

# Future Challenges in Medical Education in the Indian Subcontinent

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## ABSTRACT

India and the Indian subcontinent is the most populated geographical area of the world (1.2 billion in India). Also medical needs of this subcontinent are the biggest in form of trained manpower and resources.

Human resources for health are all individuals engaged in promotion and protection or improvement of health (WHO 2007).

Indian subcontinent specially Indian has the largest number of medical colleges (350 in Indian) and we treat a significant number of medical tourism (second after Thailand), this is a reflection of the high level of medical expertise we possess, yet the paradox is that majority of our citizens have limited access to quality health care.

Why such a situation has arisen in India, we try to analyze by relooking at the clinical settings where doctors avail training.

This review aims to look at the challenges of medical education and role of professional organizations like FOGSI, ICOG, ICMU, IFUMB and IMA in training and educating the practising gynecologists in the field of Obs/Gyn ultrasound.

**Keywords:** Medical education, Ultrasound course, Medical council, Medical colleges.

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## INTRODUCTION

In recent years, political systems, epidemiological and demographic patterns, microeconomic strategies, technology, and health care systems have undergone profound changes. To cope with these changes, educational institutions around the world have been increasingly confronted with the challenge of making their curricula more meaningful and relevant to the needs of the time to produce doctors oriented to the real needs of the community. Many authorities highlighted the need for reorientation of medical education and suggested strategies for direction of such changes. For example, 'The Edinburgh Declaration' of World Federation for Medical Education (WFME) and 'Tomorrow's Doctors' of General Medical Council (GMC) of UK, outlined a number of specific strategies to guide reforms and bring need-based changes in medical education. The Edinburgh Declaration, now translated into all major languages, has been very widely adopted as basis for reform of medical education. Most of the medical schools in Asia

have traditional, teacher-centered and hospital-based training with a few exceptions only. Educational innovations and experiments are not quite evident in this region as seen in other parts of the world. Medical teachers, planners and policy makers are to be well-informed of such trends and utilize these in planning, implementing and evaluating training programs to increase relevance and quality and to produce need-based human resources for health for the region. The purpose of this paper is two-fold:

- To discuss innovative strategies and emerging trends, which have been successfully adopted by educators around the world for the reorientation of medical education to overcome existing traditions of educational planning, review and development and
- To highlight their implications and importance to initiate need-based reforms of medical training in South-East Asia.

## THE INDIAN PROBLEM

Visit a country of paradoxes. India has the largest number of medical colleges in the world (more than 350), and we get a significant number of medical tourists, a reflection of the high-level of medical expertise that we possess. However, a majority of our citizens have limited access to quality health care—less than half of our children are fully immunized. Similarly, the minimum of three checkups during pregnancy remains unavailable for half of our pregnant women. To understand this anomaly, we have to go back to the clinical settings where doctors avail training.

### Problems at the Macrolevel

Controversies, discussions and conflicts surrounding the state of medical education in India are like the common cold—it keeps surfacing every now and then. The challenges that it often confront are that of poor government control over the accreditation process, lack of skilled faculty, curriculum with inconsequential detail, complicated nature of the selection process, etc. Garima Ray, Student, KJ Somaiya Medical College and Research Centre, Mumbai, says, 'There should be a proper induction program in terms of introducing students to the world of medicine. In the introductory year, when class XII graduates step into medical schools, life is not a cakewalk. We are shocked by

the sight of bodies, urine examinations and blood tests. By the time we overcome our inhibitions, 7 months would have gone by. Only in the 2nd year, do we get used to the surroundings and recoup our spirits.'

BM Hegde, scientist, and author, notes, 'Key players have questioned the validity of selection on the basis of premedical tests consisting of multiple choice questions. The universities are just degree-selling shops. Medical schools should make radical changes in the curriculum, adopt innovative pedagogical strategies for enhancing students' learning, improve the methods used to assess students' performances, and focus on the professional development of faculty as teachers and educators.' Garima adds, 'In India, we follow a rote method of learning, so the clinical bedside knowledge is far below the requirement. How is this going to make us reliable doctors? While preparing for PG exams to study abroad, one realizes the importance of adequate clinical skills. The system must emphasize more on this than on distinctions.'

### CHALLENGES AND IMPLICATIONS FOR MEDICAL EDUCATION IN SOUTH-EAST ASIA

Like other parts of the world, medical education in South-East Asia has also experienced many changes and challenges over the last few years. The countries of the region have taken initiatives with the help and support of international organizations (e.g. WHO, World Bank, Overseas Development Administration, UK, etc.) to reorient their medical education in order to meet the emerging community needs. The profile of the doctor has been refashioned; the curricula has been reviewed with an increased use of community as learning resource; innovative approaches to medical education, such as problem-based learning and community-oriented education have been adopted; greater flexibility has been introduced into the educational programs; teachers' training on medical education has been initiated; and quality assurance, accreditation and curriculum evaluation mechanisms are being implemented. The establishment of medical education units in many medical schools and initiation of teachers' training programs in recent years have led to increased interest in teaching methodologies and sporadic research activities in medical education. The overall outcome is not frustrating, rather encouraging, as an 'educational environment for change' is beginning to emerge in the arena of medical education. However, the challenge ahead for improving the standard of medical education in South-East Asia is enormous and is not an easy task. Political commitment and leadership in the arena of medical education is urgently and acutely needed with provision of allocation of enough funds and

resources. The following general recommendations are put forward to improve the medical education in South-East Asia in the light of trends discussed above:

1. The mission and objectives of medical education should be determined by priority health needs and health problems prevalent in the community. Medical education needs to be planned and implemented with full awareness of the aims and demands of the health care services including consistent integration of the sciences of medical practice.
2. Educational program:
  - Educational principles should be student-centered with provisions for self-directed learning, early clinical contact and early contact with health care services. Design and implementation of the curriculum should demonstrate that content and balance of the curriculum and its assessment matches the explicit objectives of medical education.
  - Core curriculum encompassing the essential knowledge, skills and appropriate attitudes to be attained by the graduates should be outlined. It should be augmented by a series of special study modules, which allow students to studying depth areas of particular interest to them. The core curriculum should be system-based and integrated, to break the rigid preclinical/clinical and departmental boundaries. Basic science teaching should be relevant to the overall objectives of the medical course and its relevance should be clear to the students.
  - The theme of the primary health care should figure prominently in the curriculum, encompassing health promotion and disease prevention, assessment and targeting of population needs, and awareness of environmental and social factors in disease. Special emphasis should be given to priority community health needs and issues.
  - Teaching and learning methods should be consistent with medical education objectives and promote student-centered and competency-based learning, simulate analytical and problem-solving abilities, and foster lifelong learning skills.
  - Use of extended learning settings, including primary care and nonmedical settings, is needed. Community-based teaching should be introduced very early and must continue throughout the educational program. Medical institutes should have access to all the clinical facilities of the entire community, at all stages of the curriculum, for placement of the students. Clinical teaching settings should be extended to rural, urban, suburban, community and

private hospitals, in general practice, in community health centers and other settings which will allow students to gain the necessary clinical experiences of ambulatory care.

3. Medical schools should have policies for recruitment of quality teaching staff, staff development and review, promotion and posting.
4. Medical schools should have adequate teaching facilities and library resources to achieve objectives of the medical schools.
5. Medical colleges should have continuous and inbuilt curriculum evaluation mechanism to receive feedback from the stakeholders and to bring changes accordingly.
6. Governance and administration:
  - Medical colleges should have sufficient autonomy to be able to direct resources to achieve the overall objectives of medical education.
  - Medical, dental and nursing colleges and other health care professions should be put under the same umbrella (for, example under the faculty of health sciences) to promote multiprofessional education and ensure effective integration.
7. In addition to social needs, medical schools need to continuously adapt to changes in scientific, educational and health practices worldwide. Accreditation, quality assurance and best evidence-based medical education should be the basis for such initiatives and changes.

## VISION 2015

The Medical Council of India's (MCI) Vision 2015 draft committee report has proposed sweeping reforms. The report cites three main reasons for India's health care woes—shortage of physicians (both generalists and specialists), inequitable distribution of manpower and resources, and deficiencies in the quality of medical education. They have proposed the following reforms: increase production of doctors, curricular reform, lay emphasis on primary health care and family medicine, and strengthen medical institutions by investing in technology. 'At the essence of curricular reform is the transition from a science-based curriculum to a skills and competency-based curriculum. The final goal, as the report states, is to produce world class Indian doctors', says Dr Vishal Marwah, physician leader and health promotion consultant.

Dr Narendra Saini, Secretary General, Indian Medical Association (IMA) feels the proposed reforms are a half-hearted attempt. 'Earlier, MCI had announced that National Eligibility cum Entrance Test (NEET) is necessary for admissions to undergraduate and postgraduate courses in all government and private medical colleges that come under

the ambit of IMC Act, 1956. However, after hearing the pleas of opposing states and private medical colleges, the Supreme Court on December 13, 2012, permitted them to conduct entrance examinations but restrained them from publishing results till the outcome of pending cases. Uncertainty continues and imagine the plight of students,' he says. Divya Aggarwal, a Student of Lady Hardinge Medical College, laments, 'It is seriously pathetic on the part of the government to treat us like guinea pigs, starting something which they are not sure of, bringing forward exam dates and postponing the results; what an immature step!' MCI is finally going to conduct NEET for undergraduate admissions on May 5.

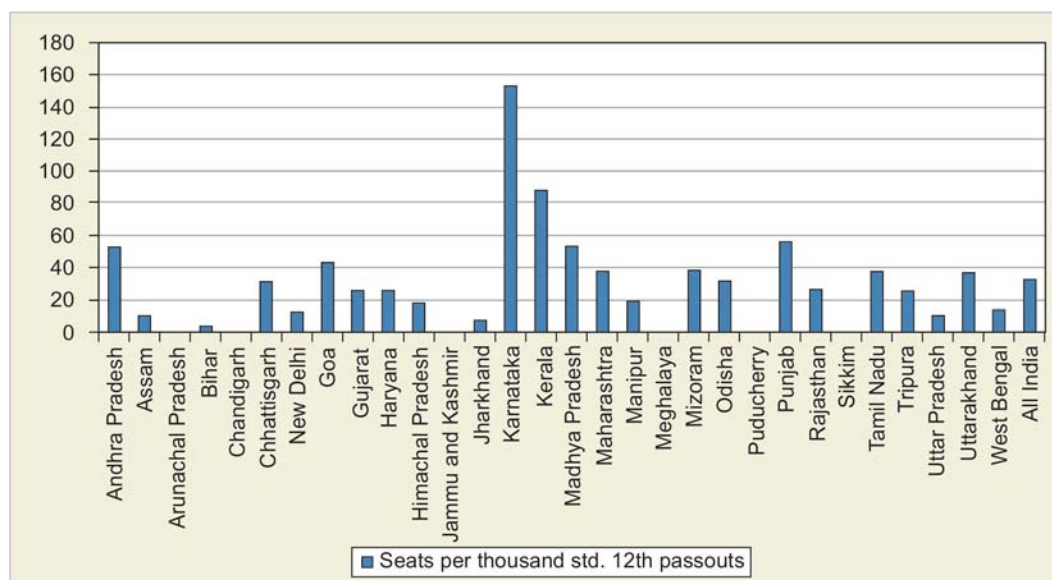
## Infrastructure

To address the issue, we need to understand the medical education scenario in India. Based on a 2010 report, which is available on the website of Union Ministry of Health and Family Welfare, there is considerable disparity in availability of opportunities for students across states (Graph 1). Such disparities also suggest that there is no such concept called India as far as medical education is concerned with states like Assam, Bihar, Jharkhand, Uttar Pradesh and West Bengal barely visible on the graph. Just four states—Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu—constituting for just about 20% of India's population account for about 1.3 lakh out of nearly 2.4 lakh seats across India.

## More the Merrier

The aftermath of such inequalities has led to irregularities as well as concentrated effort by lobby groups. Dr Devi Shetty, Former Governor of MCI and Chairman, Narayana Hrudayalaya (NH), says, 'India has approximately 300 medical colleges producing 30,000 to 35,000 graduates every year, whereas the need is that of 500 new medical colleges, producing 1 million doctors every year.'

By creating new medical colleges, we bring in uniformity, fill the demand-supply gap and even beat the constant breach of racial and cultural diversity among students. Dr Shetty says, 'The MCI's ruling that a medical institution shall have a unitary campus of not less than 20 acres of land is unwanted. For instance, Guy's Medical School, London, is spread across three acres of land and is one of the best in Europe. This is what we need to follow. Along with it, East and North Indian state governments need to change their myopic view with regards to setting up new institutes.' Dr Alfred Daniel, Principal, Christian Medical College, Vellore (CMCV), adds, 'Central and State Governments may look at public-private partnership models for constructing new medical colleges in states, which are identified as needy areas.'



Graph 1: PFA seats per thousand class XII graduates

## The Bigger Picture

Hegde believes health care leaders who possess an interdisciplinary view to reform the system are the need of the hour. Dr Marwah urges us to look at the bigger picture. 'It is quite alarming. Amidst all the nit-picking and finger-pointing there has been little substantive and meaningful conversation. Despite various levels of diagnosis, surprisingly the right questions have never been asked. Some of them are: what values should the new medical education system espouse at its core? What type of professionals are needed to address the emerging health care challenges in India? And the much broader issue—what model of health care system should India back as we undertake a health care transition over the course of this decade?' he asks.

## Social Accountability

There needs to be a strong desire to better align medical education with societal needs and expectations than work in isolation. If all of this sounds utopian, one may want to look at models like CMCV, where there is a strong emphasis on values, and sensitization to social and rural issues. 'At CMCV, medical education aims to progress by training compassionate, professionally excellent and ethically sound individuals who will go out as servant leaders of health teams and healing communities. Their service may be in preventive, curative, rehabilitative or palliative aspects of health care in education or research. Here, students get a wide exposure on various aspects of the health care ministry ranging from primary health care in villages to various postgraduate and super specialty courses, and research opportunities,' says Dr Alfred.

## Super Specialty Craze

It is an undisputable fact that we need to deliver the 'right kind' of health professionals, who are qualified to address everyone's needs but unfortunately needs vary considerably. It may vary from providing quality health care in remote corners of rural India to treating complex and rare illnesses by using the latest medical technology. Colleges must be able to provide a glimpse of all these aspects to students.

As MBBS students are unable to find jobs, they are forced to specialize in a particular field. 'Specialization in medical disciplines is becoming an essential requirement. This may be due to the trend in (bio) medical sciences toward increased dependence on technology, and the desire to migrate to first-world countries or live in areas that have advanced medical facilities,' says Hegde, who authored what doctors don't get to study at medical school. 'The importance of research and teaching, which is the essence of postgraduate medical education, has just been usurped by the market of specialized clinical practice. At the same time, private health care is ailing under the weight of unhealthy competition, which has resulted in unreasonable medical practices and unwarranted diagnostics, which may be socially wasteful and personally taxing.'

As a result of this tunnel vision, research has been sidelined. The other casualty of this system is rural health services. 'Each medical college needs to identify its strengths, and prioritize its focus in conjunction with state health authorities and state medical education authorities. The colleges can then guide their students along these lines,' says Dr Alfred. Dr Marwah believes the Indian health care system should incorporate the psycho-socio-ecological (PSE) model of health and wean itself away from the existing



biomedical model of disease, as PSE embraces the theory of social determinants of health and lays a strong emphasis on health promotion and disease prevention.

### Model Systems

Considerable progress needs to be made in medical education pedagogy. Schools need to incorporate problem-based and team learning, group discussions, and learning through simulation. The curricula also need to include interprofessional and community-based education. Hegde vouches for 'Whole Person Healing', which combines alternative medicine with the power of modern sciences to advance human healing. American Medical Schools are already integrating complementary and alternative medicine (CAM) into existing course work. The initiative includes a mind-body class to help students use techniques to manage their own health and improve self-care. The School of Medicine in Georgetown University, USA, has seamlessly weaved CAM into existing classes. For instance, an acupuncturist gives a presentation on 'anatomy of acupuncture' for first-year students. The students then explore how acupuncture can be applied to alleviate pain in neurosciences.

The use of health information systems (electronic health records, mobile health applications, telemedicine, etc.) has made it possible to shift tasks that were earlier done by physicians to health care workers, without affecting the quality of care. Doctors need not be physically present in village clinics and their roles get elevated to that of a technology manager. 'The medical education system needs to evolve with these trends, and ensure that students get exposed to these emerging technologies and models of health care delivery early on in their training,' says Dr Marwah.

### The Path Ahead

Whatever, the final shape of the regulatory mechanism, it owes it to the citizens to create some basic changes in medical education. Dr Shetty says, 'Although recruitment of highly skilled surgeons ensures quality is excellent at NH and the Rabindranath Tagore Institute of Cardiac Science, it only scratches the surface of the gap between demand and supply of doctors. To address this issue, the Tagore Institute launched Udayer Pathe ('towards dawn'), a program that identifies talented rural students in class VII and funds their education. The child's living expenses are covered, which effectively results in the child becoming an earning member of the household at an extremely young age. When the student becomes a doctor, his/her people

will receive free medical treatment at institutes affiliated to Asia Heart Foundation.'

Policy makers, physicians and those who teach physicians must open their eyes to the opportunities, realities and responsibilities. We need a holistic, radical surgery to restructure the entire medical education system in India.

### ROLE OF PROFESSIONAL ORGANIZATIONS AND NGOS

In Indian there are many professional organizations of all subjects involved in CME programs, hands on training workshops, fellowship. In the field of ultrasound, The Indian College of Ultrasound (IUMC) and Indian Federation of Ultrasound in Medicine and Biology (IFUMB) run regular yearly conferences and short and long training hand on courses. The INA Donald School Indian Branch is involved in yearly diplomate courses with intensive 3 days lecture and live demonstration in Obs/Gyn ultrasound. These courses are very popular and new are included as 1 day updates as pregress workshops in major, national and regional conferences. Over 500 Obs/Gyn take advantage of this training program by Ian Donald School.

The Federation of Obstetric and Gynecological Societies of India (FOGSI) and Indian College of Obstetricians and Gynecologists (ICOG) run regular 7 days, 15 days and 6 months fellowship programs at selected 10 centers in Indian. These courses cover basics and advanced training with lectures and live demonstrations. An evaluation test is taken at end of 6 months with the candidates ask to answer a few questions and perform scans.

Obs/Gyn ultrasound training is well structured and very popular in India.

### CONCLUSION

Change in medical education is currently a worldwide phenomenon. It is needed to prepare doctors to fulfill the expectations of society, to cope with the exponential growth of medical and scientific knowledge, to inculcate physicians' ability for lifelong learning, to ensure mastery in information technology, and to adjust medical education to changing conditions in the health care delivery system. These trends have been introduced in the different health institutes in most of the developed countries. In South-East Asia, greater efforts are to be taken to orient teachers, trainers and planners about these trends to bring desired changes in medical education to produce need-based human resources for health in the region. However, such pedagogic shift from traditional approach to a need-based approach requires a fundamental change of the roles and commitments of educators, planners and policy makers.

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