Framework to Incorporate Leadership Training in Competency-Based Undergraduate Curriculum for the Indian Medical Graduate

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The new competency-based curriculum recognized the importance of leadership skills in physicians and has outlined competencies that would lead to attaining this goal. To prepare the Indian medical graduates as effective healthcare leader, there is no universal approach; it is desirable that the institutes organize the leadership competencies into an institutional framework and integrate these vertically and horizontally in their curriculum in a longitudinal manner. We describe the rationale for incorporating formal leadership training in the new competency-based undergraduate curriculum and propose a longitudinal curricular template utilizing a mixed/multi-modality approach to teach and apply leadership competencies.

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The recently revised Graduate Medical Education regulations (GMER) recognized 'leader and member of the health care team and system' as one of the roles for the Indian medical graduate (IMG) [1]. With a vision to develop an IMG who is globally relevant, this was a desirable step. It was aligned to Accreditation Council for Graduate Medical Education (ACGME), which requires students to demonstrate the ability to 'work effectively as a member or leader of a healthcare team or other professional group' [2]. While broad outlines are provided in the curriculum, steps to implement the competencies and achieve goals is largely the responsibility of each institute. We herein describe the rationale for the inclusion of a formal, culturally sensitive leadership training in undergraduate medical education, and provide overarching principles of designing an institutional framework for incorporating leadership training in Indian medical colleges under the new competency-based curriculum (CBME).

THE FRAMEWORK

Leadership Competencies

The first and foremost step is to identify the desired leadership competencies and outcomes; these will then serve as the basis for creating course objectives and further guide the institutional framework and all subsequent details like content and delivery of leadership training. Many leadership competencies are already described in the new curriculum [3]; however, these are not comprehensive and institutes may need to reframe and expand them to precisely describe the leadership competencies for their students. Ideally a complete set of leadership competencies should include self-management competencies (exploration and management of self to develop greater self-awareness and emotional intelligence), team management competencies (under-standing principles of working collaboratively and leading teams in multi-professional environments), ability to work with healthcare systems and other focused leadership competencies (e.g., leading change, setting realistic goals) and behavior or transfer of learning based competencies (e.g., demonstration as successful team leader in actual conditions, networking) [4-8].

Teaching Learning Methods

Once competencies have been identified and defined; these will then guide the learning experiences that will be used to deliver the leadership training. Methodologies described for leadership training are vast, methods such as group discussions and collaborative work, interactive lectures, sharing narratives, presentations, demons-trations, use of media clips and role play activities have been used previously [9-13]. Based on an extensive literature review of teaching learning methods in leadership and teamwork training [5,6,9-14] and from our experience of introduction of institutional student leadership program [15], we propose the following methodology for teaching learning of leadership and teamwork principles:

Activities designed to enable an exploration of self: 'Who you are is how you lead' [5,13]; it is of foremost importance that a leader knows and understands himself well so that he can identify areas for improvement [4]. The leadership journey for the student will require an in-depth understanding of self so that one can constantly learn from own experiences and deal with the volatile, unpredictable, complex and ambiguous (VUCA) nature of heathcare system [16]. We suggest tools such as SWOT analysis (for self-exploration of one's strength and weakness), changing 'self-talk' (for building self-image and improving self-confidence, reflective writing (for developing deeper knowledge of self) etc. in form of small group interactive discussions to generate awareness of self and for developing attributes like strong emotional intelligence and resilience.

Activities designed to understand leadership and teamwork principles: Ability to work with others in a team has been identified as an essential skill for a leader [7]. We suggest tools such as Myers Briggs type inventory (MBTI); small group interactive activities aiming at highly specific team related skills like Color blind, Mission to Burundi; games based on group dynamics and stages of team building; role plays based on difficult conversations, conflict management, communication and negotiation skills to help them learn about the underlying principles of team management, group dyna-mics and common barriers to effective team working [17,18]. Use of appreciative leadership principles of inquiry, illumination, inclusion and inspiration as a method of positive strength-based leadership to create change would be a useful model [19].

Experiential learning: Team-based experiential learning activities have been accepted to be the most effective for practicing leadership skills [7,14]. Students are asked to identify an issue or concern in clinical, community or educational setting and execute its solution through a standard framework that includes defining the problem, communicating with team members and stakeholders, preparing a timeline, deciding a solution to the problem and implementation strategy. However, before designating any assignment as team task, it is important to understand the concept of 'task interdependence' i.e., the extent to which team members depend on one another for task completion; if a task is insufficiently complex and can be completed by an individual working alone, then it should not be labelled as a team task [20]. Some examples of team based experiential learning tasks are student leadership activities like leading a team for a seminar or a competition, leading and participating in inter-professional teams in hospitals or rural or mobile units, participating in audits and utilizing clinical practice guidelines to plan comprehensive effective patient care in multi-disciplinary settings.

Reflective practice: Reflecting on an experience and subsequent analysis facilitate incorporation of behavioral changes into practice, help in exploring its relevance to past personal experiences and identifies opportunities in future to achieve more desirable outcome [17,18,21]. Equally important is the concept of team reflexivity; there is evidence that regular team reflexivity helps in improving organizational outcomes in healthcare [22].

Clinical and community postings: Not every opportunity for teaching of leadership skills needs to be formal and explicit; there are certain very informal and readily available opportunities in our medical curriculum which can be well utilized. Clinical care rounds are the most commonly identified curricular approach in literature towards teaching leadership and teamwork by specifically demonstrating the roles, responsibilities and interactions among members of multidisciplinary teams in fulfilling needs of patients [23]. Similarly, much of leadership and teamwork content can also be folded in the form of community healthcare responsibilities by providing an opportunity to appreciate teamwork principles associated with patient management and safety challenges in community settings. Structured reflections could be obtained to understand how the students benefitted from the clinical and community postings.

Opportunity for networking and near peer assisted teaching learning: Peer networking refers to a network of like-minded individuals who can support, encourage and offer opportunities to each other to learn and develop and also to take on new leadership roles [24,25]. Networking with senior leaders provide a wide range of contacts, offers an entirely diverse range of perspectives, and can provide powerful supplementary teaching mechanisms for leadership development [13,14].

We believe participants in leadership training will learn best through multi modal learning strategies involving active participation. Institutes need to identify methodology for leadership training in alignment to the respective learning objectives and availability of institutional resources. Readers are referred to some other publications for more detailed discussion of teaching learning methodology for leadership [10,18].

Assessment Methods

The assessment plan should focus on leadership competencies pre-identified and defined in the institutional framework. During the clinical/community postings, students can be asked to reflect on any one incident wherein team-based care had a positive effect on patient care and another incident where dysfunctional team collaboration and failure of effective communication

amongst team members and leader resulted in a major lapse in patient care. While the students are learning to reflect on an experience, it is important to make them understand to go beyond a mere description of events; instead, they should analyze and gather critical evidence of learnings from the event and how they will apply these learnings for their development as a leader. Students should be encouraged to undertake various change initiatives in hospital and community settings; these can be discussed in the student leadership cell, highlighting the key areas of teamwork and deliberating on the leadership challenges that were involved. These can be assessed by reflective writing assignments and scored by a rubric, with a pre-decided score designated for a particular level of competency. E-portfolio can be used for the whole documentation process including various reflective writing sessions, experiential learning activities with critical analysis and comments for satis-factory performance, record of student's participation in other leadership activities like student organizations and community participation.

An important point to ensure is that students are being assessed on 'doing' in addition to 'learning' of leadership traits. During the implementation of leadership program at our institute, the participants completed at least one team based experiential learning assignments in hospital and/or community settings with multisource feedback on the assignments [15]. These were presented in the student leadership cell and critically analyzed by a panel of faculty members; those who performed exceptionally well were felicitated by institutional student leadership awards. **Table I** describes a few leadership competencies from the document [3] and suggests the corresponding teaching learning and assessment methods. These are just suggestions and it is up to the institute to decide how to approach the particular competency. If required, any of the validated leadership assessment instruments readily available in literature may be utilized [26], ensuring that it is aligned with the institutional framework and the pre-decided leadership model.

Evaluation

We suggest a mixed method design including both quantitative and qualitative methods of evaluation. Qualitative methods of evaluation like focus group discussions, structured interviews or interactive feedback sessions are helpful in understanding of students' perspectives and the underlying factors, which makes the whole learning process effective. In our leadership program, students shared their leadership journey though reflections written at the end of each session which were later qualitatively analyzed through content analysis [15]. Questionnaire-based feedback usually target participants' perceptions (Kirkpatrick level-1) and thus may not truly represent effectiveness of the program; targeting level-2 (learning of leadership skills) and 3 (transfer of learned skills to real life situations) is desirable. This can be well achieved through evaluation of the experiential learning activities and ensuring long term follow up for concrete results like changes in organizational practices.

The Timetable

Three block experiences can be created and incorporated in the timetable vertically and horizontally in the CBME viz., block-1 for introduction to basic teamwork and leadership principles, block-2 for experiential learning through clinical/community postings and electives and block-3 for networking and mentoring.

Block-I: Introduction to key leadership and teamwork principles: Extracurricular hours in phase-I and II can be utilized for introducing participants to key self-management and team management principles longitudinally through methodology as described earlier. Timings and duration of individual sessions can be decided by the institute; however, group size should not exceed more than fifteen students to ensure an effective interaction of all participants. Sessions of self-management should precede those of team management, following the basic principle that one needs to manage 'self' first and then 'others'. Reflective practice needs to be initiated early and practiced throughout; sufficient opportunities for this are already available in the curriculum e.g., small group teaching activities such as problem-based learning sessions and tutorial/seminar presentations can be explored as opportunities for leadership training from the first year onwards. Anatomy dissection teams are their first professional exposure to teamwork and a good opportunity to illustrate basic principles of group dynamics. Discussions can be initiated on how to define roles and responsibilities of members, identify one's own leadership style, establish team goals, lay down strategies for improved team performance, illustrate success and frustrations within the team etc. Similarly, in second professional year, when the clinical postings are initiated, a pharmacology session can be integrated with clinical case discussion wherein the student learns the use of available literature in pharmacology to plan an effective multidisciplinary treatment plan for the patient.

Block-2: Experiential learning through clinical and community postings and elective posting: Further leadership training can be continued as an optional 4-weeks elective (block-1) through the leadership cell; since students will also be continuing their clinical and community postings, there will be lots of opportunities for

Table I Competencies for Leadership Role of Indian Medical Graduate

Learning objectives	*Suggested teaching learning methodology*[a]	*Suggested assessment methods*
3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities, and competencies of other professionals.		
Participants will be able to appreciate their own leadership style and that of the team members and how to use this to manage team, identify individuals' type preferences and capitalize on their leadership strengths in leading and working successfully with others.	Myers-Briggs Type Indicator (MBTI) (Workshop in designated extracurricular hours)	Formative assessment of reflections and narrative writing using rubrics
Participants will be able to attend and observe multidisciplinary team meetings to understand principles of effective working of an interprofessional team in a clinical setting.	Clinical placement and observation of role models and experiential posting	Formative assessment of reflections and narrative writing using rubrics
Participants will be able to have a hands-on experience of working in/leading an interprofessional team effectively.	Experiential learning assignment (clinical setting)	Multi-source formative feedback; formative assessment of discussions and presentations in the Student Leadership Cell.
3.2.2 Recognize and function effectively, responsibly, and appropriately as a health care team leader in primary and secondary health care settings		
Participants will be introduced to effective small work group and its stages of formation; define an effective team and recognize where group performance is more effective than individual work; describe the stages of team work and identify actions that move the groups through various stages.	Team building and group dynamics (Workshop in designated extracurricular hours)	Formative assessment of reflections and narrative writing using rubrics.
Participants will be able to understand principles of leading healthcare team effectively in primary and secondary health care settings.	Community placement and observation of role models and experiential posting	Formative assessment of reflections and narrative writing using rubrics
Participants will be able to have a hands-on experience of leading healthcare team effectively in primary and secondary health care settings.	Experiential learning assignment (community setting)	Multi-source formative feedback
3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.		
Participants will be able to appreciate difficult conversations and principles of Conflict management using a specific model to resolve conflict (e.g. HEAL-IT model)	Small group interactive activities/ role play on difficult conversations, conflict management (Workshop in designated extracurricular hours)	Formative assessment of reflections and narrative writing using rubrics
Participants will network with peers and near peers with shared objectives for activities and responsibilities within the college, involvement with social groups and organizations; aimed to provide students with an opportunity to develop experience of leadership, and to understand how effective leadership will have an impact on the system and benefit patients as they move from learner to practitioner	Near peer assisted learning, role modelling and networking through student leadership cell	Team reflexivity with feedback from supervising faculty
3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.		
Participants will be able to understand national health care priorities and policies in relation to community needs	Participating in national groups/ societies, interaction with senior students who have leadership positions in the field, mentoring by a senior leader in the field	Formative assessment of reflections and narrative writing using rubrics

Contd..

Table I *contd.*

learning objectives	*Suggested teaching learning methodology*[a]	*Suggested assessment methods*
Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities	Experiential learning assignment (based on data audit)	Multi-source formative feedback
Participants will be able to collect, analyze and utilize health data and have an opportunity to influence the decision-making process	Near peer assisted learning, role modelling and networking through student leadership cell	Team reflexivity with feedback from supervising faculty

NMC: National medical commission. [a]*Sessions on self-management and reflective writing to precede any session on team management.*

reinforcement and application of what has been learnt. Specific modules can be developed in community health or chronic illness or in emergency medicine with pre-defined learning objectives e.g., the chronic diseases modules can be used to understand the importance of working with other health professionals, while at the same time, having a particular health care professional as patient's care coordinator. Small group discussions, student presentations and reflections may be used and students can be given exercises addressing leadership and teamwork directly related to the modules. Above all, this is the most appropriate time for students to 'do' what they have learnt, they should complete at least two team based experiential learning assignments during the elective posting; examples and assessment methods of team based experiential learning assignments have already been discussed.

Block-3: Networking and near peer assisted learning: In third professional year part-2, students with particular interests can attend activities held by the leadership cell outside curricular hours and undertake activities for bringing changes in organizational practices, they also continue networking and mentoring the new participants. Members of the club can meet once in a month or fortnightly to discuss and deliberate on various teamwork and leadership related issues.

The Rationale

Medical students have always been expected to evolve as physician leaders and take on leadership roles from the beginning of their professional career; it is ironical that the traditional undergraduate medical curriculum did not address leadership training formally. Recognition of 'leader and member of healthcare team' as a role for the IMG in the new CBME curriculum is a much-desired move towards ushering in formal leadership training; however, there are a few questions that need to be addressed before planning leadership training. The first and foremost is 'whether leadership can be taught'; if yes, what leadership models will guide the whole process? What will be the goals for the program and what will be the most effective learning experiences to achieve them? When should the training be initiated and how will the leadership competencies be assessed? We have tried to address these questions while proposing this longitudinally incorporated framework for leadership training. Yes, leadership does consist of a series of definable skills that can be well taught; while a few may have inherent characteristics that make them better leaders, adequate training and experiences could create successful leaders [7,27]. Different models and theories like transformational leadership, authentic leadership, servant leadership, self-leadership and appreciative leadership have their own characteristics [7,26,28-30]; it is important to develop feasible models for various branches of health-care, in different regions of the country for respective institutions. Another important point to consider is 'when' and 'how' to introduce this training; one school of thought is that once negative perceptions develop as a result of negative role modelling during clinical postings, it becomes more difficult to change; other school of thought is that such training will be effective only when sufficient clinical experience has been gained [17]. There is no approach which is specifically 'right' or 'wrong'; it is essential that the institute has a clarity for the specific aims of the program and design the framework accordingly. Having an institutional commitment is desirable; Janke, et al. [8] emphasized the importance of weaving leadership development into the mission and goals of the institute; including financial support, support of administrators responsible for resource management, in-organization recognition awards and appropriate faculty development and reward systems [8].

Leadership training is not just meant to prepare students for particular leadership roles; instead, it is targeted to develop strong personal and professional values and a range of non-technical skills such as communication skills, strong emotional intelligence, negotiation skills, etc. which will allow them to lead across professional boundaries and influence many facets of life including

healthcare [4]. Any one-time opportunity for development of leadership will not be sufficient and the importance of providing continuous opportunities for practicing leadership skills, networking and mentoring cannot be over emphasized. There are student bodies, student clubs, community and other group activities in almost all medical schools; these opportunities can be explored and utilized for formal leadership training. Chaudry, et al. [31] proposed a medical leadership society at medical schools as an easier to implement solution to cater to the growing demand for leadership training for students who demonstrate a special interest in leadership. We suggest the introduction of student leadership cells with opportunities for networking and peer mentoring to keep them engaged in leadership activities in different stages of professional development.

Challenges and Limitations

Some institutes may already have one or the other formal or informal leadership program in place; however, if such training is being introduced for the first time in the institute, many challenges would be expected. Hiring professional managers or trainers might work as a one-time solution to initiate the program but if it has to run as an institutional program, it is important that faculty members are sufficiently trained. There will be requirement of faculty development activities targeting leader-ship skills to help the faculty develop as trainers as well as role models. In the initial phase of introduction of leadership training, not having sufficient number of trained faculty in the institute will be a major limitation. Under such circumstances, if training is made compulsory for all students, it will tend to inherently dilute the quality and the whole drive because there will simply be too many students and too less trainers. On the other hand, if only a few students are included, the whole concept of including leadership as a core competency for students will not be fulfilled. As an intermediate solution, we suggest utilizing near peer mentoring through the institutional leadership cell till the faculty development program on leadership is completed. Furthermore, we will be mistaken by assuming that any one-time course will make our students evolve as leaders; to achieve this goal, longitudinal integration of leadership training in the curriculum is to be ensured. This will require meticulous planning and involvement of all the stakeholders i.e., members of curriculum committee and medical education unit and other faculty members. Another major challenge will be evaluation of the program. As discussed earlier, only quantitative form of evaluation will not be sufficient and more of qualitative information targeting higher Kirkpatrick's levels of learning will be required; this will create severe time limitations. Above all, long-term follow-up and evaluation will be needed to provide concrete results in the form of change in organizational practice as a result of leadership training.

CONCLUSION

The new competency-based curriculum not only addresses a well-recognized gap in our medical undergraduate training by recognizing the role of 'leader' for the IMG but also provides scope for formal leadership training in the already crowded undergraduate curriculum, through dedicated extracurricular hours and electives. It is exciting to propose a formal framework for explicit leadership training including team training, community and clinical experiences, student leadership opportunities, experiential learning, mentoring and networking. The framework can be finalized by the institute itself according to its own desired competencies, preferred teaching methods and available resources. We believe that this framework could be aligned with the current curriculum, without stretching either the time or the resources. It is of foremost importance to have institutional commitment and develop a supportive atmosphere, conducive for the students to evolve as leaders and for faculty as role models through administrative and financial support, appropriate allotment of resources, and training and incentives for faculty.

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