Review Article

Transition from Traditional to Competency-Based Medical Education in MBBS: A Narrative Review from Western Province of India

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Abstract

Background: The world is experiencing a paradigm shift in medical education towards Competency-Based Medical Education (CBME) rather than a traditional time-based training system, to create graduates who are clinically competent, ethical, communicative, and responsive to the needs of the community regarding health. The introduction of CBME into the MBBS curriculum in India was intended to standardise graduate outcomes and align medical training with national health priorities. This narrative review discusses how traditional medical school transforms into CBME in the MBBS curriculum, its concept, changes in teaching and learning, testing and assessment methods, faculty preparedness, and implementation in the Indian setting. **Material and Methods:** PubMed, Google Scholar, Scopus, and the official World Health Organisation, Medical Council of India, and National Medical Commission repositories were searched, and the results were used to conduct a narrative review of the literature published in the last decade (2000-2024). CBME and undergraduate medical education keywords and Medical Subject Headings were searched using relevant keywords and Medical Headings. They included review articles, original studies, policy documents, guidelines, and reports on the implementation of CBME. The data were subjected to thematic synthesis. **Results:** CBME focuses on outcome-based learning, learner-based strategies, early clinical exposure, and competency-based assessment. There is a hint of improved clinical reasoning, professionalism, and learner engagement, but there are still issues with faculty training, assessment demands, infrastructure, and institutional preparedness. **Conclusion:** CBME is a major change to undergraduate medical education that has the potential to improve graduate competence and the quality of healthcare. Implementation has to be done over time, and it is necessary that the faculty develop, that the tests be streamlined, and that they be constantly evaluated to be successful.

Keywords: Competency-Based medical education; MBBS curriculum; Medical education reform; undergraduate medical education; India.

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Introduction

The global medical education is now shifting towards a paradigm shift from traditional time-based approaches to Contemporary Competency-Based Medical Education (CBME) due to the need to produce graduates who are knowledgeable, clinically competent, ethical, communicative, and responsive to community health needs.[1] Classical medical education has traditionally adopted a didactic form of teaching, a curriculum based on disciplining, and summative measurement that have, in most instances, focused on learning rather than observable outcomes in clinical practice.[2] This practice has been condemned for under-equipping graduates to meet the complex requirements of the contemporary healthcare systems.

CBME has been implemented worldwide to address such gaps by outlining clear, articulated competencies, with a focus on learner-oriented education, outcome-oriented training, and continuous formative assessment.[3] Other countries, such as the United States, Canada, and the United Kingdom, have gradually introduced competency models in undergraduate and postgraduate medical education and documented improvements in clinical reasoning, professionalism, and patient-centred care.[4] Even the WHO has promoted competency-based solutions to align medical education with the health needs of the population and enhance the performance of health systems.[5]

The need to reform medical education in India has been heightened by a rapidly growing healthcare burden, disparities in doctor-patient ratios, and concerns about the inconsistency of graduate competencies across institutions.[6] The number of medical colleges is presently in excess of 700, and they produce in excess of 1 lakh MBBS graduates every year, a crucial factor that makes standardisation and outcome-based training a significant aspect of the medical training process.[7] In recognition of these difficulties, the Medical Council of India

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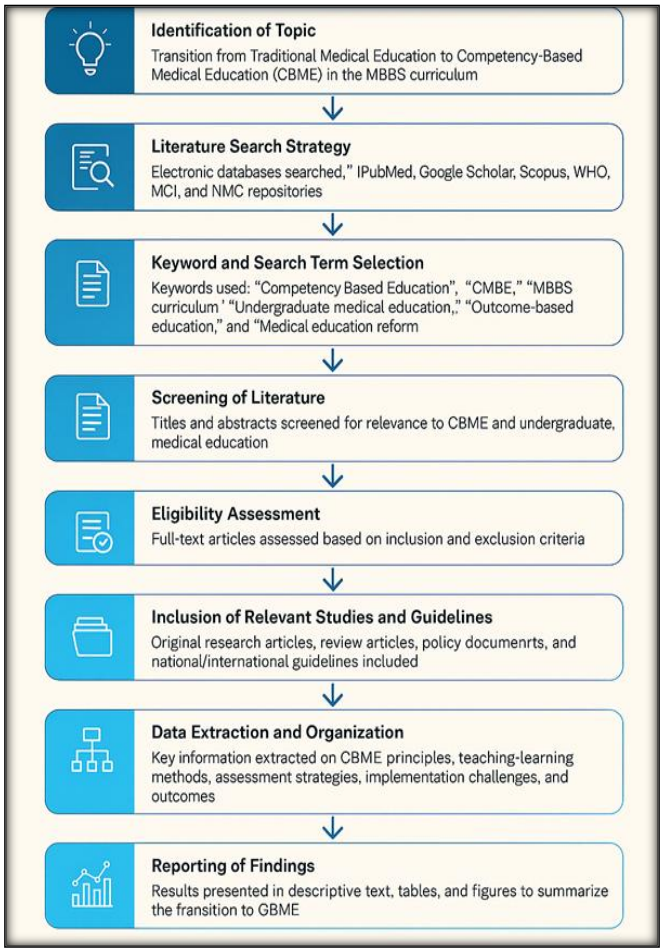
(MCI) and later the National Medical Commission (NMC) implemented CBME as part of the MBBS curriculum since August 2019.[8]

The Indian CBME framework is organised into five main roles for the Indian Medical Graduate (IMG) clinician: communicator, leader, professional, and lifetime learner. It integrates innovations such as Early Clinical Exposure (ECE), AETCOM modules, self-managed learning, small-group teaching, and competency-based assessment and measurement strategies.[9] Although the transition is expected to enhance graduate preparedness and accountability, the implementation process has become very difficult due to issues related to faculty training, assessment workloads, and infrastructure, as well as learner adaptation.[10]

It is also important to note that, with the adoption of CBME across the country and its significant ramifications for the training of undergraduate medical students, a detailed analysis of how CBME is conceptualized, implemented, and what its advantages and disadvantages are necessary.



The current review seeks to explore the shift from traditional medical training to Competency-Based Medical Education (CBME) in the MBBS program, with an emphasis on its conceptualization, implementation strategies, and educational effectiveness. The aims are to discuss the main principles and elements of CBME, compare the traditional and competency-based methods of undergraduate medical education, examine the teaching, learning, and assessment changes implemented under CBME, and examine the challenges encountered during its implementation in the Indian context. The review also aims to synthesise the available evidence regarding faculty preparedness, student engagement, and institutional preparedness to CBME. The anticipated future successes of the successful implementation of the CBME include the production of clinically competent, ethically grounded, and patient-centred Indian Medical Graduates with improved communication, leadership, and lifelong learning capabilities. CBME adoption, in the long run, is expected to result in improved healthcare quality, uniformity in graduate competencies across institutions, enhanced primary healthcare service delivery, and alignment of medical education with national health priorities and international benchmarks.

Theme 1: Theoretical Underpinnings and Diminishing Canons of Competency-based Medical Education.

Competency-Based Medical Education (CBME) is based on the notion that medical education must be structured around a set of competencies that a learner must exhibit to advance, not on the time spent in training. CBME focuses on education based on outcomes, is centred on the learner, and provides clear statements about the professional functions and skills graduates are expected to have.[11] Frameworks such as CanMEDS and ACGME competencies have influenced the development of CBME worldwide, emphasizing the application of knowledge, skills, attitudes, and professionalism to observable and assessable outcomes.[12] CBME in the Indian context aligns with the vision of creating an Indian Medical Graduate who can practice and meet the community's health-related requirements, in terms of ethical practice and system-based care, notwithstanding traditional curricula that were content-based.[13]

Theme 2: CBME Teaching and learning reforms.

A major alteration brought about by CBME is the transformation of the teaching-learning process, which has mainly used lecture methods, into active, student-centred approaches. Early Clinical Exposure (ECE), small-group discussions, self-directed learning (SDL), integrated teaching, skills-based training, and innovations have been included to augment contextual learning and clinical relevance.[14] There is evidence that ECE increases student motivation, clinical reasoning, and knowledge of the doctor-patient relationship, and that SDL enhances lifelong learning skills required in medical practice.[15] These changes are very different from the traditional models, which were highly dependent on passive knowledge acquisition and delayed clinical exposure.

Theme 3: Evaluations, Reforms, and Competency-Based Evaluations.

CBME is based on assessment, emphasising continuous formative and workplace-based assessments rather than summative, high-stakes exams. Competencies in real clinical conditions have been introduced by the use of mini-Clinical Evaluation Exercises (mini-CEX), Direct Observation of Procedural Skills (DOPS), Objective Structured Clinical Examinations (OSCE), and logbooks.[16] The programmatic assessment with CBME is intended to provide frequent feedback, monitor learners' progress, and support the development of

predetermined abilities.[17] Nevertheless, the research indicates problems with workload on assessment and documentation, as well as differences in faculty knowledge of new assessment instruments.[18]

Theme 4: Preparedness and Readiness of the Faculty and Institution.

The success of CBME requires institutional capacity and faculty development. The faculty members must change not only into content deliverers, but primarily into mentors, facilitators, and assessors, and the training in CBME principles, assessment strategies, and feedback should be organized.[19] Several Indian studies have identified research gaps in faculty readiness, limited time, and unwillingness to change, especially in settings with limited resource bases.[20] Institutional preparedness, such as the presence of skills laboratory infrastructure, adequate student-to-faculty ratios, and administrative support, is found to be the key determinant of successful CBME implementation.

Theme 5: challenges, opportunities, and prospects of CBME in India.

Although CBME does hold considerable promise for the quality of healthcare and the standardisation of graduate-level competencies, some factors make its implementation in India a challenging issue, which include increased administrative burden, the phenomenon of heterogeneity within the implementation process across the institutions, and its difficulty in terms of firstly getting the students used to it.[21] However, CBME also offers the possibility of tailoring medical education to national medical priorities, enhancing the primary healthcare orientation, and fostering accountability for training outcomes.[22] Recent findings are encouraging, suggesting that prolonged faculty training, assessment rationalisation, and ongoing evaluation could lower clinical competence, professionalism, and patient-centred care developed in MBBS graduates.[23]

Table 1: Summary of Themes and Educational Implications of CBME

Theme	Key Focus	Implications for MBBS Education
Conceptual Foundations of CBME	Outcome-based, competency-driven training	Improves accountability and standardisation of graduate competencies
Teaching–Learning Reforms	ECE, self-directed and small group learning	Enhances clinical reasoning and lifelong learning skills
Assessment Reforms	Formative and workplace-based assessment	Supports continuous feedback but increases faculty workload
Faculty Preparedness and Institutional Readiness	Faculty training and infrastructure	Essential for effective CBME implementation
Challenges and Future Directions	Implementation variability and adaptation issues	Emphasises need for sustained support and monitoring

Discussion

In the current narrative review, one can observe an apparent shift in the paradigm between traditional, time-minded medical education and Competency-Based Medical Education (CBME), indicating a global, more nationally oriented approach to advance the quality and relevance of undergraduate medical training. Conventionally based curricula have been characterized by the need to deliver discipline-based content and final exams, which result in graduates with strong theoretical knowledge but inconsistent clinical ability and professional skills.[2,3] CBME, in turn, places greater emphasis on outcome-based training and explicitly sets competency levels, enabling it to be more organized and responsible in medical training.[1,4]

International experience with global systems such as CanMEDS and ACGME has shown that CBME enhances the outcomes of knowledge, skills, communication, and professionalism in observable clinical practice, a subject not explicitly addressed in traditional frameworks.[3,4] The WHO has also supported competency-based approaches as critical to enhancing the connection between health professional education and population health requirements, as well as health system performance, which was weak in traditional curricula.[5]

CBME is an important reform in the Indian context, targeting to introduce standardisation of graduate competencies in a fast-growing medical education system.[6,7] With over 700 medical colleges and a surplus of 1 lakh MBBS graduates every year, conventional teaching methods were not sufficient to maintain consistency in clinical competence and ethical medical practice.[7] CBME, introduced by the MCI and later the NMC in 2019 and onwards, was aimed at rectifying these gaps by clearly defining the roles of the Indian Medical Graduate and integrating competencies associated with clinical care, communication, leadership, professionalism, and lifelong learning into the model.[8,9]

One area that can be compared between traditional education and CBME is teaching-learning strategies. Those traditional curricula mainly consisted of didactic lectures with late clinical exposure, whereas CBME interventions emphasize Early Clinical Exposure, self-directed learning, small-group teaching, and skills-based training.[14,15] There are indications that clinical exposure at an early, situational stage increases students' motivation, clinical thinking, and perceptions of patient care, which were intermittently realized in traditional models.[15]

The reforms in assessment also put CBME apart from the previous method. Contrary to traditional summative examinations, which were used to test knowledge at predetermined times, CBME offers continuous formative and work-based assessments, such as mini-CEX, DOPS, and OSCEs, to test real-world performance.[16,17] Although these tools enhance feedback and competency monitoring, the literature has consistently documented that they lead to increased faculty workload and documentation overload.[18,21] Faculty readiness and institutional preparation are, therefore, the leading factors in the successful adoption of CBME, and the effectiveness of teaching and the adoption of newer educator roles are reported to increase with the faculty development program.[19,20]

On the whole, the literature indicates that there are operational and transitional limitations to CBME implementation in India; nevertheless, the implementation has significant potential to improve competence, today's accountability, and national health priorities amongst graduates. To achieve the long-term benefits of CBME over traditional medical education models, sustained faculty development, rationalisation of assessment processes, and institutional support are needed.[21,23]

Conclusion

The shift from conventional, time-based medical education to Competency-Based Medical Education is a pioneering revolution in undergraduate medical education. CBME is a systematic, outcome-based model that values clinical competence, professionalism, and communication skills, as well as the recognition of ethical practice and the appropriate response to the changing requirements of health care, and annual medical training is aligned with new demands. There is international and Indian-based evidence suggesting that CBME can enhance the standardisation of international graduate competencies and lead to experiential and learner-centred learning. Nevertheless, to achieve the success of CBME, it is necessary to have sound faculty development, institutional preparation, and evaluation measures. Through continuity and consistent supervision, CBME has the potential to play a significant role in the production of efficient, patient-focused Indian Medical Graduates and to improve the quality of health care delivery.

Limitations

This is limited to some extent in this review. Being a narrative review, it lacks a quantitative estimate of the effects of CBME on educational outcomes and may be influenced by selection bias. The inconsistent application of CBME across institutions prevents direct comparison of results. Also, the majority of the available evidence is based on faculty and student perceptions rather than long-term outcome measures such as patient care indicators or workforce performance. The multidimensional nature of CBME implementation in India also implies that its long-term impacts are not fully documented.

Recommendations

The sustainability and systematic faculty development programmes that may be implemented to maximise the benefits of CBME should be prioritised to make it more advantageous for teaching, mentoring, and assessment competencies. Assessment tools need to be streamlined and rationalised to reduce workload in faculties without compromising academic standards. The issue should be better addressed through strengthening infrastructure, skills laboratories, and aligned support systems to support the provision of CBME. Regular feedback and assessment systems ought to be included to determine the quality of implementation and learners' achievements. Future studies are advisable that involve longitudinal research on CBME, its influence on clinical performance and patient outcomes, and health system efficiency.

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Conflicts of interest

There are no conflicts of interest.

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