COMPETENCY-BASED MEDICAL EDUCATION IN PAKISTAN: FROM PAPERWORK TO PATIENT SAFETY

NUDRAT SOHAIL
Editor PPMJ / Prof of Obstetrics & Gynaecology
Postgraduate Medical Institute/Ameer-ud-Din Medical College/Lahore General Hospital, Lahore

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Correspondence to: *Nudrat Sohail*
Editor PPMJ / Prof of Obstetrics & Gynaecology, Postgraduate Medical Institute/Ameer-ud-Din Medical College/Lahore General Hospital, Lahore, Pakistan

Email: *nudrat_sohail2006@yahoo.com*

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As medical education in Pakistan adopts various programs that can help medical specialists to provide patient care with competency and skills at par with those of advanced countries, the need for Competency-Based Medical Education (CBME) is second to none. CBME aims to produce physicians who can assume responsibility for safe, effective patient care by integrating knowledge, skills, and professional attitudes into observable clinical performance. Its defining feature is the progressive development of learner confidence through repeated, structured, and supervised workplace-based assessments (WBAs), including Mini-Clinical Evaluation Exercise (Mini-CEX) and Direct Observation of Procedural Skills (DOPS). Familiarity with standardized assessment tools, iterative feedback from supervisors, and opportunities for deliberate practice enable learners to refine competencies and transfer them reliably to real bedside settings.

In Pakistan, as a part of policy update, the Pakistan Medical and Dental Council (PMDC) 2023/2024 undergraduate standards, alongside university curricula, have formally adopted CBME principles such as outcome-based education, portfolios, and continuous assessment. However, implementation gaps persist across clinical environments—from tertiary care hospitals to District Headquarters (DHQ) hospitals—where heavy workloads constrain supervision, feedback remains informal, and high-stakes examinations continue to disproportionately shape learner behavior. Without authentic integration into clinical workflows, CBME risks devolving into a checklist-driven exercise with limited impact on patient outcomes.[1–5]

As of today, Entrustable Professional Activities (EPAs) represent the operational core of CBME, translating abstract competencies into discrete, observable, and clinically meaningful tasks that trainees can perform independently upon demonstrating sufficient competence. EPAs integrate cognitive, psychomotor, and affective domains, enabling supervisors to make graded entrustment decisions from direct supervision to unsupervised practice. A developmental progression—from foundational EPAs such as history taking, physical examination, intravenous cannulation, and safe prescribing, to more complex activities including informed consent, patient counselling, and procedural performance—facilitates authentic clinical learning. For effective implementation, assessment proformas should be concise (≤5 minutes), feasible across multiple clinical contexts, and used by diverse supervisors to enhance reliability. Systematic documentation of WBAs, structured feedback, and longitudinal portfolio review are essential, with early, milestone-based remediation strategies replacing end-of-year correction. Faculty development remains critical; targeted training in competency assessment and feedback provision, supported by institutional workshops and recognition systems, has enhanced CBME fidelity and sustainability. Strengthening these elements within Pakistan's resource-constrained yet evolving medical education system can align training with global standards and improve patient care outcomes.[6–10]

What is encouraging to know is that medical educational professions in Pakistan have realized that Competency-Based Medical Education (CBME) is an outcomes-based approach that organizes training around the achievement of predefined competencies—integrating knowledge, skills, and professional attitudes—required for effective patient care, with progression based on demonstrated performance rather than time.[1]

Historically speaking CBME gained prominence in the early 2000s, particularly through the CanMEDS framework in Canada and the Accreditation Council for Graduate Medical Education (ACGME) competencies in the United States [11,12]. While CBME has been successful in improving transparency of learning outcomes, standardizing assessment, and promoting workplace-based evaluation, early implementation faced significant challenges, including fragmented assessment systems, excessive reliance on checklists, faculty burden, limited feedback quality, and difficulty in translating competencies into authentic clinical practice .[6,8,13] These challenges are also present in Pakistan and senior medical educational professionals can take the lead with the help of technology to help CBME overcome these challenges and move ahead.

Artificial Intelligence (AI) Technology has the potential to both strengthen and challenge CBME. On the positive side, AI can enhance assessment validity through learning analytics, automate workplace-based assessment tracking, support adaptive learning, and provide real-time feedback, thereby addressing longstanding issues of scalability and consistency.[14,15] Conversely, risks include over-reliance on algorithmic decision-making, threats to data privacy, reduced human judgment in entrustment decisions, and potential bias embedded within AI systems, which may undermine fairness and professional development.[16] Thus, while AI offers transformative opportunities to advance CBME, its integration requires use of robust ethical frameworks and faculty oversight. The need of the hour is to be careful, yet pragmatic and progressive to make judicious use of technology along with various CMBE standards and frameworks with the help of strategic mentorship programs, thereby empowering the medical education professionals to continuously improve and enhance the CBME process.

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