

Competency Based Medical Education : Issues and Challenges

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ABSTRACT

Medical Professionals are the backbones of the society as they serve the mankind. Over the past few years there is a growing concern and disparity over the health needs of the society and the quality of health services delivered. Probably there is no alignment between health, training and the assessment.

That made medical educators to revisit the health professional education and the curriculum. Most traditional curricula have been designed around the learning / educational objectives which are mainly knowledge based with some reference to procedural skills and behaviour to be developed during the course of training. Hence there is a need to design the curriculum achieving these outcome requirements which are assessed by appropriate assessment methods. Herein lies the origin and essence of Competency Based Medical Education (CBME).

CBME is all about achieving the desired competencies to perform the role of a primary physician and focuses on educational outcomes. It focuses on successful demonstration of the application of the specific knowledge, skills and attitude that are required for the patient care. Progression in training will depend upon demonstration of competencies at every critical stage. Competency refers to one's ability to do a task and number of competencies constitute a large area of competence. Competencies can be knowledge, skill and attitude based.

There are various competency frameworks in use in different countries. India has also taken a stand on CBME though it is in its infancy stage. There are number of challenges for students, teachers, course designers and managers while considering CBME. To understand the importance of CBME can be a beginning for the process to change.

Key Words : Competency Based Curriculum, Competencies, learner centered, flexibility

Introduction :

Medical Professionals are the backbones of the society as they serve the mankind. All medical schools / colleges are entrusted with responsibility of generating these professionals for serving the health needs of the society. Over the past few years there is a growing concern and disparity over the health needs of the society and the quality of health services delivered. This may be because of the fact that our health professionals are not adequately trained in managing all the health problems of the society. Probably there is no alignment between health, training and the assessment.

That made medical educators to revisit the health professional education and the curriculum. Today Medical schools are increasingly facing the question

‘Are they producing graduates who are competent enough to cater the health needs of the society?’ perhaps not entirely. For any corrective action; therefore it is only befitting that we trace and work our way backwards from first defining the expected roles of a physician that best serve the health care requirements of the community. (local and global) and also to clearly state the characteristic and abilities of the doctors graduating from medical schools that enable them to perform these roles¹.

The goal of undergraduate medical training is to produce doctors of first contact or ‘primary care physicians’. Having stated this goal, most traditional curricula or training programs, including those in Indian institutions have been designed around the learning / educational objectives which are mainly knowledge based with some reference to procedural skills & behaviour to be developed during the course of training². Hence there is a need to design the curriculum achieving these outcome requirements which are assessed by appropriate assessment methods. Herein lies the origin and essence of Competency Based Medical Education (CBME).

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What is CBME ?

The traditional medical education is structured around time frame and curricular processes where a specified number of months are assigned for a particular subject. The assessment mostly focuses on demonstrating whether the learner has acquired specific knowledge with a minor attention towards acquisition of skills and attitudes. Majority of the students complete this time span and curricular requirements and we assume that the learner is capable of applying this knowledge in the patient care.

In contrast CBME is all about achieving the desired competencies to perform the role of a primary physician and focuses on educational outcomes. It focuses on successful demonstration of the application of the specific knowledge, skills and attitude that are required for the patient care. Progression in training will depend upon demonstration of competencies at every critical stage. Some learners would advance more quickly and may advance slowly. The curriculum, assessment tools and evaluation systems are developed to achieve this outcome³.

A key feature of CBME is that the learner progresses at their rate in accordance with the demonstrated ability.

In traditional training ,learning is teacher driven . In competency based training it is a collaborative process in which responsibility is shared equally between teacher and student. This collaboration requires that the learner be an active participant in determining the learning plan and the teachers provide frequent and accurate feedback⁴.

The assessment is frequent and formative where feedback is provided to guide the learning process. The assessment in CBME is Criterion referenced

where predetermined criterion are used. (In non-referenced evaluation ,the evaluator uses the performance of immediate and available learner to establish criteria where there is always a risk of under or over rating).

A competency Based curriculum therefore begins with outcomes in mind, on the basis of which it defines the abilities needed by graduates and then develop milestones, instructional methods and assessment tools to facilitate their acquisition by learners⁵.

So Competency Based Medical Education is :

- Outcome based & learner centered
- Competencies derived from an analysis of needs of society
- Community based
- It is a curricular concept designed to provide skills a clinician need rather than solely a large, prefabricated collection of knowledge.
- More emphasis is given on what and whether students learn successfully rather than when and how they learn.
- Duration is variable but outcome is fixed.

Why do we need CBME ?

The current structure and process based system defines the training experience by exposure to specific contents for a specific period of time. (for ex one month posting in general surgery). But a competency based system defines the desired outcomes of the training, here in this case, competencies achieved at the end of one months surgery posting. This paradigm shift from current structure and process based curriculum to a competency based curriculum and evaluation of outcomes is the Flexnerian revolution of 21st Century⁶.

Variable	Traditional education	Competency Based Curriculum
Driving force of curricula	Content	Outcome
Goal of education encounter	Knowledge acquisition	Knowledge application.
Central theme	What do learners need to know or How shall we teach our learners	What abilities are needed of graduates
Type of assessment tool	Single subjective measure	Multiple objective measure
Assessment	Emphasis on summative	Formative
Program completion	Fixed time	Variable time

How CBME differs from traditional curriculum

Table 1 difference Between Traditional curriculum and CBME

What is Competency?

Many definitions of competency emerged in the medical literature in the 1970s⁷⁻¹³. The literal meaning of the word competency is 'ability to do something' and the scientific definition as quoted by Epstein and Hundert in 2002 state that 'the habitual and judicial use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served'¹⁴.

Competency refers to one's ability to do a task and number of competencies constitute a large area of competence.

Competencies are considered as abilities or capabilities and the organizing units of CBME¹⁵.

Competencies can be knowledge, skill and attitude based and Competencies should not be static but dynamic in nature.

Global Scenario :

Competencies are context dependent and hence are contextually expressed and communicated¹⁴. Hence there are various competency frameworks in use in different countries and regions; even within same country it undergoes modifications.

The Accreditation Council for graduate medical education of United states initiated an Outcome Project an out in 2001 for emphasizing the educational outcomes interms of competencies to be achieved during the course of training^{16,17}. The identified competencies were general in characters : Medical Knowledge, patient care, interpersonal and communication skills, Professionalism, Practice based learning and System based practice. ACGME launched milestones project as arefinement measure in 2007^{18,19}. In United kingdom a competency frame work was designed I the form of a document 'Tomorrows Doctors' in 1993²⁰.

The Royal College of Physicians and Surgeons of Canada identified seven roles of a physician and developed a competency framework the Canadian

medical education Directions for Specialists (Can MEDS)²¹. These roles were medical expert, communicator, collaborator, manager, health advocate, scholar and professional.

Several other countries have reported efforts at incorporating competenc based training of medical students²²⁻²⁵, residents^{26,27} and practicing physicians^{28,29,30}.

In collaboration with American Colleges and the Chinese Medical Board of New York, three Chinese Medical Schools incorporated standardized patient programs²⁴.

Indian Scenario

India has also taken a stand on CBME though it is in its infancy stage. The term competent has been mentioned in the Graduate Medical Education Regulation 1997 (GMER) and Medical council of India³¹. Vision 2015 document of MCI expresses the outcome of a medical graduate in the form of the competencies of an Indian Medical graduate (IMG) so that he / she will serve as the Physician of first contact for the people of India and being globally relevant at the same time. Five roles of an IMG have been identified as Clinician, Leader, Communicator, Professional and a Life long learner and the competencies are to be developed so that he / she will be able to perform above mentioned roles. The new Graduate medical education Regulation 2012³² emphasizes on competency based curriculum. In this document subject wise competencies have been mentioned but no clear mention about the assessment part. Even the Postgraduate medical Education Regulation 2000 (PGMER) of the MCI only mention that PG curriculum should be competency based and that each department must produce statement of competencies. So there is a long way to implement CBME and its alignment with assessment as assessment is the major driving force for learning.

Secondly most of the medical colleges in India are affiliated to respective state or health Sciences Universities. The Health Sciences universities also need review and revise curriculum so as to incorporate CBME in their curriculum.

With evolving understanding and increasing consensus on the issue, a definition of competency based education is proposed by Frank et al in 2010 makes the core purpose and curricular elements of CBME more lucid. : Competency Based Education is an approach to prepare physicians for practice that is fundamentally oriented to graduate outcome abilities and organised around competencies derived from the analysis of societal and patient needs. It deemphasizes time based training and promises greater accountability, flexibility and learner centeredness⁵.

Planning CBME

The planning of competency based curriculum begins with outcomes.

- What abilities are needed of graduates?
- The identified abilities are organised as competencies for a curriculum
- Then the educators will decide milestones to be achieved to acquire those competencies.
- The instructional methods and assessment tools are then selected to facilitate the development of learners for these abilities⁵
- Evaluation of the program

Advantages of CBME

- A new paradigm of competence
- A renewed commitment to outcome
- A new focus on assessment
- A method to promote learner centred curricula
- A way to deemphasize time based curriculum.

Issues in CBME for UG programs

An undergraduate medical program prepares students for professional life by following a regular curriculum. But CBME goes beyond routine curriculum. CBME may also prepare students for lifelong learning by increasing their involvement in making decisions about and tracking their own learning (1). Despite the advantages, CBME raises a number of issues in the areas of design, assessment and systematic factors will have an impact on undergraduate education. Various issues are design issues, assessment issues, student learning issues, teachers' issue, and even system's issues.

Challenges :

- CBME may cut short the holistic approach towards a health problem. Many times in an order to achieve a desired competency it is broke down to too many components that the essence of holistic approach is totally lost.
- It may frustrate the learner and teachers alike.
- Logistic chaos due to thousands of trainees progressing at their own pace.
- The need for new educational technologies.
- Inertia and lack of resources
- Faculty development for the new teaching learning methods and assessment.
- Creating better systems of evaluation.

Conclusion :

CBME has emerged as priority topic for medical education planners in 21st Century. There are number of challenges for students, teachers, course designers and managers while considering CBME. The flexibility can be the biggest challenge. The general competencies can be identified first followed by speciality competencies requires combined and organized efforts by the faculty. To understand the importance of CBME can be a beginning for the process to change and for this, it is crucial to sensitize and prepare the faculty for change.

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