

Competency-Based Medical Education, Here Next?

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INTRODUCTION

Competency Based Medical Education or CBME has been around for decades, the concept was even visualised as early as in the 70s [1, 2] and it has become more prominent and widespread as more evidence and experience guide us in understanding the concept and implementation. CBME to medical educationists in Malaysia is quite new. In the context of medical training, the Malaysian Medical Council (MMC) defines what the attributes of a good doctor are. Customarily we are introduced to ten traits that cover affective, skill and cognitive domains and across multiphases of practice; personal, professional, trans-disciplines and grades, and interaction with patients and their relatives [3]. The inculcation of these attributes manifests themselves through the curriculum of a medical school. The wisdom is when a medical school and its curriculum are accredited one can assume that these attributes will manifest in their product, the doctor, through a system of evaluation that consists of many assessment methods. Or expressed in another way, the formulation of a medical curriculum is shaped by the need to ensure medical graduates possess all these attributes. In practice this is done primarily through accreditation of a medical program, the MMC and Malaysian Qualifying Agency (MQA) validate and approve medical education for doctors in training.

THE PROMISE OF CBME

There are gaps in the provision of healthcare, partly due to the changing external circumstances but also our own shortfalls in addressing key demands society places upon us [4]. Structural factors include rising healthcare costs, doctor glut, non-complementary public and private healthcare, public healthcare imbalance, congestion and delay, increasingly complex public

expectations and demands, and lastly but not least the explosion of non-communicable diseases threats. Clearly many are beyond an intricate revision of any medical education curriculum, but when gaps concern lack of leadership, ineffective communication, unprofessionalism, diminishing teamwork or abject multidisciplinary disease management, then the cracks could be addressed very early on during medical training. There is an enlarging body of opinions that vouch to the ability of CBME to address these shortfalls in medical education [5].

WHAT IS CBME?

Definitions first; competency refers to observable and measurable abilities at integrating multiple components such as knowledge, skills, values, and attitudes. These abilities can be assembled for progressive development and are considered sine qua non of a physician. Competence relates to abilities across multiple domains or aspects of performance in a certain context. It is multi-dimensional and dynamic, and changes with time, experience, and setting. It requires qualifiers to document relevant abilities and are highly contextualized as well as pertinent to the stage of training in the program. When we say someone is competent we mean that person possesses the required abilities in all domains in a certain context at a defined stage of medical education or practice.

One overarching definition that encompasses many of the tenets of CBME, “it is an approach to preparing physicians for practice that is fundamentally oriented to graduate outcome abilities and organized around competencies derived from an analysis of societal and patient needs. It de-emphasizes time-based training and promises greater accountability, flexibility, and learner-centeredness” [6]. One can argue that

CBME is essentially a manifestation of outcome-based education which has been around on our local shores for more than a decade, but with CBME it can take a firmer root in the medical fraternity.

Competencies must be context-specific and address the local needs, and this allows for their appropriate expression and practice. It is not surprising therefore that we witness various competency frameworks in use in different countries or regions. Even within the same region or country adaptations must occur and result in further modifications and refinements over time to suit their changing local needs. One example is the Outcome Project in the US by the Accreditation Council for Graduate Medical Education (ACGME) in 2001 which stresses 'educational outcomes' in terms of competencies to be achieved during training [7, 8]. Under six domains, they are for all physicians irrespective of specialty: medical knowledge, patient care, interpersonal and communication skills, professionalism, practice-based learning and improvement, and system-based practice. By specifying the end products rather than training pathways these domains provide a framework for education and evaluation. To achieve these domains milestones project was launched by ACGME to refine the training pathway and assessment further [9,10]. These milestones are essentially sub-competencies, all together constitute the relevant competency, that must be achieved specific to the stage and year of training [7].

Tomorrow's Doctors define the specific outcomes including the competency framework of graduate medical education for doctors in the UK [11]. The General Medical Council defines the outcomes in three broad categories; doctor as a scholar and scientist, a practitioner and a researcher. Under each domain there are numerous sub-competencies defining the domain further. Additionally, there are nine domains for teaching learning and assessment with its own standard and criteria for evaluation [11].

The CanMed in Canada defines the outcomes of their graduates in terms of seven roles of a physician within a competency framework which are medical expert, communicator, collaborator, manager, health advocate, scholar and professional [12]. Similar framework and competencies are also implemented in

The National Undergraduate Framework in Netherlands [13], proposing that the competencies are best measured by Entrustable Professional Activities or EPA.

HOW DOES CBME COMPARE WITH THE TRADITIONAL CURRICULUM?

CBME is outcomes based, and these outcomes address the gaps, as they are deduced from them, in healthcare provision in a society as opposed to a traditional setting where the curriculum is the pivot and all other aspects of medical education in terms of assessment or pedagogies emanate from. Whilst both approaches attempt to integrate knowledge, skills and attitudes but CBME evaluates performance that is work-based, often through direct observation where feedback is crucial and therefore measures competence rather than ability. In CBME, assessments are mostly summative in nature that is criterion based, and work place environment sets the scene where assessment is continuously done, for both learning and evaluation. As a result, CBME is time independent, once set competency is achieved appropriate to the level, a student then moves on to the next until all competencies are obtained. This cumulative competency accrual is akin to a projectile and in practice is measured by milestones that indicates progress from one level to the subsequent levels in the year and proceeding to more senior years. The driving force for CBME is therefore the intended outcome rather than the acquisition of knowledge as in traditional curriculum. Even assessment and curriculum are designed around the competencies attainment crucial in the training.

As assessment in CBME is continuous and comprehensive, and majority of them take place in clinical environment, it therefore should be ongoing, laden with effective feedback and multifaceted with various assessment methods. This includes assessments that are narrative and often directly observed.

CHALLENGES OF CBME IN MALAYSIA

Top Down

CBME is shaping medical education in many continents of the world but the incorporation exercise is a long and complicated shift from traditional thinking and practice to the new paradigm. We have a few

challenges that must be recognised when CBME is envisaged in Malaysia. Primarily, the approach at instituting CBME in our medical education must be top down, in other words, the overarching stakeholders must be aware of the importance of shifting to CBME and take this as the next step in the evolution of our medical education towards a better healthcare delivery in the country. We envisage three reasons for this: it is hard to see an aspiring lone CBME medical school experimenter without the consent from higher authority, secondly; the incorporation of CBME is potentially very disruptive to an existing traditional curriculum where no medical school can afford teaching learning stagnation merely to accommodate this experiment. Finally; it has huge technical, human resource and academic implications to any medical school which no medical school can shoulder especially if it was for the benefits of this country. There is increasing awareness among medical educationists in Malaysia that CBME is the way forward as it is specifically tailored to address gaps and needs in practice, but thus far the awareness does not permeate beyond discussion and debates on pros and cons. In the last meeting of medical educationists' network held in University Malaya in March 2017 this subject was presented and discussed and there was no firm commitments on what next [14]. The reality of the situation is that such major paradigm shift should only emanate from the regulators in cooperation with major stake holders, namely the MMC and MQA, and with input from all stakeholders during implementation of CBME. Taking the cues from the other countries that have implemented CBME, the approach should be cautious, realistic and serious because the implication is huge especially on resources if done poorly or too fast. It should be as a pilot project perhaps involving 2 or 3 medical schools with all the support it needs. This is because CBME would drastically alter the way we assess the students, accustomed to traditionally less labour intensive summative assessment, CBME requires extensive formative methods and ultimately hinge on more teaching resources, and the preparatory framework should address the needs for all the stakeholders involved in medical education. Taking both concerns on board, it is perhaps best done as a hybrid format where traditional time-based teaching is interspersed with

elements of CBME, and progress as well as implementation issues are defined and resolved collectively to ultimately incorporate CBME into medical education in Malaysia.

Perhaps postgraduate medical education first?

As alluded to, the shift to CBME will affect curriculum, assessment and resources both human and technical and therefore it has many practical unknowns especially in our context, and failure to comprehend its specific requirements and obligations would render the effort futile which is too costly an error. Noble intention alone to remedy our healthcare delivery gaps isn't enough if we fail to adequately conform to the prerequisites of this new paradigm especially when the old system is still useful as it is. Perhaps the postgraduate medical education (PGME) is a more fertile ground to try CBME out as it is a much more controlled execution and has been a picture of success with over 8,000 specialists rolled out to date [Halim A S, personal communication, 2nd May 2018]. The PGME is a spectre of a successful cohesion between universities where the programs are harmonized, and quality assured through numerous monitoring committees, both conjoint and specialty boards, that communicate on regular basis. That is the best prerequisite for a meaningful pilot study where EPA is widely used together with all the relevant stage or level milestones.

CONCLUSION

For many of us here, CBME is very new and appears cumbersome intrusive. And on the practical side, CBME has many implementation issues and addressing them properly is crucial to ensure that it fulfils its promises of addressing the gaps in healthcare provision in this country. It is a long road ahead for CBME but it will serve us well if we can begin to look at ways that we can implement this in a pilot fashion as we gather knowledge and experience to introduce this in the medical education of this country.

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