White Paper on Emergency Medicine Education and Training in India: Where are we now and where should we go next?

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Emergency Medicine: The Indian Context

Emergency Medicine is a relatively new specialty throughout the world. 2017 marked the 50th year of inception of emergency medicine in the United Kingdom, the 50th year of the American College of Emergency Medicine and the 56th of the inception of emergency medicine in the United States. In India, emergency medicine gained official recognition as a specialty from the Medical Council of India in 2009.[i] The need for emergency medicine in India is immense, particularly in consideration of the changing burden of disease. Consider this reality: there are likely more myocardial infarctions in India than any other country in the world, and ischemic heart disease is the leading cause of death in India.[ii,iii,iv] Injury is the second most common cause of death after the age of 5 in India, and it is estimated that in 2016, 415 people die each day due to road traffic injuries, including 29 children. This number represents a staggering 32% increase in road traffic fatalities since 2007.[v] Communicable diseases persist throughout the country, with persistently high burdens of disease secondary to malaria and tuberculosis, while non-communicable diseases (heart attacks, stokes, asthma, chronic lung disease, pregnancy related deaths, etc.) account for 57% of mortality among 30 – 69 year olds.[vi]

While primary prevention and vertical programs are essential to manage the burden of both communicable and non-communicable diseases, they do not provide the complete solution. For many people, particularly the vulnerable and those with limited access to healthcare, their first encounter with the health care system is during an acute illness or injury. For these patients, the emergency care system provides life and limb saving interventions during the acute event while also serving as a gateway to secondary care and an initial contact point for implementing primary prevention strategies.

Prior to the 1960s, emergency care was delivered in a disorganized manner by any willing physician or surgeon in casualty departments across the world.[vii,viii] Most viewed this work as burdensome and as an interruption in their career progression. However since then, emergency medicine has rapidly evolved and established itself as a key specialty gaining recognition throughout the world with over twenty international journals related to emergency medicine in publication. The key strength of emergency medicine lies in its horizontally integrated structure which incorporates key knowledge and skills of traditional specialties, along with advanced resuscitation skills that focus exclusively on dealing with the acutely ill and injured. A well-trained emergency physician has capacity to effectively care for any patient that arrives at the hospital, providing potentially life-saving

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interventions in a timely fashion while providing the link to the rest of the health care delivery system. The efficacy and value of Emergency Medicine has been proven, and the saved lives of patients every day continues to make the case.[ix] Emergency medical care augments specialty care by allowing the specialist to focus on specialty care, knowing that timely initial critical emergency evaluation and stabilization has been addressed by the emergency medicine trained physicians.

Emergency Medicine Training: The Gap

Given the centrality of emergency medicine in the delivery of care in the wider health system, many countries have accelerated their aspirations to increase the number of trained emergency medicine doctors. In the United Kingdom National Health Service there are approximately 6,626 doctors providing emergency medical care for a population of 66.6 million, while in the United States there are 53,000 practicing EM physicians for a population of 325.7 million people.[x,xi] In Singapore there is one emergency physician for every 10,000 people.[xii] Although emergency medicine was recognized by the Medical Council of Indian in 2009, the progress towards filling the gap for education and training in Emergency Medicine through recognition of MD and DNB programs has been slow. In 2018, the Medical Council of India had fully approved only 73 training seats for Emergency Medicine within the MD programs in India, offered in only 29 out of 460 medical colleges in India covering just 8 states and 2 union territories of the country. In 2014, the National Board of Examinations, which oversees training in hospitals not attached to medical colleges in India, recognized emergency medicine as a specialty and set out their curriculum and emergency medicine examination process. In 2018, the DNB in programme offered an additional 121 training positions, although 52 seats remained vacant in the July 2017 intake.[xiii,xiv] As a comparison, there were 2278 residency positions offered and filled in Emergency Medicine in the US in 2018.[xv]

Through current traditional training pathways like the DNB and MD programs, India is currently able to train only 194 emergency physicians per year, presuming all available seats are filled. This is woefully inadequate for a country with a population of 1.324 billion people. Using the United Kingdom and Singapore as comparisons, India would need to have approximately 132,000 practicing EM physicians to achieve similar proportions of emergency medicine physicians. Continued training efforts in India at the current pace will never fill the need for trained EM physicians. The current situation does not allow for provision of adequate emergency care to patients in the ED, which is mandated by law and a fundamental right of citizens. Also compounding the lack of an adequate emergency trained physician workforce is the fact that many of the few trained emergency physicians from India are being actively recruited to fill gaps in other countries, despite the urgent need in India.[xvi]

Emergency Medicine Supervision: The Paradox

One of the main barriers to increasing the number of training seats is the lack of recognition of adequately trained EM supervising faculty. For example, for a DNB seat to be accredited, the National Board stipulates that hospitals must have three full time EM consultants including a full time senior consultant with an MD in emergency medicine or related speciality, have eight years post graduate experience and their primary place of clinical work should be the emergency department.[xvii] This requirement is obviously almost impossible to fulfil for a new specialty. Excellent EM faculty who have received training through alternative pathways are not recognized, despite their clinical excellence and leadership roles in changing the face of Emergency Care to this

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point in India. Failure to recognize trained EM faculty is detrimental, and ultimately dangerous.

This short-sighted requirement has created a frustrating paradox for medical institutions and hospitals keen to meet their growing clinical needs and their desire to providing high quality, timely, life-saving emergency care. Yet, to remain engaged with traditional training pathways, many institutions and hospitals applied for MD and DNB accreditation by nominally, not actually, meeting the unrealistic faculty requirements. This has unfortunately proven to be a flawed attempt to rapidly increasing EM capacity with many DNB and MD seats now being de-recognised. Most recently, inspections by the regulators have resulted in numerous DNB programs in EM being served notices to shut down due to the failure of meeting these faculty requirements. Further, the high vacancy rate of nearly 43% in programmes like DNB may well be a reflection of their limited training commitment and the poor training experience. MD programs too have been described as having compromised clinical teaching, further compounding the problem.[xviii] In the end, the strength of a speciality medical education training programme lies in the quality of training, education and supervision provided through dedicated, experienced, committed educators and mentors. The decision not to recognize and capitalize on the experience and dedication of existing EM physicians within India is a critical mistake in moving the specialty of Emergency Medicine forward.

Emergency Medicine Capacity Building: A new model for India

The health care sector is actively growing in India, partially responsive to the shifting burden of disease combined with rising income level, greater health awareness, and improved access to insurance.[xix] This growth is occurring in both the private and public sector, and is expected to continue and likely accelerate. The constitution in India supporting the preservation of human life has resulted in a legal framework requiring the provision of emergency care to all people in both the private and public health care system.[xx] Hospitals are thus required to provide much needed emergency services, yet desperately struggle to meet the recruiting needs to provide appropriately trained physician and nurses to staff these emergency departments. The traditional model of staffing these emergency and casualty departments with medical officers who are often transient staff is simply unviable and unacceptable.

Given the significant gap in emergency medicine training, the supervision paradox, the shift in the burden of disease and the growth in the healthcare industry in the last two decades, it is not surprising that various alternative training pathways for education in Emergency Medicine have emerged. Hospitals are recognizing that in order to have a skilled and stable staff of frontline doctors, they must provide high quality training to compete for the best doctors. This has meant that India is seeing a shift of emergency medical training from the medical colleges to the private hospitals. The “Masters in Emergency Medicine – International” (MEM) program was initially started in 2006, as a capacity building partnership program between the Ronald Reagan Institute of Emergency Medicine at the George Washington University and various private institutions around the country. This program is not unique as a partnership program in India or in other parts of the world for education and training in Emergency Medicine, but at this time it is the biggest of the capacity building partnership programs, as far as we are aware, in the world.

The MEM program has foundation in quality education and training, integrating a standardized curriculum, with modifications for local context, and ultimately amplifies the effects of international partnership.[xxi] The

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program is modelled after one of the oldest EM residency training programs in the US at the George Washington University School of Medicine & Health Sciences, including the following program elements: 6 hours of program didactics weekly, attendance requirements, strict leave allotments, a thesis requirement, required resident and faculty evaluations. Strict hospital standards, patient volume requirements, and local faculty standards are prerequisites to start a program. Local faculty teaching and supervision is augmented with monthly EM faculty visits from international faculty members, and programs are supervised by senior international EM faculty members. The program has a 36-month modular curriculum, as well as monthly exams, formative and summative assessment throughout the year culminating in a three day written and practical end of program exit exam. Adequate numbers of residents are recruited to each site to achieve a learning environment similar to international standards.[xxii] All requirements must be met in order for physicians to receive a certificate of completion.

The MEM program has graduated a total of 360 Emergency Physicians since 2007. A survey of graduates conducted in 2015 showed that 98% of survey respondents were still practicing Emergency Medicine, with 70% involved in academics and teaching, and 36% involved in research. 85% reported ongoing involvement in education and outreach activities, ranging from nursing education to community education to prehospital care development.[xxiii] An evaluation investigating the impact of the EM education and training program on the hospital system revealed that 96.5% of stakeholders including hospital administrators, consultants, faculty and ancillary staff believe that the education and training program has positively affected patient care.[xxiv] This partnership program is one example of the numerous education and training programs that currently exist in India. Other examples include the locally designed and delivered residency training programs modelled on the Membership of the Royal College of Emergency Medicine exam (MRCEM), the SEMI-MEM programs, and Diploma in Emergency Medicine programs. Each of these programs have slightly different structures and aims, and vary greatly in their faculty structure, curriculum and examination structures.

Recent press and notices regarding the illegality of Emergency Medicine courses not official recognized by MCI must be considered both dangerous and detrimental. Currently, the GWU-MEM program partnership programs far exceed the structure, faculty oversight, and rigorous evaluation of most, if not all, MD and DNB emergency medicine programs in India. How can a health system with such vast need afford to simultaneously discredit its own trained physicians? The partnership programs are education and training programs, producing high quality physicians, researchers and faculty members. Further, training and 'upskilling' initiatives undertaken by individual hospitals and institutions with an aim to improve the quality of emergency care delivered to their patients, must be commended, as they seek to find alternative solutions to improve the quality of training for their front line doctors who are the first to deal with the most critical patients in the hospital. The group most vulnerable to a downturn in Emergency Medicine physicians and training programs is patients, a risk no one can afford.

A call for collaborative and innovative solutions.

In order to fill the enormous gap in trained Emergency Medicine Physicians in India, it is important that various stakeholders work together to build a system that is poised to provide the best care possible to the people of India. Various education and training programs are warranted to scale up care in the short term, including knowledge building programs for

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existing practitioners, casualty officers, primary care physicians and community practitioners, and the many other providers who are currently working on the frontlines. Equally crucial to filling this gap will be continued development of residency training programs, and development of faculty development programs for teachers and researchers in Emergency Medicine. An interim policy of grandfathering Emergency Physicians with certain levels of training or experience has precedent in other countries, and makes obvious sense in India given the tremendous need. These strategies are not permanent, but should be carried out for an extended period of time given the tremendous gap in trained providers. Integration of Emergency Medicine curriculum throughout medical school education is also necessary.

Simultaneously, capacity building in both structure and equipment for both in-hospital and pre-hospital care is essential. Identification of essential priorities particularly in the peripheral hospital setting, combined with effective means of transport to higher levels of care will be important to bringing good emergency care to all the people of India.

Strategic Priorities

The need for Emergency Medicine training in India cannot be overstated. The current scenario of diminished staffing models and training programs is a criminal miscalculation towards meeting the fundamental right to health and life for the citizens of India. The most pressing priorities at this time are essential to elevating the specialty include:

- Current system of training in Emergency Medicine in India requires a comprehensive inspection to evaluate feasibility, efficacy, evaluation, training, and recruitment, and determine best practice strategies for filling the existing positions, assuring quality of training, and expanding to fill dramatic training need.
- Grandfathering clause for EM physicians is necessary to elevate the specialty and provide pathways for further expansion of education and training goals.
- International collaborative partnerships training programs including the MEM program should be recognized as important to building capacity in the face of immense need for trained physicians. The capacity for EM training programs needs to dramatically increase in India and ALL existing training programs should undergo rigorous outside review by a panel of academic EM experts utilizing agreed upon stringent program evaluation tools.
- Broader faculty development and definitions of qualified faculty are essential to allow those practicing EM physicians to spread their knowledge and experience.

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