Standards and performance

Attainment and maintenance of professional capabilities

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The nature of The Royal Australian College of General Practitioners (RACGP) examination came under scrutiny in a recent debate among RACGP members, some of who suggested exploring an alternative pathway for assessment linked to continuing medical education. This article outlines key issues underpinning the examination that is part of the requirements for attaining Fellowship of the RACGP (FRACGP). It provides an overview of the theory and practice of assessment for general practice. The RACGP examination has an international reputation for quality, validity and reliability, a reason why the RACGP has been asked to assist many others in establishing and/or reviewing their own examination processes.

Assessment

Demonstrating competence and/or performance

The RACGP examination assesses the overall competence of examinees to be fit to practise medicine in unsupervised general practice anywhere in Australia. Ideally this is done by observing an examinee in 'real life' practice. However, this process is time consuming and expensive, and due to the unpredictable nature of who presents to the surgery at any given day, may be associated with a high risk of not assessing the spectrum of what constitutes required general practice skills. Examinations that are systematically constructed as to cover all skill domains are logistically easier to implement, cheaper, and provide a more reliable picture of examinee's overall competence; despite the fact that they may feel somewhat stilted and artificial.

Key issues

- Demonstrating competence requires the integration of all necessary clinical attributes
- The ability to demonstrate a particular skill does not necessarily demonstrate competence, it merely establishes the progression toward achieving competence.

Competence arises in a hierarchical fashion and is represented in Miller's pyramid (*Figure 1*). Knowledge forms the foundation, knowing how and showing how are the two intermediate steps before performing competently is achieved. Competence is regarded as a necessary aspect of performance, although the relationship between the two is not always easily defined. Nevertheless, it is generally believed that in assessing performance, competence will also be assessed.[1]

Principally there are two ways to measure whether a medical practitioner meets the required standards for independent practice: competence based measurement and capability, or performance based measurement. As stated by Rethans et al,[2] 'competence based assessment measures what doctors can do in controlled representations of professional practice, performance based assessment measures what doctors can do in actual professional practice'.

The RACGP examination is a competence based assessment process that consists of a clinically focussed and integrated examination in which multiple assessment methods are used to determine the competence of the examinee based on an examination blueprint (*Figure 2*). The examination currently includes
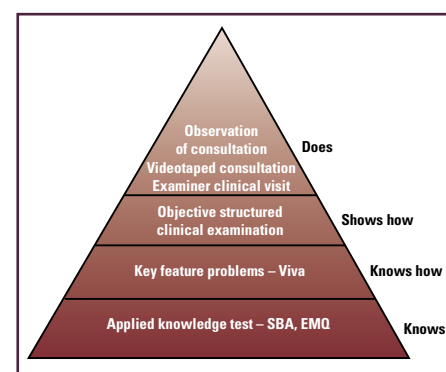

Figure 1. Competence pyramid

a written applied clinical knowledge test (single best answer and extended matching questions), key feature problems (tests clinical decision making using short case scenarios requiring written responses and best response selection), and a clinical examination in the style of an objective structured clinical examination. This examination format is compulsory for all registrars, and can be taken toward the end of training (but may be taken by any eligible doctor).

Doctors who have not completed a postgraduate training scheme (practice eligible doctors) have the additional option of practice based assessment (PBA) which uses a mix of performance based measures including direct observation, videotaped consultations, peer review and an oral viva examination.

Minimally acceptable competence/performance standards

Standards are accepted principles for personal, clinical and professional behaviours at a minimally acceptable performance level set by each medical speciality, thereby underpinning their professional practice. Professional competence is defined as 'the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community... served'.[3]

These values are reflected in the RACGP examination, and in accordance with government requirements the expected standard is that of 'competence to practise independent unsupervised general practice in Australia'. Examinees who satisfactorily demonstrate these skill levels are eligible to receive Fellowship of the RACGP provided they also fulfil all other prescribed requirements.

Key issues

- Validity and reliability of the examination
- Blueprinting of the examination
- Predictive power of the examination.

Validity is concerned with a test's ability to truly measure what is aimed to be tested. Three aspects are of concern – is the content representative of general practice, do the items predict performance in practice, and are all items measuring the true competence of an examinee? Reliability, on the other hand, is solely concerned with a test's ability to repeatedly produce the same results. Accordingly, both validity and reliability are concerned with fairness – to those who take

the test and those who have taken the test in the past.

Blueprinting, ie. gathering information about all aspects that constitute professional competence, is the basis for setting a valid test. The blueprint for the RACGP examination and PBA is based on the realities of Australian general practice taking into account a variety of factors: reasons for encounter, age and gender distributions,[4] the domains of general practice,[5] and the morbidity in the Australian community.[6]

Every test provides a snapshot of any examinee's total competencies and/or capabilities. To ensure that any test has sufficient power to accurately represent an examinee's true abilities, it has to be sufficiently long to allow a reproducible judgment to be made across the spectrum of relevant skills.

Attaining versus maintaining professional competence

Worldwide there is a movement toward exploring the relationship between attaining and maintaining professional competence. The attainment of a standard – as previously encouraged by the RACGP, and now required by government regulation – requires the systematic sampling of knowledge and skills across all the domains of the discipline. Maintenance of standards – not yet compulsorily required but encouraged by the RACGP through continuing professional development – is concerned with an ongoing process of reviewing performance, filling identified gaps and reassessing the newly achieved abilities (*Table 1*). Being experienced

but not having demonstrated the achievement of competence does not imply nor prove competence.

Attainment of professional competence

The face validity of any examination improves the closer it simulates real work experience.[7] This is one of the challenges facing simulated examinations. The RACGP's PBA was implemented as a means to improve the real work experience for examinees with sufficient clinical experience. The RACGP examination has proven its reliability and validity as a certification assessment.[8] Evaluation of PBA has shown an increase in content[9] and predictive validity,[10] and more work is being done to further explore its reliability.

Maintenance of professional competence

After having demonstrated initial minimal competence it is now an accepted requirement to participate in quality assurance and continuing professional development (QA&CPD) programs in order to maintain and update professional capability. A weakness of current programs is their emphasis on knowledge and an underemphasis on the important domains of interpersonal skills, lifelong learning, professionalism, and translation and integration of core knowledge into clinical practice.[11]

The evaluation of maintenance of professional competence currently lacks firm standards compared to those established for competence assessment.[12] Health care outcomes remain the ultimate measure of achievement, however the impact of performance on observable health outcomes

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Table 1. Key differences between the two objectives

| Attainment of standards	Maintenance of standards
• Demonstration of required knowledge and skill	• Revision of required knowledge and skills
	• Auditing performance
	• Reflecting on performance and rectifying identified deficiencies
• Anchored in expected domains of general practice	• Anchored in current as well as expected domains of general practice
• Presumes no prior level of minimal competence and capability	• Assumes prior level of minimal competence and capability
	• Encourages progression toward excellence
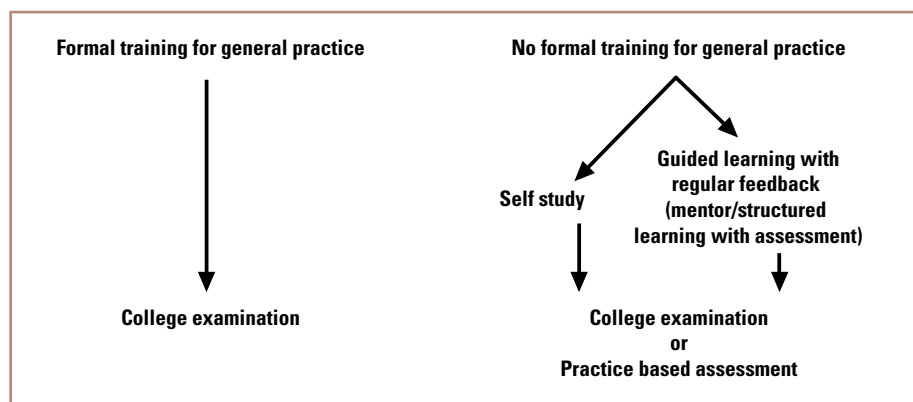
Figure 2. The RACGP examination blueprint

in the real world of medical, and in particular, general practice, depend on many factors. Many of these are often only indirectly related to the consultation process itself.

The way forward

A new debate about ways of assessing professional competence and accounting for medical capability is taking place. The RACGP examination must retain its worldwide reputation and also respond to the need to refine assessment processes to make them more valid and reliable as well as being proactive in developing acceptable responses to changing societal expectations and demands.

The guiding principle for all tests of clinical competence that allow decisions to be made about attaining as well as maintaining a medical qualification must address the key issues of: being summative (by definition), examination content being blueprinted, test/s being valid and reliable, and the standard for the pass/fail decision appropriately set.[13] Designers of alternative models to the RACGP examination/PBA and/or maintenance of proficiency need to consider:

• The distinction between formative and summative assessment: Formative assessment is designed to provide feedback on a person's educational progress. In the case of QA&CPD activities these are strengthened if feedback is provided during the learning activity. The 'final' assessment needs to have a summative function as it is a test of clinical competence and/or capability that determines a doctor's fitness

to practise independently or being allowed to continue independent practice
• Blueprinting: Assessment for attainment as well as maintenance of professional capability needs to be designed around a valid conceptual framework. Because of the complexities of clinical competence and capability, only different tests can sufficiently cover the different domains and the content of the discipline
• Validity and reliability: Any new assessment needs to demonstrate acceptable reliability and validity. Reliability, or reproducibility of results, is needed across examiners (inter-rater) and cases (internal consistency) and depends upon well defined assessment criteria and sufficient test items. Broad and systematic sampling across content areas is a prerequisite for validity of any assessment[14]
• Standard setting: Any new assessment needs to define the minimum standard required that reflects demonstrated competence/capability for unsupervised practice. Standard setting considers each item in the test as well as the test as a whole.

Conclusion

New formats of assessment need to address all the domains of competence and professional capability, including: clinical reasoning, expert judgment, management of ambiguity, professionalism, time management, learning strategies, and teamwork. New formats must also provide strategies for such multidimensional assessment in a coherent fashion.

A piecemeal approach to the development of new assessment strategies inevitably will compromise overall reliability and validity. Those who want to get involved in advancing this agenda will need funded institutional support and expert advice.

Conflict of interest: none declared.

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