

Competency-based training in medical education

2010

1. Scope

The AMA has developed this position statement in response to growing debate in the medical profession about the potential impact of competency-based training on the outcomes of medical education, and as a result of this, on the quality of patient care.

Elements of competency-based training are now commonly found in medical education and training programs across Australia; however, they are typically used in combination with more traditional systems of training delivery (minimum time component) and assessment. The introduction of competency-based training in Australia has been a proactive response to increase the transparency, accountability and efficiency of training programs in the face of a changing healthcare environment.

The focus of this position statement is on the use of competency-based training in undergraduate and postgraduate medical education and training programs. The position statement does not address the use of competency-based training in post-fellowship medical education, as this stage of training is quite different in its aim and requires separate analysis.

2. Definition

The issue of competency-based training is often confused by the absence of a clear definition and by the fact that there is significant variation in its application to training programs in Australia.

The AMA subscribes to the view that a competency is an ‘observable ability’¹, a skill or characteristic that can be measured and assessed with reliability and validity against a commonly agreed standard. Examples of medical competencies include task-based, technical and procedural skills (e.g. suturing, urinary-catheter insertion), as well as the higher order skills of professionalism, judgment/clinical decision-making, communication, ethical practice, collaboration and leadership.

Typically, competency-based assessment does not aim to precisely quantify how adept a practitioner is in that particular competency, but rather seeks to determine whether the practitioner has achieved the minimum standard.

Competency-based training attempts to define the required outcomes of training by using statements of competence to describe what abilities a trainee should be able to demonstrate at a particular point in training to enable further progression, including before being certified as ready for independent practice. Under such a system, the length of time a trainee takes to achieve these competencies is irrelevant – the demonstration of competency at the time of assessment is the overarching principle.

3. Role and benefits

The AMA believes that competency-based training can be an effective component of medical education and training programs; however, it has significant limitations (discussed in section 4).

The AMA supports the use of competency frameworks that define the broad areas of ability required at various stages of medical training. These frameworks are not reductionist approaches that attempt to fragment medical education outcomes into small discrete parcels, but rather focus on the higher order skills and the key elements within these. An example of such a competency framework is the CanMEDS Physician Competency Framework, which has been adapted and integrated successfully by providers of medical education in Australia.²

These competency frameworks have the potential to add value to medical education and training in the following ways:

¹ Frank, J. R. Public Lecture: Competency based medical education: the solution to workforce shortages? Australian National University, 9 Feb 2010.

² Frank, J. R., “The CanMeds 2005 Physician Competency Framework”, The Royal College of Physicians and Surgeons Canada, 2005.

1. promoting the important higher order skills required of doctors,
2. providing guidance for curriculum development,
3. providing guidance to learners and teachers, and
4. assisting to identify the required infrastructure and support to deliver training.

Another important by-product of competency frameworks is the ability to identify competencies that are common across specialty training programs, and also those that are developed through the various stages of medical training. As a result this supports:

1. the continuum of medical education and vertical integration through the various stages of training,
2. greater collaboration across specialty training programs, and
3. greater flexibility in training and recognition of prior learning.

Competency-based training has a particularly strong role in teaching and assessing the basics of procedural skills (e.g. suturing, urinary-catheter insertion, airway management skills). It has limitations in assessing judgement on when to utilise these skills, i.e. assessing a candidate not only on whether they can perform a certain procedure, but also on their decision-making ability on whether it should be done and when.

In competency-based training, progression through training is linked to the successful attainment of specific competencies, rather than on the completion of a set period of time. In this context, competency-based training is intended to allow tailoring of training to an individual's pre-existing knowledge and skills and their pace of learning. For those trainees who are able to demonstrate competence more rapidly than that which relies solely on a set period of time, this will mean accelerated progression through training; however, it also means that training time could potentially be lengthened due to a large amount of assessment resulting from the measurement of each individual area of competency.³

4. Limitations

While the AMA does support the limited application of competency-based training, it does not support competency-based training that functions on the assumption that if a trainee performs to the required standard across discrete competencies at particular moments in time, they are as a whole proficient.⁴

Observing a trainee's proficiency in individual competencies is not adequate for ensuring that they are capable of integrating these skills into comprehensive care of a wide range of patients and in varying settings. The assessment of a discrete competency reflects the demonstration of an ability at a particular place and time, often in artificial settings, whereas the overall performance of a doctor relies on the integration of knowledge and the application of skills over a broad spectrum of scenarios. At its most extreme manifestation, competency-based training seeks to break down the sum total of what is required to operate as a doctor into individual abilities and seeks to assess each of these skills, sometimes in combination, but often individually and rarely in a real environment with actual patients.

Patient care is complex. Doctors need to prioritise and synthesise information, integrate knowledge and skills and apply these appropriately in the treatment and care of their patients. Doctors are required to operate in uncertain circumstances, to assess benefit versus harm, and to manage complexity and risk. These higher order skills need to be developed progressively over time through significant patient contact, across a range of clinical settings, and through ongoing mentoring and feedback by senior clinicians. Doctors not only need to master individual competencies, but must learn how, when and why to use them and in which combination.

At the MedEd 2009 conference, competency-based training was the area of most varied opinion.⁵ The consensus view was that *'time and experience were necessary to the training process and that*

³ Frank, J. R. Public Lecture: 'Competency based medical education: the solution to workforce shortages?', Australian National University, 9 February 2010.

⁴ Donoff, M.G, 'Assisting achievement and documenting competence', Canadian Family Physician, Vol 55: Dec 2009, pp 1260-1262.

⁵ MedEd09 Conference, 30-31 October 2009, Sydney, Final Report, Feb 2010
<<http://www.mededconference.org.au/>> April 2010

*specific competency in a procedure was not by itself sufficient to allow trainees to move forward. The important skill of clinical judgement needs time to mature.*⁶ The AMA concurs with this view.

Competency-based training must account for the higher order cognitive skills required of doctors. There is a risk that higher order competencies will be lost in a competency-based approach that is not supported by appropriate methods of assessment and a sufficient minimum time element.

The essential higher order cognitive skills required of doctors are not easily captured in statements of competence that can be readily tested in a competency-based approach. There is a real risk that these essential higher order skills will be lost in a competency approach that is not set within a broader program that respects these limitations. To ensure the proper inclusion and evaluation of these higher order skills, any competency-based approach must be just one component of a training program that includes a rigorous, multi-faceted system of assessment, appropriate to the particular level of medical training, and with inclusion of adequate time to gain experience and good judgement.

One of the further risks of competency-based training is that it can be used to justify the introduction of inappropriate assessment methodologies. Assessment in medical education should include an appropriate balance of formative and summative assessment methods to ensure that the highest standards of achievement are promoted. It should provide insight into actual performance (what he or she does habitually when not observed), as well as the capacity to adapt to change, find and generate new knowledge, and improve overall performance.⁷

Competency-based training that ‘promotes a “checklist” approach, in which a competency is achieved/not achieved or a person can/cannot perform a particular task is considered simplistic and de-motivating, suggesting a “minimum” level of acceptable performance rather than promoting a standard of excellence.’⁸ A pass/fail scoring system, as used in many areas of competency-based training, as opposed to a scored approach, removes the incentive for some learners to strive for excellence and can result in candidates not receiving feedback on those areas of deficiency which, if corrected, would enable them to become ‘highly competent’. This approach in no way supports the high standards of medical education and training the Australian public expect and deserve.

Competency-based training is viewed by some as an opportunity to remove the nexus between the attainment of a competency and the setting in which it is acquired, in other words using alternative and simulated settings in place of more scarce traditional clinical placements. While simulation and alternative settings are a useful adjunct in developing skills, these settings must not replace the essential core clinical experience.

Medical training to date has included the completion of a minimum number and type of clinical placements and rotations for good reason. They are imperative to ensure that trainees get access to an adequate breadth and depth of clinical experience. Critically, this clinical experience must not be decontextualised – it must take place where day-to-day patient care occurs.

As the clinical training environment in Australia continues to be stretched to capacity, it is important that efforts are directed at increasing clinical training capacity in the most appropriate settings for training. Trainees must learn by the side of doctors who themselves are immersed in the treatment and care of patients. This is imperative, as best practice medicine is evolving and it is essential that clinical training takes place at the point where this patient care is delivered.

Competency-based training is often referred to in the context of multi-disciplinary training. The grouping of health professionals for components of their education and training is appealing, as it offers economies of scale and the chance for greater interaction between the various health disciplines. Multi-disciplinary training can be particularly useful for health professionals in developing a

⁶ MedEd09 Conference, 30-31 October 2009, Sydney, Final Report, Feb 2010
<<http://www.mededconference.org.au/>> April 2010

⁷ Fornari et al, “Educative Assessment in 2010 and Beyond”, OTTAWA Conference 2010 Background Paper, May 2010. <<http://www.ottawaconference.org/theme-groups/selection/30.html>> June 2010.

⁸ Kerka, S, “Competency-Based Education and Training: Myths and Realities”, Centre on Education and Training for Employment, The Ohio State University College of Education, 1998.

greater understanding of each other's scopes of practice and in developing teamwork skills (e.g. simulated clinical scenarios). In multi-disciplinary training caution must be taken to ensure that the immediate learning requirements and future needs of all the disciplines can be met. In reality, in formal training programs this approach is limited due to the significant variation in the knowledge and skills required by the various health professionals – medical training quickly becomes more intense, detailed and extensive than many of the other health professions.⁹

5. AMA position

The AMA believes that competency-based training does have a place in medical education and training; however, the significant limitations of this approach must be recognised and respected. Safeguards must be put in place to ensure that high standards of medical education and training are maintained and the achievement of excellence over mediocrity continues to be promoted.

Medical education programs that incorporate elements of competency-based training are only effective if they:

- provide the necessary time, experience, patient contact, supervision, teaching (including the opportunity to teach as well as be taught) and mentoring to ensure the development of the higher order cognitive skills required of doctors through the integration of knowledge and the application of skills over a broad spectrum of scenarios,
- use an appropriate combination of formative and summative assessment methods to ensure ongoing feedback to trainees for their learning and development and to ensure the highest standards of achievement are promoted,
- ensure that 'hands on' clinical experience through a range of high-quality training placements/opportunities remains central to the education program,
- ensure that this 'hands on' clinical experience is provided by doctors who are themselves responsible for delivering day-to-day patient care,
- respect that the development of competencies must occur in context, where day-to-day patient care occurs, and focus efforts on bolstering capacity in these settings (simulation and alternative settings are a useful adjunct but cannot replace core hands on clinical experience), and
- respect the limitations of multi-disciplinary training.

⁹ Australian Medical Association, Submission to the National Health Workforce Taskforce, March 2009 <<http://www.ama.com.au/node/4495>> March 2010.

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