

# The “Case-Based Learning Conference” Model at EMINDIA2017: A Novel Implementation of Problem-Based Educational Paradigm

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## Abstract

INDUSEM was established as an INDO-US Satellite Knowledge Network in 2005. It brought together the academic leaders and innovators from India and the US with the goal of creating collaborative synergies and creative solutions to advance the knowledge and science of emergency medicine (EM) in India. Since 2005, the leadership of INDUSEM devoted substantial resources, effort, and expertise to ensure that newly implemented clinical institutes and training programs have the necessary resources and logistical support to effectively advance EM and Traumatology Sciences in India. As a result, significant synergies and progress were achieved toward establishing EM training programs and building clinical infrastructure through education, grant funding, research, skills development, bidirectional collaborations, and sustained influence on public health policy development. As INDUSEM's mission matures, its efforts will increasingly focus on creating long-term sustainability across clinical, didactic, educational, outreach, health policy, and research domains. In this joint statement, the authors describe the evolution of INDUSEM's institution of INDO-US Summit into the World Academic Congress of EM, with the parallel inception of an India-centric academic enterprise, EMINDIA.

**Keywords:** Case-based learning, medical education, problem-based learning

## INTRODUCTION AND HISTORICAL BACKGROUND

Since its inception in 2005, INDUSEM firmly believed in the principles of leadership, innovation, and entrepreneurship as the pillars required for sustainable development of both institutions and systems dedicated to the provision of emergency and trauma care.<sup>[1-4]</sup> INDUSEM models of trauma and emergency medicine (EM) education and research have constantly evolved since the program's inception, with emphasis on innovative and practical approaches.<sup>[1,2,5-7]</sup> During the first decade of operations, INDUSEM was successful in organizing annual INDO-US EM Summits which were dedicated to the development of academic EM, promoting education and research, training EM experts, and enhancing patient care.<sup>[8,9]</sup>

As they matured over the year, INDO-US Summits began attracting increasing number of high profile global partners

and members from around the world.<sup>[8,9]</sup> With the incrementally rapid growth experienced by this academic venture since 2012, the INDO-US Summit evolved into a truly global venture – the World Academic Congress of Academic EM.<sup>[9]</sup> At the same time, the need arose for a more India-centric academic forum, intended specifically for establishing and fostering the exchange of educational and research experiences within the fast-growing domestic EM expert community.

To address this unmet need, a new academic enterprise was formed – EM Association (EMA) India.<sup>[10]</sup> True to its innovative

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**How to cite this article:** Chauhan V, Galwankar S, Stawicki SP, Agrawal N, Krishnan SV, Bhoi S, *et al.* The “Case-Based Learning Conference” Model at EMINDIA2017: A Novel Implementation of Problem-Based Educational Paradigm. *J Emerg Trauma Shock* 2018;11:61-4.

**Received:** 25.07.17. **Accepted:** 01.08.17.

### Access this article online

#### Quick Response Code:



**Website:**  
www.onlinejets.org

**DOI:**  
10.4103/JETS.JETS\_81\_17

spirit, the leadership of the new venture harnessed the creative potential of the organization to create a novel and progressive educational approach to large group didactics – the case-based learning conference (CBLC) model. Implemented during the most recent EMINDIA Summit in July 2017, the paradigm was hugely successful, resulting in unprecedented levels of attendee engagement and high-quality clinical content. In contrast to some of the previous events, the EMINDIA 2017 witnessed lively case-based debates and discussions between residents, educators, and clinical leaders. The more controversial the case was, the more dynamic were the associated intellectual exchanges. Following this “trial run,” the stage was clearly set for inclusion of the CBLC format as a permanent addition to future Summits and satellite meetings.

### **INDO-US TO EMINDIA: THE SUMMIT IN EVOLUTION**

The INDO-US Summit, organized by the emergency and trauma collaborative, has become an annual tradition. This academic conclave provided a robust forum for knowledge exchange, enabling healthcare innovators and academicians from around the globe to meet, network, and establish vital links that facilitated continuous development of academic emergency and trauma sciences in India.<sup>[11,12]</sup> The specialty of EM continues to evolve rapidly, including the emergence of specialty certifications, board examinations, and subspecialties.<sup>[2,7,13,14]</sup> Ultimately, the success and wider recognition of EM contributions will be predicated on the specialty’s ability to reliably provide high-quality patient care, utilizing adequately trained physicians and nurses, and a robust system of competency maintenance, including up-to-date knowledge and skills. Knowledge and education are inextricably tied – knowledge is generated from the synthesis of innovative research and clinical experience, while education is instrumental in disseminating knowledge. It is with the above premise that the INDUSEM team has devised the novel CBLC methodology to help reinvigorate the educational experience of the current and future EMINDIA Summits.<sup>[15]</sup>

### **THE EMINDIA-CASE-BASED LEARNING CONFERENCE MODEL**

EMINDIA has been conceived as the premier annual conference of the Academic College of Emergency Experts (ACEE) and the EMA of India. EMINDIA leadership and planning committee decided to proceed with an orchestrated effort to deviate from the standard conference style consisting of workshops and didactic lectures. Instead, the committee adopted a more progressive and innovative style of case-based education.

At the present time, EMINDIA is India’s only national conference dedicated to provision of high-quality, case-based education in emergency care. Following in the footsteps of the decade-long tradition of INDUSEM Summits, EMINDIA 2017 assumed the role of the most prestigious

and academically rigorous forum for scholarly excellence in the areas of EM and Traumatology. Furthermore, EMINDIA 2017 incorporated an open access academic platform which provided the unique opportunity for clinicians to interact using the INDUSEM “CBLC” model. The implementation of CBLC stems from the INDUSEM’s pragmatic, realistic, practical, and patient-centered approach that is intended to effectively promote emergency and trauma knowledge across India. Our educational and event planning expert team at INDUSEM gained increasing appreciation over the years that “Case-Based Learning” (CBL) is a much more effective way of didactic and educational engagement between experts and trainees.

As implemented by the EMINDIA2017 planning committee, the CBLC model was created to offer clinical educators, clinical-care providers, and clinical academicians, an opportunity to dynamically interact using case presentations. Using captivating clinical scenarios, our delegates had a unique chance to interact with top national and international experts. Moreover, our subjective observations indicate that both the level and quality of interactions among the Indian leaders of EM were also greatly enhanced.

Didactic sessions have been the mainstay of all academic conferences in India, including the earlier INDUSEM Summits.<sup>[8,9]</sup> Over the years, our leadership group implemented a rigorous process of postmeeting assessment of programmatic and curricular effectiveness. This, in turn, led us to a realization that concepts in EM and Traumatology are better understood by attendees when case-based scenarios are utilized as the primary educational modality. CBL has been shown to more effectively deliver core curricular elements, including better contextualization and explanation of difficult concepts.<sup>[16-18]</sup>

Among various educational approaches, CBL has been shown to be superior over traditional didactic lecturing. Other techniques that may increase the effectiveness of learning include (a) the so-called “pause procedures” where a brief break is built into a learning session to allow learners to clarify and assimilate information; (b) the “1-min paper” approach which is a type of pause procedure where the moderator poses a question to the group related to the information that was just presented and asks them to write down their response; (c) the “muddiest point” technique or a type of pause procedure where learners reflect and share areas of confusion; and finally (d) the “role play” approach in which learners act out a part or a particular viewpoint to better understand the concepts and theories being discussed.<sup>[18]</sup> Consequently, after careful introspection and strategic deliberations, the leaders of INDUSEM, EMA, and ACEE finalized the CBLC model to be the most appropriate conferencing format to ensure both the attractiveness and sustainability of the EMINDIA Summit as a premier EM and trauma educational venture.

### **EMINDIA 2017 CONFERENCE REPORT**

The 2017 conference was a 5-day Marathon event of the EMA and the ACEE in India. The Congress was held in New Delhi

from of July 12–16<sup>th</sup>, 2017.<sup>[15]</sup> The focus of EMINDIA 2017 was to inaugurate the newly implemented CBLC model, where all deliberations and discussions revolved around cases involving a broad range of emergency and trauma topics typically encountered in emergency departments (EDs) around India. As outlined in the previous section of this report, this approach represented a significant paradigm shift from the “static” didactic lecture model where the audience is merely a “passive spectator” and little time and scope are dedicated toward discussions of any areas requiring further clarification.

## THE FIRST NATIONAL CONFERENCE WITH 100% CLINICAL CASE FORMAT

EMINDIA 2017 began on July 12<sup>th</sup> with a quality improvement workshop held at All India Institute of Medical Sciences (AIIMS) in New Delhi. For many participants, the in-depth, case-based curriculum on the fundamentals of quality and process improvement in healthcare was a true “eye opener.” Attendees learned the best current practices in this critically important area, including concepts such as “fish bone” analysis, and the “plan-do-study-act” paradigm.<sup>[19,20]</sup> The overarching goal was to familiarize the audience with setting up institutional cycles that result in safer care delivery, improving efficiency, and better working ED environment. A new experience altogether, the workshop was enjoyed by all the participants who actively participated in the innovative activities during the workshop.

The art and science of emergency bedside ultrasonography (USG) evolved substantially over the past two decades.<sup>[21]</sup> Congress activities on July 13<sup>th</sup> were centered on emergency ultrasound education, including the “educator training program.” This unique initiative was dedicated to “teaching the teachers how to teach” EM-USG. During various practical workshops, attendees learned different nuances of EM-USG, from basic to advanced, as taught by top world experts from AIIMS, New Delhi. The art of imaging in EM is now pacing up across most academic departments of EM in India. The impact of USG workshops was visible through the case presentations where presenters incorporated problem-based USG videos from their ED practice to explain some rare findings while focusing on practical aspects of image acquisition and operator techniques.

The morning session on July 14<sup>th</sup> featured the annual meeting of the EM Council of Residency Departments in India. Focus was placed on developing a road map for standardizing resident education, encouraging multicenter research, and optimizing patient care. The meeting was characterized by significant progress in both strategic planning and implementation of key points across all domains discussed.

The VISION 2025 Summit took place in the afternoon of July 14<sup>th</sup>. The venture is a collaborative effort between AIIMS and World Health Organization (AIIMS-WHO) to develop and nurture academic EM in at least 85% medical colleges

in India by the year 2025. The meeting was attended by the representatives from all States of India, the Medical Council of India, the Indian Army, the National Accreditation Board for Hospitals, and the WHO. Representatives from different States presented various challenges and opportunities specific and unique to each region. In addition, areas of commonality were also defined and corresponding opportunities identified. The discussions and policy decisions made during this high-level meeting are expected to bear fruits for the EM well into the future, with various stakeholders now firmly committed to uniting their efforts to take initiatives in developing academic EM in the medical colleges throughout India.

The main event, EMINDIA 2017, took place on July 15<sup>th</sup> and 16<sup>th</sup>. The Congress was packed with a multitude of case presentations and high profile, clinically-oriented panel discussions. All CBL sessions were moderated by the EM leaders from across India, who guided individual case discussion and the associated question-answer sessions. Case presenters were invited to attend from all over India, with each vignette incorporating clinical themes characteristic of the presenter’s geographic region. To maintain content flow throughout the conference, case presentations were given a strict time limit to allow ample audience interaction and moderator questioning.

Thematic sessions had catchy names, critical to keeping the audience interested and optimizing session attendance. Some of the more original session titles included: “The last supper: Story from Meghalaya;” “To PE or not to PE;” “Breaking the walls of convention;” “Where your FAST examination can go wrong;” “The deadly face of a familiar friend;” “Usual chest pain with unusual diagnosis;” “Killer Incognito;” “Hot and short in tropics;” “The mysterious blue poison;” “A scar-y map;” “What the mind doesn’t know eyes can’t see;” “Ongoing CPR: Going beyond the boundaries;” “It’s winter on the ECG lad!” and “A tale of incessant VT.” As previously outlined, the combination of highly relevant content and the CBLC format made the Congress a huge success.

Participating residents and other trainees were also exposed to high-yield knowledge in the form of “clinical pearls” provided to the audience by the panelists, again focusing on the most important didactic points associated with each clinical scenario being presented. Furthermore, evidence-based discussions were incorporated by the panelists, making it simpler for trainees to grasp some of the difficult concepts or more complex topics. Panel discussions were followed by audience interaction where residents were given a chance to ask both presenters and panelists case-specific questions. Overall, this simple and efficient didactic format made conference participants feel integral to the entire educational process. Among other major attractions for residents and other trainees included:

- ED Jugaad: The Display of Ideas to improve patient care “Frugal Innovation”
- Research Presentations
- EM-iQ: National EM Quiz – a huge success that attracted a large number of medical students and residents.



## CONCLUSION

The decade-long effort of the INDUSEM leadership, including top EM leaders from India, resulted in the creation of EMINDIA as the premier, domestically-driven, pan-India EM physicians' conference focused on patient care. In addition to the pioneering nature of EMINDIA enterprise, the inclusion of the innovative CLBC paradigm was a major improvement over previous EM meetings in India. This unique, case-based model added immensely to the learning effectiveness and the overall success of EMINDIA 2017. Faculty and attendees, including residents and students, have witnessed the beginnings of a renaissance for EM in India. Equipped with our experiences and innovative didactic approaches, we are confident that EMINDIA conferences in future continue the rich tradition of academics, entrepreneurship, leadership, research, and innovation alive for years to come. Given the accelerating growth of EM in India, we expect the emerging leaders of EM from India to increase their contributions and lead large international EM efforts. The commitment to education research and innovation among EM experts in India began with INDUSEM and will continue through EMINDIA.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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