.V., Verhulst, S.J., Colliver, J.A., Marcy, M., & Steward, D. (1987). Direct, standardized assessment of clinical competence. *Medical Education*, 21, 482-489.