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Transition to Competency-Based Medical Education: A Proposed Rollout Model

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ABSTRACT

The Undergraduate Medical education curriculum in India is revised to competency-based Competency-Based Medical Education (CBME) as per Graduate Medical Education (amendment 2019) from 2019 – 20 onwards. This manuscript suggest a Competency-Based Medical Education (CBME) Roll out model that can aid Medical Institutes across India to plan and implement this revised curriculum. The Model suggests formulation of various relevant committees, their terms of reference, Phases of roll out (Planning, implementation, Monitoring, Evaluation and Amendment) and GANTT chart. Implementation of reforms in a phasic manner with capacity building at relevant intervals, as suggested in the model, will provide a steady foundation to the revised curriculum and will ease the process of change.

Key Words: Competency-Based Medical Education, Indian Medical Graduate, Ethics and Communication.

INTRODUCTION

The Undergraduate Medical education curriculum in India is revised to competency-based as per Graduate Medical Education (amendment 2019) from 2019 to 20 onwards.¹ The emphasis is to enable Indian Medical Graduate (IMG) to recognize “Health for all” as a National goal and fulfill his/her societal obligations.¹ The revised curriculum is better aligned with Health professional attributes that are locally relevant and globally adaptive. The goal is that the IMG must be able to function in the roles of Clinician, Leader and Member of health care team, Communicator and Life long learner and Professional appropriately and effectively. Competency based learning includes designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. Competency, per se, is defined as the habitual and judicious 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.²

The regulatory body of Medical education suggests the broad framework of Competency-Based Medical Education (CBME).^{1,3} This manuscript suggests a comprehensive roll out plan by Jawaharlal Nehru Medical College, a constituent

unit DMIMS, a deemed to be University, with flexibility of appropriate incorporations at local level to suit the need and context, keeping the broad framework intact. The various reforms that are contemplated with regards to Competency-Based Medical Education (CBME) are as stated under;

1. Aligned and integrated curriculum
2. Foundation course
3. Early clinical exposure
4. Electives
5. Student - Doctor Method of Clinical Training
6. Certification of essential skills
7. Attitude, Ethics and Communication (AETCOM) skill module
8. Self directed learning
9. Co-curricular activities
10. Reforms in Formative, Internal and Summative Assessments

The rollout plan incorporates formulation of specific committees, terms of reference, phases of rollout, and Gantt chart.

i. Composition of various committees:

New COMPETENCY-BASED MEDICAL EDUCATION (CBME) curriculum must be phased out through the co-or-

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dination of three significant committees viz. 1. Departmental Curriculum Committee (DCC), 2. College Curriculum Committee (CCC) and 3. Expert Group (EG).

The Composition of the three committees is proposed as under;

a. Departmental Curriculum committee (DCC): The DCC committee must consist of three members who have undergone training in MCI recognized Basic course workshop and Curriculum Implementation and Support program (CISP).

Table 1: Departmental curriculum committee

Sr. No	DCC composition	Role
1.	Head of Department	Chairman, DCC
2.	Professor/Associate Professor	AIT (Alignment and Integration) in-charge
3.	Associate / Assistant Professor	Member

b. College Curriculum Committee (CCC): The College Curriculum Committee must consist of six members, in accordance with BOGs, MCI guidelines as stated below;

Table 2: College curriculum committee

Sr. No	Designation	Representation
1	Dean of the Institute	Chairman
2	Professor, Preclinical	Preclinical
3	Professor, Para clinical	Para clinical
4	Professor, Medicine and allied	Medicine and allied
5	Professor, Surgery and allied	Surgery and allied
6	Head, Medical Education unit (MEU)	MEU

c. Expert group (EG): Four expert groups viz 1. Alignment Integration and ECE , 2. Assessment 3. Skills and 4. Electives must be formed. Each expert groups can consist of five members, each of whom have undergone training in MCI recognized Basic/revised basic course in Medical Education, Curriculum Implementation and Support Program and Advance course in ME/MPhil HPE. Each group must have a Co-convenor and a member of CCC. The overall in-charge of the expert groups must be MEU co-coordinator. Each expert group will be responsible for operational monitoring and need based capacity building with regards to COMPETENCY-BASED MEDICAL EDUCATION (CBME). The terms of reference of various committees are identified in table no 3.

Table 3: Terms of reference of various committees

Name of the committee	Departmental curriculum committee (DCC)	College curriculum committee (CCC)	Expert group (EG)
Purpose	Implementation of the COMPETENCY-BASED MEDICAL EDUCATION (CBME) in each subject	Overall in-charge of curricular delivery	Operational monitoring and capacity building
Scope	<ol style="list-style-type: none"> 1. Alignment and integration 2. Develop learning and assessment methods for each subject and phase 3. Prepare timetable for the phase 4. Obtain feedback and provides student support 	<ol style="list-style-type: none"> 1. Oversight and support of the curricular program 2. Necessary authority and support for the implementation of the curriculum 3. Preparation of reports etc. as required by the Medical Council of India 	<ol style="list-style-type: none"> 1. Monitoring of implementation of COMPETENCY-BASED MEDICAL EDUCATION (CBME) w.r.t Alignment, Integration, ascendency of competencies, ECE, Skill teaching, Electives and assessment. 2. Training and capacity building of faculty as and when required
Meeting	Fortnight	Monthly	Monthly
Reporting	To CCC and EG	To College council	To College council

ii. Phases of Roll-out:

As mentioned in earlier paragraphs, the various reforms must be rolled out in five phases, as stated below;

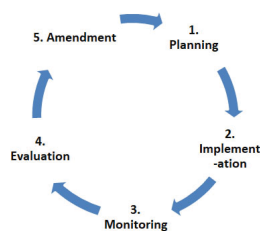


Figure 1: Phases of Competency-Based Medical Education (CBME) Rollout Plan, JNMC.

1: Planning phase

The first step to sustainable curricular reform is proper planning. The entire rollout plan must be planned with respect to desired tasks at hand, timeline and responsibility. Planning phase begins from the year of launch of first professional year with new curriculum and must continue prospectively for forthcoming professional years viz Professional year II, III and VI.

The planning phase comprises of two parallel levels of operation as depicted below;

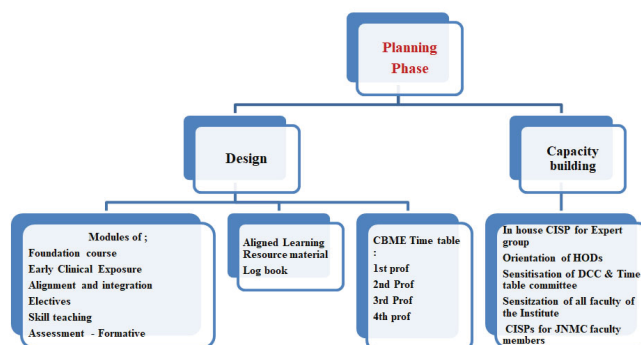


Figure 2: Series of events during planning phase of Competency-Based Medical Education (CBME).

The tables 1-4 gives operational details during planning phase for 1st – IVth professional year, for the new curriculum launched in 2019 academic year, under the sections of Blueprinting and Capacity building.

Table 4: Plan of Competency-Based Medical Education (CBME) for MBBS 1st Professional Year

Planning Phase First Professional Year				
a. Blueprinting	Tasks		Responsibility	Timeline
	Time Table		Time table committee	20 th April'19
	Foundation course module		Foundation course task group	May 2019
	ECE Module		AI and ECE Expert sub-group and DCC	July 2019
	Alignment and integration module			
	Formative assessment module		Assessment Expert sub-group	July 2019
	Log book		Respective expert sub-group	July 2019
	Aligned LRM		JNMC task group	May 2019
b. Capacity Building	In house CISP for Expert group		Convener and Co-conveners	Feb 2019
	Orientation of HODs		Convener	March 2019 (in College council)
	Sensitization of DCC (35%) – for mapping competencies with objectives and Time table committee		Expert group	April 2019
	In house CISP (MCI recognized)		Expert group	June' 2019 onwards

Table 5 : Plan of Competency-Based Medical Education (CBME) for MBBS 2nd Professional Year

Planning Phase 2 nd Professional Year				
a.	Blueprinting	Tasks	Responsibility	Timeline
		Time Table	Time table committee	July'20
		Alignment and integration module	AI and ECE Expert sub-group and DCC	November 2019
		Clinical skill training module – 2 nd Prof	Skill – Expert sub-group and DCC	Dec 2019
		Formative assessment module for 2 nd Prof	Assessment Expert sub-group	Dec 2019
		Log book	Respective expert sub-group	Dec 2019
		Aligned LRM	JNMC task group	Feb 2020
b.	Capacity Building	Sensitization of remaining faculty (35%) – for mapping competencies with objectives	Expert group	Sept 2019
		In house CISP (MCI recognized) for sensitized faculty	Expert group	Two CISPs in 2019-20

Table 6: Plan of Competency-Based Medical Education (CBME) for MBBS IIIrd Professional Year

Planning Phase Third Professional Year				
a.	Blueprinting	Tasks	Responsibility	Timeline
		Time Table	Time table committee	Before 1 st August'21
		Alignment and integration module	AI and ECE Expert sub-group and DCC	March 2020
		Electives module	Electives Expert sub-group	Dec 2020
		Clinical skill training module – 3 rd Prof	Skill – Expert sub-group and DCC	June 2020
		Formative assessment module for third first	Assessment Expert sub-group	July 2020
		Log book	Respective expert sub-group	3 rd Prof : July 2020 Electives : Feb 2021
b.	Capacity Building	Aligned LRM	JNMC task group	Oct 2020
		Sensitization of remaining faculty (35%)	Expert group	June 2020
		In house CISP (MCI recognized) for sensitized DCC	Expert group	2 CISPs in 2020-21 academic year

Table 7: Plan of Competency-Based Medical Education (CBME) for MBBS IVth Professional Year

Planning Phase Final Professional Year				
a.	Blueprinting	Tasks	Responsibility	Timeline
		Time Table	Time table committee	Before 1 st November '22
		Alignment and integration module	AI and ECE Expert sub-group	July 2020
		Clinical skill training module – Final Prof	Skill – Expert sub-group	Sept 2020
		Formative assessment module	Assessment Expert sub-group	Oct 2020
		Aligned LRM	JNMC task group	Oct 2020
		Log book	Respective expert sub-group	Oct 2020
b.	Capacity Building	In house CISP for Expert group	Convener and Co-conveners	Feb 2019
		Orientation of HODs	Convener	March 2019 (in College council)
		In house CISP (MCI recognized) for sensitized DCC	Expert group	2 CISPs in 2021-22 academic year

2. Implementation phase: Implementation of Competency-Based Medical Education (CBME) must be done prospectively and routed through Dean of the Institute and departmental curriculum committee headed by Head of Department. Need based capacity building must be taken up by Expert group as and when required.

Report: DCC must submit the report of Competency-Based Medical Education (CBME) implementation to CCC on quarterly basis. The compiled quarterly reports must be submitted to Medical Education Unit on annual basis which should be later submitted to Regulatory body for compliance.

3. Monitoring Phase:

The monitoring will be done at two levels, as stated below;

1. Mechanical monitoring: DCC
2. Operational monitoring: Expert group

It is proposed that DCC must meet fortnightly to discuss implementation of Competency-Based Medical Education (CBME) at the departmental level. The monthly report from DCC must be submitted to CCC. The CCC and expert group meetings should be held monthly to review the reports of DCC to ensure smooth implementation, necessary amendments, and relevant observations. The minutes of this monthly meeting must be itemized in the monthly college council meetings. This will enable formative evaluation of COMPETENCY-BASED MEDICAL EDUCATION (CBME) and allow intermediate corrections during the course. The same will be reviewed in quarterly joint college council meetings.

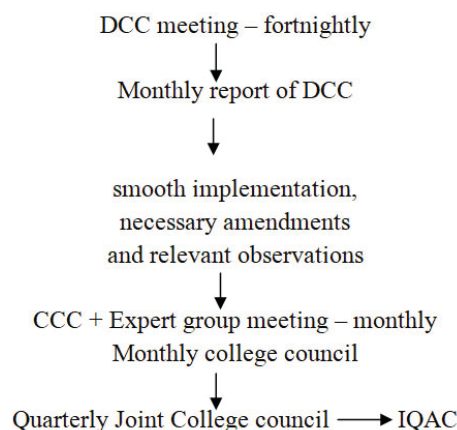


Figure 3: Monitoring mechanism for Competency-Based Medical Education (CBME) implementation.

4. Evaluation Phase: The entire roll out plan must be evaluated (formatively and summatively) by Internal Quality Assurance Cell (IQAC), as per the indicators identified in the planning and implementation phase.

5. Amendment Phase: The observations and suggestions of IQAC must be incorporated and aligned planning should be done before implementation.

iii. COMPETENCY-BASED MEDICAL EDUCATION (CBME) Roll-out Time line:

The entire roll out plan must have well defined deliverables with dedicated timeline as depicted in the GANNT chart for the COMPETENCY-BASED MEDICAL EDUCATION (CBME) launch in 2019 academic year.

Table 8: GANTT Chart for Competency-Based Medical Education (CBME) Roll out in 2019

Sr. no	Phase	Academic Year					
		2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
1	Planning	Modules : Foundation course ECE Alignment and Formative integration assessment Prof 1 : Aligned LRM					
	Prof 2	Modules : Alignment and integration, Clinical skill training, Formative assessment, Log book Prof 2 : Aligned LRM					
	Prof 3	Alignment and integration module	Modules : Electives, Clinical skill training, Formative assessment, Log book Phase 1 : Prof 3: Aligned LRM				

Table 8: (Continued)

Sr. no	Phase	Academic Year					
		2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
	Prof 4		Module : Alignment and integration Clinical skill training , Formative assessment, Log book, Prof 4: Aligned LRM				
2	Capacity building	In house CISP (MCI recognized) for sensitized DCC	Sensitization of remaining faculty (35%) for mapping competencies with objectives, 2 CISPs (MCI recognized) for sensitized faculty	2 CISPs (MCI recognized)	2 CISPs (MCI recognized)		
3	Implementation	Prof 1	Prof 1, Prof 2	Prof 2 Prof 3	Prof 3 Electives Prof 4	Prof 4 Internship	Internship
4	Monitoring	DCC , CCC + EG, CC, JCC	DCC , CCC+ EG, CC, JCC	DCC , CCC+EC, CC, JCC	DCC , CCC + EC, CC, JCC	DCC , CCC + EC, CC, JCC	DCC , CCC + EC, CC, JCC
5	Evaluation	IQAC	IQAC	IQAC	IQAC	IQAC	IQAC

Implication: Implementation of reforms in a phasic manner with capacity building at relevant intervals, as suggested in the model, will provide a steady foundation to the revised curriculum and will ease the process of change.

CONCLUSION

Any change should be weighed from multiple perspectives. The magnitude of change also defines the amount of input, resources and time. Bigger the change , more will be the time required for planning and leadership support. ⁴One key aspect involves involving various stakeholders as change agents and appraising them about the benefits of the Change. Competency Based Medical Education is one such change that requires careful planning, diligent implementation and robust monitoring. The proposed rollout plan, with its five distinct phases, can serve as a useful guide for educational leaders at various Medical schools to bring about this change with capacity building at one hand and administrative support at the other. The Interoperable systems that support information flow in number of directions is a hallmark of the proposed plan.

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