Faculty Development Program for Emergency Medicine Physicians in India: A Pilot Program

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ABSTRACT

Background: The specialty of emergency medicine (EM) is developing worldwide at a rapid pace. While more and more postgraduate training programs are developing, a major gap persists in numbers and availability of well-trained academic faculty members. This article describes a pilot faculty development program (FDP) aimed to develop advanced academic skills among a group of EM physicians in India.

Methods: A FDP was developed with foundations in adult learning principles, using a combined approach of online and in-person didactic sessions. Specific expectations were established regarding academic contributions to participants' home institutions. Mentorship relationships were established between academic emergency physicians and program participants.

Results: A 12-month pilot program was implemented across four EM training programs in India. Nine faculty members completed the full requirements of the pilot program, eight of whom have continued to work as academic faculty members in EM training programs. Academic productivity among these physicians since completion of the program includes 11 abstract publications, six peer-reviewed articles, and 71 mentorship relationships. Program challenges included participant attrition, connectivity issues, and low rates of completion of evaluation requirements by both participants and mentors.

Conclusions: This pilot program in faculty development provides a foundation from which further programs may be developed in the international sector. Effective faculty development is a cornerstone of good academic medicine, which is of particular relevance, importance, and challenge in the global context of a developing specialty.

The specialty of emergency medicine (EM) is new and expanding rapidly around the world. India is a prime example of a location where EM is developing at a rapid pace.^{1,2} EM was recognized as a specialty by the Medical Council of India in July 2009, and education and training programs have continued to expand since that time.³ Even prior to the official recognition of EM within the country, various institutions including our own have worked extensively with in-country partner institutions to develop education and training

programs at the postgraduate level.^{2,4} For our institution, a major component of our ongoing programming and partnership with various institutions in India has been monthly visits from international EM physicians at each local site to provide on-the-ground didactics, clinical bedside teaching, and mentorship. While these efforts have been effective and well received, the model of frequent visits is not a sustainable nor cost-effective means of providing long-term education and training. Given our ultimate goal of sustainable programming

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with gradually decreasing dependence on international partners, we are constantly seeking new methods of education and training to increase local capacity and decrease reliance on external support.

Faculty development is a cornerstone of developing competent, effective, and sustainable medical education and training.^{5,6} Recent years have seen a growth in faculty development programs (FDPs), responsive perhaps to a changing environment of both health care delivery and medical education.⁷ Various challenges are associated with effective FDPs, including generational differences, expense and distance, sustainability and participation, and useful evaluation metrics for these programs.^{8–10} Asynchronous learning modules and social media have been used as an innovative method of information delivery and faculty development, and educators are increasingly using online methods to provide faculty development opportunities.^{11–13} While online FDPs seem comparable to traditional programs and better than no training at all, this is based on a limited number of programs with limited evaluation metrics.¹² Increased focus on more rigorous evaluation methods is repeatedly noted as a future priority for all FDPs, both in person and online, for better understanding of the true value and impact of these programs.

Given the relative youth of the specialty of EM in India, it is no surprise that the availability of faculty members is limited. The general availability of specialty trained emergency physicians is very limited, and as such so is the availability of trained EM faculty members. There is limited guidance as to how to bridge the gap as these emergency departments (EDs) transition from traditional nonacademic casualty wards to academic EM departments with EM-trained faculty and EM education and training programs. Given the context of medical education and medical practice internationally, there is even more complexity involved including the differentiation between the public and private sector as it relates to academics and a teaching mission, the prevalence of the traditional hierarchical approach to medicine and clinical decision making, and the limited availability of educational resources such as journals and evidence-based sources.

The confluence of these factors contributed to our development and pilot implementation of a FDP for academic EM physicians in India. The goal of this article is to describe the development of this curriculum, the pilot phase of implementation, lessons learned, and goals for the future. India is by no means unique

in its stage in development of EM as a specialty, and applied theories and lessons learned from this experience are undoubtedly relevant to other locations with similar stages of development and need for quality education and training, both in the field of EM and beyond.

METHODS

We developed a 12-month FDP to improve teaching, research, and administrative competencies of faculty members at programs that are currently training EM physicians. The two program directors were core faculty members from our institution who were already involved in the ongoing education and training programs in India. Five additional program mentors were recruited from a group of active, academic EM faculty members in the United States and United Kingdom, also with prior experience working in India. Physicians who have completed 2 or more years of EM training and are currently active in clinical practice in EM in an academic EM training program were eligible for enrollment. Alternatively, given the reality that many faculty members may not have completed specialty training in EM, non-EM-trained physicians with formal postgraduate training in other specialties including anesthesia, medicine, surgery, obstetrics and gynecology, pulmonology, pediatrics, or orthopedics were eligible for enrollment, provided that they were also actively working in the clinical practice of EM in an academic EM training program. Program participants were recruited from existing partnership institutions in India, through word of mouth and direct e-mails to faculty members. The study design and materials were submitted to the institutional review board of our institution and deemed exempt from review.

The format of the 12-month program combines monthly didactic sessions with an ongoing online learning community. Didactic topics are listed in Table 1 and cover many core issues for academic physicians in EM. The didactic topics were chosen by the program directors and mentors. Monthly discussions based on the didactic schedule were facilitated by a program mentor and held via online conference as feasible to facilitate real-time participation of program participants from various regions of the country and from different institutions. A separate online learning platform was established for delivery of content and information, as well as a means of

Table 1
Didactic Topics

Month	Topic
July	Introduction Development of 12-month plan
August	Teaching methods/how to develop and deliver a great lecture
September	Conducting research in the ED
October	Bedside teaching in ED
November	Delivering effective feedback/evaluations
December	Evidence-based medicine—effectively searching the literature
January	Supervising trainee research projects (option for specific project discussions)
February	Mentoring/leadership
March	How to write and publish
April	Professional development <ul style="list-style-type: none"> • Physician wellness • Continued self-directed learning
May	Quality assessment/quality improvement
June	Career planning <ul style="list-style-type: none"> • Personal finance • Finding the right job

communication and discussion among program participants and mentors. Articles related to didactic topics were selected by both program directors and mentors and distributed via the online learning platform in preparation for didactic sessions. The participants were expected to engage in numerous activities over the course of the 1-year program as listed in Table 2.

A core initial task for each participant was to create an adult learning plan to identify planned activities for the course of the year. Ongoing contribution to the home institution's academic program was expected, as well as additional academic and administrative projects. Participants were expected to keep a log of activities and communicate with an individually assigned, international mentor on a monthly basis to gauge progress. Each program participant was paired with a mentor for regular communication, and mentors were expected to monitor task completion and provide ongoing feedback. Mentors and mentees were responsible for scheduling of meetings, and the program directors provided general oversight to program activities.

RESULTS

A total of 19 faculty members completed the initial enrollment process, and nine of these faculty members from four institutions completed the full program requirements between 2012 and 2014. These

Table 2
Program Requirements

Individual requirements <ul style="list-style-type: none"> • Complete the learning enhancement and achievement plan (LEAP) for the year. • Develop a detailed 12-month plan for completing goals of the FDP. • Attend monthly FDP didactic sessions, either in person or via distance technology. • Meet with U.S. faculty advisor monthly (virtually) over Skype or VSee to review progress, evaluate any current research, evaluation teaching progress, get feedback on how to given effective evaluations and feedback, etc. • Show successful completion of key administrative tasks/project within your department, for example, ED operations, teaching, administration, EMS, trauma program development, implementation of an effective triage process, development of clinical pathways for the department, or quality assurance and peer review processes. • Maintain diary of all academic/FDP activities. • Participate in online discussion forum.
Academic requirements <ul style="list-style-type: none"> • Participate in 20% of all educational activities in the department. • Supervise no less than five morning reports monthly. • Give three grand rounds presentations (evidence-based) during the year. • Supervise a minimum of one journal club (assist with selecting articles, analysis) during the year.
Research requirements <ul style="list-style-type: none"> • Conduct at least one active research activity. (Can be accomplished by working with a resident on their research thesis which hopefully will lead to an abstract submission.) • Supervise a minimum of two residents in their research projects (assist resident with the timeline that has been outlined for completion of a project over a 30-month period).
Evaluation/feedback requirements <ul style="list-style-type: none"> • Complete quarterly evaluations of residents you are supervising clinically and provide feedback to the resident. • Assure minimum number of evaluations completed by residents of 40% of teaching activities. • Complete monthly evaluation of FDP didactic sessions.

FDP = faculty development program.

institutions were located in New Delhi, Kolkata, Mumbai, and Calicut. The program participants who completed the program fulfilled all of the requirements and received certificates of completion. All didactic topics were completed over an 18-month time period, and ongoing communication and mentorship relationships persisted throughout that time.

Participants who completed the program requirements fulfilled a broad spectrum of activities. All reported positive learning and positive impact on their teaching skills as a result of the program. Research and administrative topics studied represented various topics, including toxicology, acute coronary syndrome, prehospital care systems development, infectious disease, training in resuscitation, and more. A total of 249 student posts were recorded in the online learning community, in addition to 57 instructor posts. Participants who completed the program were contacted via e-mail 18 months after program completion to

Table 3
Participant Comments Regarding FDP

Positive
"Some of the papers discussed still challenge me ... I miss the interaction and the regular pacing which I got through interacting with senior EM professionals."
"Managerial and organizational skills which I acquired during the FDP are helping me in day to day functioning as a senior emergency physician in a growing emergency department."
"After completing FDP, I feel that I can boldly give this certificate to any employer for a good job and position in any hospital where there are academic EM
Negative/constructive
"A proper structuring, regular assessments, and feedbacks from candidates and tasks need to be achieved for completion. I will also suggest some sort of exam/assessment of candidates at end of the program before they can be declared successfully completed."
"Regular teleconference group discussions with participants from all centers taking part actively; these sessions should be made points for assessment of participants through some form of marking system which should have a bearing on final course completion and certification."
"Suggest you to provide a certificate which is valid in U.S. also so that we can have some more training in U.S. itself which will help us in our career."

FDP = faculty development program.

report their academic productivity as well as reflections regarding the program. Some of these reflections are included in Table 3.

DISCUSSION

Program Successes

One of the major successes of this program is that at this time, eight of the nine program graduates are continuing to work in the field of EM in India, and seven of those are active in academic programs. Given the tremendous scarcity of academic EM faculty members overall in the country, every continued contribution is of vital importance. Of note, even the one person who is not actively involved in an academic EM program related a positive impact of the FDP acquiring knowledge and skills applicable to her current position. During the actual time period of the program, participants from various regions of the country were able to share experiences and discuss challenges in real time both via videoconference sessions and via the online learning platform. Participants were also required to maintain ongoing mentorship relationships with international academic faculty that resulted in significant satisfaction for participants. This kind of positive impact is commonly seen with FDPs and frequently described by participants.¹⁴

Productivity in terms of research projects and departmental quality projects was required. In the 2 years since the completion of the program, program participants collectively report 11 abstract publications, six paper publications, and having maintained a total of 71 mentorship relationships themselves. These outputs are undoubtedly related to the participants' affiliation with ongoing academic programs, where residents are required to complete an academic project as part of their program. We cannot say that the productivity is necessarily due to participation in the FDP, although prior study has shown measurable academic outcomes associated with faculty development.¹⁵ In any case, this degree of productivity is notable.

Program Challenges

In implementing this FDP, we learned numerous important lessons that would be important to consider in developing further programs, especially in an international context. First, when we planned the program, we envisioned a capacity for online collaboration and meetings as an essential piece of the program. Program sites were spread across the country of India, and despite their location in major cities in India, the actual capacity for programs to coordinate with online meetings and video conferencing was limited. Numerous meetings were either postponed or poorly attended secondary to accessibility issues. Ultimately, the program lasted for 18 months rather than the planned 12 months due to the ongoing issues with scheduling. Meetings that were held often times only connected two sites, rather than four. Those who were able to connect were very enthusiastic and communicative, but the inability to connect for other sites led to program fatigue and some participant dropout. We did not collect specific information regarding those individuals who chose to leave the program, but these decisions were made in conversation between mentors and participants. Anecdotally, most attrition was due to issues with scheduling and connectivity of didactic sessions. In future similar programs, an exit interview of all participants would be a useful addition. The program was established with no cost to participants, and in retrospect charging a fee could have facilitated a more advanced online community, which in turn may well have brought about a more functional program with better ability to collaborate via video conferencing and perhaps even better participant retention.

An additional challenge specifically relevant to faculty development in the international sector is the

prioritization of many health care systems on care delivery, often times at the expense of education and training. In our program, most participants are working in the private sector where there is little or no support for academic pursuit. While training programs are housed in these settings, faculty members are expected to work long clinical hours with little or no protected time. Regardless of a person's level of dedication to academics, specified job requirements come first. Numerous participants related frustration with this reality of their employment, but many of those who ultimately did not complete the program related this reason as primary in their attrition.

Finally, although our program on paper included numerous evaluation requirements, we did not effectively collect these evaluations. Of the requirements listed in Table 2, most of the information was collected informally by mentors or included in informal conversations. Effective evaluation of faculty development initiatives is difficult and is frequently cited as a priority area for future research.^{7,9,14} Future programs should prioritize data collection for evaluation to assure the impact of the program merits the time spent.

LIMITATIONS

The major limitation to our study was the selection of participants and mentors and the small number of participants. Participants were recruited from faculty members working at an affiliated program site to our institution, in India. Mentors were also selected from a limited group of faculty members with prior program experience in India. Each of these factors may have brought some bias to the study, given the existing and ongoing relationships. The small number of participants who completed the program limits the generalizability of the results.

CONCLUSIONS

Faculty development is considered an important component of mature academic medical systems, and in India there is ample need for further investigation and program development in this area, particularly in the nascent specialty of EM. Faculty development programs generally provide high participant satisfaction, as well as some changes in participant attitudes and changes in teaching behavior.¹⁴ It is much more difficult to evaluate the long-lasting impact of programs, although evaluation and measurement is necessary as

means of accountability.¹⁶ The pilot program described here provides a framework from which we hope that future programs can reach additional faculty. Its format addresses a breadth of topics important for development of mature academic faculty members. In this case, the complexity of the pilot program likely contributed to the attrition rate of participants and extended length of the program. In future programs, we would consider either increasing the timeline or decompressing the requirements to provide a higher chance of successful completion for all participants. However, the core components of a robust faculty development program are included in this format, and the implementation as such with effective evaluation tools will undoubtedly contribute to the continually advancing maturation of emergency medicine in India and other countries with similar context.

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