CHANGES IN THE CRITERIA LAID DOWN BY THE MEDICAL COUNCIL OF INDIA (MCI) FOR FACULTY APPOINTMENT AND PROMOTIONS IN THE LAST 12 YEARS (2009-2021)AND ITS IMPLICATIONS

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Abstract : Under the provision of the Indian Medical Council Act, 1933, the Medical Council of India (MCI) was established to maintain uniform standards of medical education across India. MCI has implemented and improvised guidelines for appointments and promotions of medical faculties based on (I) duration of service and (ii) number of research publications. Unfortunately, generalized implementation of these criteria has raised several disagreements and debates mostly the arguments have been raised around the research publication criterion. It is claimed that inclination towards research not only improves the quality of teaching/ patient-care but also augments improvisation of health policy optimally. Therefore, many premiere medical institutes of developed countries have made research work mandatory.MCI has introduced Competency Based Medical Education (CBME) system to upgrade medical education in 2019. CBME which consists of Small Group Teaching, Early Clinical Exposure (ECE) etc., demands more trained faculties. We are yet to assess the impact of these new changes made by the MCI.MCI has also been reformed and replaced by National Medical Commission (NMC) Act, 2019 to – (I) provide quality and affordable medical education, (ii) ensure availability of trained medical professionals across India and(iii) promote efficient community health services to all citizens. In this article we have reviewed how MCI/NMC has changed criteria for faculty appointment and promotion over the last decade. In addition, we have suggested 3 steps to implement the new CBME curriculum efficiently.

Keywords: Authorship, **CBME**, Medical Education, MCI, NMC

Abbreviations

BCBR, Basic Course in Biomedical Research; BOG, Board of Governors; CBME, Competency Based Medical Education; DOAJ, Directory of Open Access Journals; EBM, Evidence Based Medicine; ECE, Early Clinical Exposure; EMRB, Ethics and Medical Registration Board; ICMR-NIE, Indian Council of Medical Research-National Institute of Epidemiology; MARB, Medical Assessment and Rating Board; MCI, Medical Council of India; MET, Medical Education Technologies; MOHRD, Ministry of Human Resource Development; NMC , National Medical Commission; PGMEB, Post-Graduate Medical Education Board; SDL, Self-Directed Learning; UGMEB, Under-Graduate Medical Education Board*

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Introduction

Under the provision of the Indian Medical Council Act, 1933, the Medical Council of India (MCI) was established to maintain uniform standards of medical education at undergraduate and postgraduate level. Over the decades, the Medical Council of India (MCI) has implemented and improvised guidelines for appointments and promotions of teachers in medical institutions of India to maintain uniform quality of teaching across India. Moreover, the sporadic growth of both Government and Private medical institutions in the last decade[1] has created a pressing demand in the quality medical education. In order to cope up with the situation, there are two criteria those are laid down to assess a faculty's eligibility for a particular position: (I) duration of service and (ii) number of

research publications. Though these two criteria have been utilized to assess faculties of different departments but several disagreements have been evolved because of the objectivity of these criteria. One of the most argued criteria is the research and publication part. Faculties from clinical departments find it difficult to dedicate time for research as patient care is their priority; while faculties from pre- and Para-clinical departments show scarcity of time in research as teaching is their primary objective.

Around the globe, several premiere medical institutes have made research mandatory along with patient-care, and teaching. Because of research activities, these institutes have invented and implemented disease specific novel interventions. A lot of institutes have incorporated medical research programs also. Here, the medical faculties are not only given specific time for research but also incentivised for new research outcomes. In India, we need curriculum where every medical faculty across different specialities will have dedicated time in a year to perform research activities; otherwise, medical scientist will be scarce [2, 3]. Quality of research in a medical institute of India can only be raised when medical faculties will have dedicated time for research irrespective of their clinical and teaching duties.

A teacher is the "role model" for students in terms of honesty in teaching and conducting research that is ethical and abides by the rules and regulations. There are enough evidences to prove that the quality of teaching improves if faculty is oriented toward research[4]. In addition, a teacher with publications has an advantage when there is competition for promotions.

Essentially, to build a strong foundation in the field of medical sciences, undergraduate and postgraduate students should have an exposure in research design, logical methodologies and knowledge of publication house. Therefore, medical teachers are required to be involved in the process of research. Moreover, it is necessary to have a clear understanding of innovations and discoveries. Similarly, knowledge of new developments in the field of medical sciences facilitates a clinician in diagnosing common and uncommon cases. Policy makers perform research while administrators implement decisions based on the research outcomes to address contemporary problems. Therefore, we conclude that research plays an indispensable part in the field of medicine[5].

Realizing the importance of research and publications, the Medical Council of India (MCI),now known as the National Medical Commission (NMC), has laid down criteria for recruitment/ promotion of medical teaching faculty that have been modified a number of times in the last 12 years (2009 - 2021).In this paper we have tried to summarise and evaluate the same.

MCI Criteria (2009-2021)

As per the "Minimum Qualifications for Teachers in Medical Institutions Regulation, 1998", it was seen that teaching experience and number of publications were mandatory for higher posts. For example, to become a Professor, teaching for 4 years as a reader/ associate professor and 4 research publications in Index Medicus/ National Journals along with one research publication in international journal were required. Similarly, to become an Associate Professor, one needed 5 years of teaching experience as Assistant Professor/ Lecturer along with 4 research publications in Index Medicus/ National Journal. However, to become an Assistant Professor, a post-graduate degree in the subject along with three years teaching experience was sufficient. There was no requirement of publications[6].

It can be seen in **Table 1,** that requirement of research publications is not new in the teacher's eligibility criteria as per MCI, but it fell in the desirable category until 21/07/2009. Many feel that the MCI has taken a regressive step by making research publications an essential requirement mandatory for promotions/ academic advancement of medical teachers.

Table 1: Changes in the criteria laid down by the MCI between 2010 – 2021

Date of Notification	Notification by MCI	Publication criteria	Teaching experience
21-07-2009[7] 24-07-2009	No. MCI-12(2)/2009-MED-22654	**Professor:** Minimum of four research publications in indexed/ national journals.	**Professor**: 3 years in recognized medical college as associate professor.
		Associate Professor: Minimum of two research publications in indexed/ national journals."	**Associate Professor**: 4 year in recognized medical college as Assistant professor.
			Assistant professor: Three years teaching experience in the subject as Resident/ Registrar/ Demonstrator/ Tutor in a recognized medical college either during the post-graduation course or after obtaining postgraduate degree in the subject.
15-12-2009[8]	No. MCI-12(2)/2009-Med.Misc./56925	**Professor:** Provided that these research publications are published/ accepted for publication in the Journals by the National Associations/ Societies of the respective specialties as the First Author. Further provided that the requirement of 4research publications for promotion to the post of Professor should be taken on cumulative basis with minimum of 2 research publications must be published during the tenure of the Associate Professor.	No Change
		Associate Professor: Provided that these research publications are published/ accepted for publication in the Journals by the National Associations/ Societies of the respective specialties as the First Author. Further provided that the requirement of 2 research publications for promotion to the post of Associate Professor should be fulfilled with 2 research publications must be published during the tenure of the Assistant Professor.	

Professor

Further provided that for the transitory period of 4 years w.e.f. 24th July, 2009, the appointment/ promotion to the post of Professor can be made by the institutes in accordance with the "Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998" as prevailing before notification of "Minimum Qualifications for Teachers in Medical Institutions (Amendment) Regulations, 2009".

Associate professor

Further provided that for the transitory period of 5 years w.e.f. 24th July, 2009, the appointment/promotion to the post of Associate Professor can be made by the institutes in accordance with the "Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998" as prevailing before notification of "Minimum Qualifications for Teachers in Medical Institutions (Amendment) Regulations, 2009"

03-11-2010[9]	No. MCI-12(2)/2010-Med.-Misc. /33038	**Professor:** "Four Research papers accepted/ published in index/ national journal as first/ second author on cumulative basis. Out of these four research publications minimum two research publication must be published during the tenure of the Associate Professor."	No Change
		Associate Professor: "Two Research papers accepted/ published in index /national journal as first/ second author during the tenure of Assistant Professor."	No Change
		-	**Assistant Professor**- 3 years teaching experience in the subject as resident/ registrar/ demonstrator/ tutor in a recognized medical college either during post-graduation course or after obtaining post-graduation degree in the subject.
03-09-2015 [10]	No. MCI-12(1)/2015-TEQ/ 131880	**Guideline for Type of Publication Considered for Promotion:** **a) Indexing agencies**: Scopus, Pub Med, Medline, Embase/ Excerpta Medica, index medicus and Index Copernicus. **b) Types of articles to be considered**: Original research articles and original research papers. **c) Criteria for National/ International Journal**: Published by a National/ International Specialty Journal/ Journal of a National/ International Society provided it included in one of the	No Change

		indexes mentioned above. **d) Authorship:** First author, second author. **e) E-journals**: e-journals not included (Only Print journal) the above would also be applicable for "accepted for publication" papers/ articles.	
08-06-2017 [11]	No. MCI-12(1)/2017-Med.Misc./115698	**Professor**: Four Research Publications in Indexed Journal on Cumulative basis with minimum of 2 Research Publication during the tenure of Associate Professor as 1st Author or as corresponding author."	**Professor**- As Associate Professor in the subject for 3 years in a permitted/ approved/ recognized medical college/ institution.
		Associate Professor: 2 Research Publications in Indexed Journals as 1st Author or as corresponding author	**Associate Professor**- As Assistant Professor in the subject for 4 years in a permitted/ approved/ recognized medical college/ institution. **Assistant Professor** 3 years junior resident in recognized medical college in the concerned subject and 1-year senior resident in the concerned subject in a recognized medical college.
17-2-2020 [12]	No.MCI-12(2)/2019-Med.Misc./189334	**Professor** Three Research publications (at least two as Associate Professor) (only original papers, meta-analysis, systematic reviews, and case series that are published in journals included in Medline, Pub Med Central, Citation index, Sciences Citation index, Expanded Embase, Scopus, Directory of Open access journals (DOAJ) will be considered). The author must be amongst first three or should be the Corresponding author.	**Professor**-As Associate Professor in the subject for 3 years in a permitted/ approved/ recognized medical college/ institution. (ii) Should have completed the Basic course in Medical Education Technology from Institution(s) designated by MCI. Should have completed the Basic course in biomedical research from Institution(s) designated by MCI.
		Associate professor One Research publication (only original papers, meta-analysis, systematic reviews, and case series that are published in journals included in Medline, Pub Med Central, Citation index, Sciences Citation index, Expanded Embase, Scopus, Directory of	**Associate professor**- As Assistant Professor in the subject for 4 years in a permitted/ approved/ recognized medical college/ institution (i) Should have completed the Basic course in Medical Education Technology from Institution(s) designated by MCI.

	Open access journals (DOAJ) will be considered). The author must be amongst first three or should be the Corresponding author. -Research project in lieu of publication/ authorship can be considered only if the person is Principal or Co-Principal investigator (P1/ Co-PI) of a research project funded by a national research body such as Indian Council for Medical Research (ICMR), Department of Science & Technology (DST), Department of Biotechnology (DBT) or any such body.	Should have completed the Basic course in biomedical research from Institution(s) designated by MCI. **Assistant Professor**- 3 years Junior Resident in a recognized/ permitted medical college in the concerned subject and one year as Senior Resident in the concerned subject in a recognized/ permitted medical college.

Professor

Further provided that for the transitory period of 2 years w.e.f. the date of this notification, the appointment/ promotion to the post of Professor can be made by the institution in accordance with the —Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998|| as prevailing before issuance of this notification.

Associate professor

Further provided that for the transitory period of 2 years w.e.f. the date of this notification, the appointment/ promotion to the post of Associate Professor can be made by the institution in accordance with the— Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998|| as prevailing before issuance of this notification.

Implications of the changes made by the MCI

Board of Governors (BOG) in supersession of MCI changed the regulations to further amend the "Minimum Qualification for Teachers in Medical Institutions Regulations, namely:

(I) these regulations may be called the 'Minimum Qualification for teachers in Medical Institutions (Amendment) Regulations, 2019

(ii) They shall come into force from the date of their publication in the official gazette i.e.: 17.02.2020

As per the guidelines laid down by the BOG[12], giving credit to three authors as well as the corresponding author in research publication will acknowledge the hard work of everyone involved in inter-departmental and multi-disciplinary research. This will improve the team-building capacity among the faculty members and may be considered a step forward in promoting intramural research and culture of publication among the medical faculty.

We are in an era of Evidence Based Medicine (EBM) that comes from unaccountable researches, trials and their publications. This keeps us abreast with the latest knowledge. Therefore, making research publications mandatory will help all of us to share our knowledge with the rest of the world and vice-versa.

On the other side, the pressure of publications, restricting due credit to only the first three authors and the corresponding author as per the latest criteria laid down by the BOG [12], is too much to ask for particularly for the young budding teachers. This approach of "publish or perish" actually encourages the medical teaching faculty to indulge in research miss-conduct and authorship exploitation. It may take away the faculty from their teaching and clinical duties.

Publishing as per the strict criteria laid down by the MCI, is a difficult task for the institutes located in geographically remote areas where lack of research resources as well as trained teaching staff, continues to be a major concern. To fulfil the criteria laid down by the MCI, the faculty often fudges and manipulates the data to 'manufacture' the quintessential manuscript. Such practice definitely tarnishes the image and discredits the research integrity of the Indian medical teacher[13] .The growing numbers of 'predatory journals' has added to the anxiety of journal editors worldwide as well.

Restricting the credit to the first few authors, rather than all, may further complicate the situation. It will discourage multidisciplinary/ inter-departmental research. Any manuscript from multi-centric trials contains a group of authors where each of them make a significant contribution to the study; hence due credit should be given to all. Keeping in mind the latest criteria laid down by the BOG, the young researchers may be compelled to assign first two/three authorships to their supervisors/ seniors, who yield substantial power over the future career of the younger researchers[14] .A junior researcher often finds his name down the list of names, or completely missing. This, further, demotivates him to be a part of any research activity in the future [14].

The MCI notification of 2015 [15] stated its requirements with regard to research publications for eligibility for promotion of faculty members in medical colleges. This had been critiqued mainly on four counts[16, 17]:

1. Exclusion of publications in 'electronic-only' journals from consideration for assessment of performance;

2. Awarding points only to original research articles or papers;

3. Awarding points only to first or second authors; and

4. Choice of indexing services for assessing the quality of a journal.

The overall efforts of MCI towards improving the standards for teaching faculty at medical colleges have been well acclaimed. However, a non-definitive framework for determining eligibility for promotion is controversial. For example, many e-only journals (e.g.PLoS group, BioMed Central, etc.) are not accepted by MCI though they are comparable in quality to, and at times even better than, those which are published as hard copy. Their inclusion would broaden the range of journals for faculties to publish their research works[18].

The MCI regulations, even after several amendments are still tricky. There are two criteria that have been laid down to assess a candidate's eligibility for a particular position: (I) duration of service and (ii) number of research publications. It is expected that during appointment and promotion, assessment parameters should consider the responsibilities of teachers in medical colleges. Moreover, a strong convergence of parameters for appointment and promotions suggest appropriateness and sufficiency of the criteria.

In clinical or Para-clinical departments, medical teachers have three primary activities: (I) providing clinical or laboratory/ imaging services, (ii) teaching, and (iii) perform research which vary for different specialties. Therefore, context-sensitive

criteria of assessment either for a fresh appointment or for a promotion should be implemented by considering all three domains. Surprisingly, the research activity forms a small part of the total work across all the specialities, though number of publications carries a huge weight age in determining appointments or promotions (Table 1). Meanwhile, clinical or laboratory services and teaching domains are assessed only by the years of service put in, though these are the integral part of a medical faculty. It becomes clear that the counting of years does not do proper justice to teaching or laboratory services. The issue of assessing medical faculty can only be resolved when the MCI regulations will address all the three activity domains equally. Moreover, one-sided focus on research may compromise the training of medical students and conciliation of clinical work [18].

Prior to the latest notification of the BOG that came in Feb, 2020 [12], credit was awarded to only original research articles, which can often be seen as a regressive step to assess the academic performance of medical teachers. It undermines the contribution of systematic reviews and meta-analysis that involve a lot of diligent work, often used to formulate an important consensus guideline or to take up a research plan **(Table 2)**.

Most of the reputed/ indexed journals have other important sections like correspondence, letter to editor or commentaries, serving as forums for intellectual debate between the medical fraternities. Brief communication, short reports and case reports are some other sections of the journal that are important components of evidence-based medicine and informed practice. However, as per the current guidelines of MCI, all such contributions will be dishonoured for teachers. Though these write ups are informative and stirs up intellectual perspective but MCI dictum may lead to demotivation to write on such issues.

On another note, publications are categorized as 'national' and 'international', though their differential impact on the career progress has not been defined properly. It is assumed that publications in international journals reflect better quality researches. Sometimes, this kind of notion disgrace publications in journals those have 'India' or 'Indian' in the title which does not necessarily make a journal of lesser quality. Likewise, the incorporation of words such as 'international', 'global' or 'world' in the title does not make a journal of higher quality. The impact factor of a journal should gauge the quality not the names. In addition, it is possible that National journals may publish more relevant researches which will address local issues. Hence, this discrimination by the MCI appears to be a surrogate marker for quality [17].

On the final note, the guideline of MCI to credit only to the first two authors of a paper is too restrictive. This guideline seems to be an attempt to weed out the malpractice of gifted authorship, but this discourages collaborative environment. In the latest amendment of BOG[12] , 2 new additions have been made as per the promotion/ recruitment criteria laid down by the BOG besides the criteria for research publications for various teaching posts:

1. Medical Education Technologies (MET): The faculty member should have completed the Basic Course in MET from institutions designated by the MCI. The idea behind this course would be to sensitize medical faculties about the new concept in teaching and assessment methods, to acquire knowledge and develop skills required for performing the role of a competent teacher, researcher and mentor. In addition, it will assist the clinician in acquiring communication and behavioural skills to update his knowledge on using modern information and research methodology tools. This has been done with the intention of improving the quality of medical education

2. Basic Course in Biomedical Research (BCBR): In order to improve the research skills of the Post-graduate students and medical faculty alike, the BOG has recommended a uniform research methodology course across the country. The online course BCBR will be offered by the ICMR – NIE (Indian Council of

Medical Research -National Institute of Epidemiology, Chennai). The aim of the course will be to explain the fundamentals of research methodology. The course is being offered by the SWAYAM portal of Ministry of Human Resource Development (MOHRD) through the SWAYAM NPTEL (19).

The course link has been made available through the home page of the Medical Council of India (MCI) and ICMR-NIE.It is open to the general public from 01.08.2019.

A) Course content

The BCBR course has been divided into 23 modules, with online assignments for each of the 23 lectures, each comprising of 10 MCQs.

B) Course syllabus

Examination

The proctored examination will be of 3 hrs duration, conducted at designated centres in select cities all over India. The final examination will comprise of 100 MCQs, conducted over a period of three days in six sessions.

1. Conceptualizing a research study
Introduction to health research
Formulating research question, hypothesis & objectives
Literature review

2. Epidemiological considerations in designing a research study
Measures of disease frequency
Descriptive study designs
Analytical study designs
Experimental study designs: Clinical trials
Validity of epidemiological studies
Qualitative research methods: An overview

3. Bio-statistical considerations in designing a research study
Measurement of study variable
Sampling methods
Calculating sample size and power

4. Planning a research study
Selection of study population
Study plan and project management
Designing data collection tools
Principles of data collection
Data management
Overview of data analysis

5. Conducting a research study
Ethical framework for health research
Conducting clinical trials

6. Writing a research protocol
Preparing a concept paper for research projects
Elements of a protocol for research studies
Publication ethics

C) Certification

A candidate will be considered eligible for certification only if he/ she scores at-least 50% marks in the total assignment score and the proctored examination separately. The successful examiner will be issued an online certificate with his name, photograph and the scores obtained in the course. This 'e-certificate' will depict the final score comprising of the total assignment score (25% weight age) and the proctored examination score (75% score).

Table 2: Changes in the criteria of authorship and type of article accepted by the MCI

Type of Publication	Date of Notification	Before 24/07/2009	24/07/2009 To 02/11/2010	03/11/2010 To 02/09/2015	03/09/2015 To 07/06/2017	08/06/2017 To 16/2/2020	17/2/2020 onwards
Research papers	12/02/2020[9] 17/02/2020[7] No. MCI-12(1)/2019-TEQ/189339	Any Authorship	First Author only	First Or Second Author	First Or Second Author	First Or Corresponding Author	First three Or Corresponding Author
Case series or Case Report		-Do-	-Do-	-Do-	Not Accepted	Not Accepted	Accepted
Review articles		-Do-	-Do-	-Do-	Not Accepted	Not Accepted	Accepted

The current guidelines of the BOG may be considered to be an improvement over the previous criteria, considering the following points **(Table 2)**:

1. Consideration of giving credit to the first three authors along with the corresponding author instead of only the first and corresponding author as per the previous notification of the MCI
2. Expansion of indexing agencies of journals approved by the MCI: Medline, PUBMED Central, Citation Index, Sciences Citation Index, Expanded EMBASE, SCOPUS and Directory of Open Access Journals (DOAJ).
3. Different types of articles are being considered - Original research articles, meta-analysis, case series and systematic reviews - as compared to earlier criteria where only original research articles were recognised.

CBME (Competency Based Medical Education) and faculty strength:

The number of undergraduate seats has increased throughout the country and the MCI Curriculum for MBBS students has been overhauled to a large degree in recent times. The new CBME curriculum has many new additions/ modifications to offer:

- Introduction of the Foundation Course of 1 month duration before the actual academic activity starts
- Early clinical exposure (ECE) from first year MBBS, acting as a bridge between the pre-clinical and clinical branches
- Self-directed learning (SDL)
- Small group teaching
- Encouragement of horizontal and vertical integration
- Introduction of electives

In order to implement CBME, there is a dire need not only to increase number of trained faculties but also to establish research labs. To develop trained faculties, MCI has already designed MET and BCBR courses. Similarly, to develop researchers, though MCI has made publication mandatory for young and senior faculties but authorship issue has created hindrance in the process. We need more young faculties who are trained in research that can only be made lucrative when collaboration and any authorship will be acknowledged as well as rewarded.

National Medical Commission (NMC)

The National Medical Commission (NMC) was constituted by the Central Government on 24th September, 2020 vide notification No.V.11013/01/2019-MEP [20]. It is a medical regulatory body consisting of 33 members that regulates medical teaching as well as the medical profession. The commission grants registration to medical practitioners, accredit medical schools, monitors medical practice and assesses the medical infrastructure in India. The commission consists of four autonomous boards:

1. Under-Graduate Medical Education Board
2. Post-Graduate Medical Education Board
3. Medical Assessment and Rating Board
4. Ethics and Medical Registration Board

How can we solve authorship issues constructively?

To solve authorship issues, we suggest 3 strategies which can make research more constructive and benefiting to the authors.

1) **Number of authors from different disciplines:** In a collaborative project, it will be logical to acknowledge authorship of 2 researchers from different field. For example: if a paper incorporates Physiology, Medicine and Microbiology departments then from every department 2 faculties should be credited as major authors including the corresponding author. It will not be restricted to the first 3 and the corresponding author. This will encourage not only inter-departmental collaboration but also research with multi-dimensionality.
2) **Accepting various categories of publications:** Except article, systematic review etc., there are several other important categories of publications, such as brief communication, case reports etc. Unfortunately, we are still in a phase where these publications are not accepted for the purpose of recruitment/ promotion.
3) **Defining the role of authors:** In the current format, irrespective of authors' contributions only first 3 and the corresponding authors are recognized. It will definitely encourage better clinical research if we recognize authors' contribution as per their involvement, such as: conceiving the idea, performing experiments, preparing manuscript, analysis of data etc.

Medical research is continuously evolving, in terms of new findings and modes of interventions. Therefore, it is essential to be involved in clinical research so that medical professionals stay in tune with the new findings. In order to encourage research, we need a new policy where authorship of a paper will be accepted with broader perspective.

Strategy of National Medical Commission (NMC) in upgrading medical facilities:

In 2019, NMC was formed and replaced MCI on 25 September, 2020 to – provide quality and affordable medical education, ensure availability of trained medical professionals across India and promote efficient community health services to all citizens. In order to execute these, the functions of the NMC include: (I) laying down policies for regulating medical institutions and medical professionals, (ii) assessing the requirements of human resources and infrastructure in healthcare, (iii) ensuring compliance by the State Medical Councils with the regulations made under the Bill, and (iv) framing guidelines for determination of fee for up to 50% of the seats in the private medical institutions.

The NMC will frame policies and co-ordinate the activities of four autonomous boards. Each autonomous board will consist of a president and four members, appointed by the central government. These boards are: Under-Graduate Medical Education Board (UGMEB), Post-Graduate Medical Education Board (PGMEB), Medical Assessment and Rating Board (MARB) and the Ethics and Medical Registration Board (EMRB).

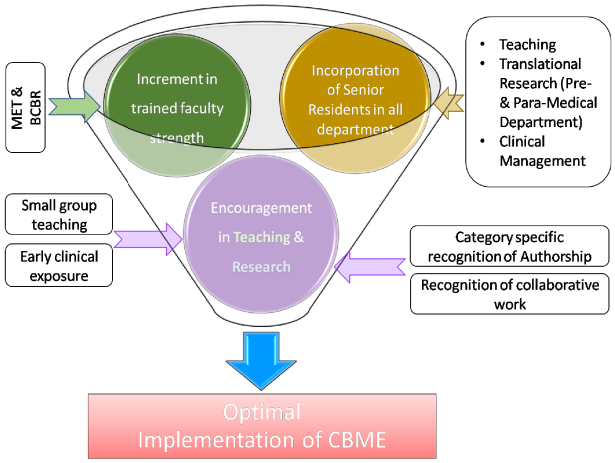

Fig. 1: Optimization of CBME

In order to implement Competency Based Medical Education (CBME) optimally we need 3 inter-dependent strategies: **(i)** Incorporation of Senior Resident posts in all the departments: In pre-clinical department, postgraduates are taken as tutors or demonstrators whose job is to work as a teaching assistant and demonstrate lab practical to under-graduate and post-graduates. It will be more efficient if they are also being involved in translational research and clinical management. Pre- and para-clinical departments can easily collaborate with basic science departments to generate translational innovations and discoveries, **(ii)** Increment of trained faculties: Basic course in medical education and biomedical research will not only make teaching efficient but also promote mentality for professional research and **(iii)** Encouragement in teaching and research: Small group teaching demands increment in faculty numbers. In addition, research activity can only be optimized when there are a greater number of faculties. Adequate number of faculty will create a platform where one group of faculties can perform in the first semester and another group can perform research in the next semester. In this way, everyone will get adequate time to conduct teaching and research efficiently.

NMC will look after national health goals; encourage medical professionals to adopt latest medical research in their work and to contribute to research.

Conclusion

The Medical Council of India has changed criteria for the recruitment/ promotion of medical faculty several times over the last one decade. However, it has not changed the Minimum Standard Requirement for medical teaching faculty, particularly in the pre-clinical and the Para-clinical branches, despite introduction of the new CBME curriculum in the year 2019 **(Figure: 1).** There is no inclusion of senior-residents in many institutions showing indifference of the council towards medical teaching. It is impossible to implement changes like small group teaching and early clinical exposure (ECE) where you are required to divide the students into small batches of 10-15 students each, with the existing strength of faculty members. Hence, there is an imminent need to increase the faculty strength in medical colleges to do justice to the implementation of the CBME curriculum that was introduced in August 2019, and has been implemented partially in view of the ongoing COVID -19 pandemic. We are yet to assess the impact of new changes made by the NMC, in filling the vacant faculty positions and increasing the level of professional satisfaction among the medical faculty.

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