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# Medical Education

## Medical Education in Sri Lanka: Perspective of a Medical Educationist

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### Introduction

The first ever academic group to go for in-depth study and research into the pedagogical aspects of medical education in Sri Lanka was initiated at the Peradeniya Medical School(PMS) by its founder Dean, the late Professor Senaka Bibile, in the early 1970's. A group dedicated for this purpose, named as the Working Group on Medical Education (WGME), was formed with senior academics from the Faculty of Medicine at Peradeniya and clinical consultants from the General Hospital, Kandy. Their intense study, deliberations and recommendations resulted in the establishment of an academic unit - the Medical Education Unit (MEU) - by the Senate of the University of Peradeniya.

The MEU in Peradeniya commenced its academic work in 1973 with two senior teachers, each qualified from one of the two leading centers established for promoting medical education in the USA, from University of Illinois at Chicago and University of California at Los Angeles respectively. Subsequently more academic and support staff were recruited and trained for the sole purpose of promoting the process of education in schools of medicine, nursing and allied health.

The World Health Organization (WHO) supported this initiative by providing training fellowships in leading global centers in medical education. The WHO later identified the MEU as a Regional Teacher Training Centre (RTTC) for health professions teachers from the entire South East Asian Region (SEAR) and made use of the facility to promote reforms in curriculum, teaching and assessment in different countries. Those who received training at MEU Peradeniya, with a few trained at global centers, established their own national centers in their countries in the late 1970's. In India, two such centers are still active, in the All India Institute of Medical Sciences (AIIMS) in Delhi and the Jawaharlal Nehru Institute of Post Graduate Medical Education and Research (JIPMER) in Pondicherry, respectively. It should be emphasized that Sri Lankan medical educators trained in educational science have played a leading role in shaping curricular reforms in Sri Lanka as well as in other SEAR countries and beyond.

Today, all medical schools in Sri Lanka have their own Department or Unit in medical education with the oldest school, in the University of Colombo, having the largest cadre of staff qualified in the discipline of medical education. Unlike in the past, when the

school's curriculum consisted of bundles of isolated syllabi of separate disciplines from departments (rarely made available and mostly not documented), today all medical schools in Sri Lanka have their own documented curricula with learning outcomes, subject content, teaching and assessment methods.

A few schools have introduced innovations aimed at reforms as part of curriculum development, such as doing away with the dissection of cadavers in the basic science phase in the Kelaniya University in Ragama and even schools showing radical transformation, departing from isolated departmental structures to a completely integrated and problem based curriculum (PBL) as in the Faculty of Health Care Sciences of the Eastern University in Batticaloa. The Postgraduate Institute of Medicine (PGIM) of the University of Colombo has established formal programs leading to a MD degree in the discipline of Medical Education.
Having had a glimpse of the nature of advancement in pedagogical aspects of medical education in Sri Lanka, it is important to know the current needs and realities in the practice of medical education in shaping health care. Such a discussion can be meaningful, only when global trends in today's knowledge based economy in the digital world are considered. It is also important to look at medical education as a continuum, from the time a student enters the medical school for undergraduate training to specialization and continuing professional development until he or she gives up practicing medicine.

## Global Trends and Concerns

University based training of medical practitioners was a global outcome of the Flexner Report published in the USA in 1910 [1]. He exposed the discrepancies between the description of courses in different medical schools and clinical opportunities and realities of training in the USA. His ideal was academic and clinical training in an enquiry based environment at a university hospital. His concerns were felt throughout the world and even in Sri Lanka medical training, which initially commenced in the Colombo Medical College in the 1870's, became science based academic training at the former University of Ceylon. It may be useful to note that training of doctors by American Missionary practitioners in Jaffna was recorded even before the Colombo Medical College commenced its program. Some of the medical books translated into the local language by Dr. Samuel Green are still available in the Jaffna College library in Vaddukoddai.

The early part of the post-Flexner period witnessed integration of investigation with teaching and care of patients. However, the situation changed when medical research became increasingly molecular, bypassing patient care and teaching. The basic science disciplines expanded into several branches claiming departmental status and additional curriculum time without any consideration of the knowledge requirements for training a basic practitioner within the period of training in the medical school. Thus, curriculum development took on a forward planning approach, with course content and teaching methods determined first. This approach failed to meet the needs of the health system. In the last few decades, with expansion of profit oriented private hospitals and practitioners, a harsh commercial atmosphere prevailed in most countries pushing clinical teachers to increasingly be involved in generating revenue, rather than teaching.

## Lancet Commission Report

Almost a hundred years after the Flexner Report, a Lancet Commission, consisting of 20 professional and academic leaders from diverse countries, came together to develop a shared vision and a common strategy for post - secondary education in Medicine, Nursing and Public Health that reached beyond the confines of national borders and the silos of individual professions [2]. The report identified the status of the medical curriculum as fragmented, outdated and static, graduating ill equipped graduates with mismatched competencies for patient and population needs and having narrow technical focus with predominant hospital orientation. Training was found to be lacking in promoting team work, leadership skills, policy analysis and communication skills. The lack of common goals and a shared vision between the professions in their training and practice was considered to be "tribalistic" in nature. The report advocated for global interdependence, with flows of knowledge and techniques, opportunities for mutual learning and joint solutions in a world where there is migration of both professionals and patients.

The Commission recommended both instructional and institutional reforms. They suggested improvements in the admission process, continuous curriculum update and faculty development, multiple learning experiences to match competencies, a self-directed learner centric culture and inter-professional learning. Institutional reforms focused on joint planning by the education and health sectors, including engagement of all stakeholders, extending academic sites into communities and strengthening of quality assurance and the accreditation process.

The report portrayed the previous one hundred years of instructional pattern to have had 3 phases – Informative (teacher- centered, lecture based), formative (focus on professionalism, physician role) and, finally, transformative. They identified "transformative" learning as something new, although Jack Mezirow proposed this theory as early as in 1970's in Columbia University [3]. Possibly problem based learning (PBL) with a cognitive psychological orientation evolved with similar intents, moving away from the behavioristic mastery learning concept adopted in competency-based curricula.

## Selection of Students for Medicine

Professional education should be considered as requiring different attributes when compared with general undergraduate training in the arts and sciences. Mere performance in cognitive learning is not a sufficient criterion for selection of students for medicine. The current system adopted in Sri Lanka based solely on a knowledge based competitive A/L examination may leave out promising candidates with other desirable attributes required for the learning and practice of medicine to improve health and quality of life.

Some of the desirable attributes, other than those concerned with discipline related knowledge, are physical dexterity, reflective behavior, reliability, honesty, integrity, altruism, empathy, flexibility, inter-personal skills, decision making and stress management. Many schools in the developed world have included different assessment techniques to select medical students, going beyond mere assessment of knowledge to include evaluation of some of the listed desirable attributes. These include aptitude tests,

personal statements, autobiographic submissions, reference letters, situational judgment tests (SJTs), emotional intelligence tests, interviews, and multiple mini interviews (MMIs). Available evidence suggests that aptitude testing, MMIs and SJTs are better than other methods.

## Transformative Education

The highlight of the Lancet Commission report [2] has been its identification of the mismatch between the education of health professions and their performance in the health system. The 4 main functions of the health system have been identified as stewardship, service provision, resource generation and financing. Human resources development can only be part of one aspect of the health system function. However, health professionals play a major role in shaping all components of the system.

The Lancet report [2] suggested transformative education as a forward step, to bring about reforms that may solve the existing disconnect between education and health. The three common themes of this approach are, the centrality of experience, critical reflection and rational discourse in the process of meaning transformation. It is the learner's experience that is the starting point and the subject matter for transformative learning [3,4]. The Lancet report also emphasized the need for reforms to be competency driven and adaptive to local challenges but within a global perspective [2].

In terms of innovation research, transformative efforts involve radical innovation, involving structural changes in existing settings. Such inventive efforts have been successful in schools adopting problem based learning. Competency based programs in the 1970's were linked to assessment and regulation of proficiency, without much concern for the process of teaching and learning. Stenhouse critiqued this trend as equating education with training [5]. There is hardly any evidence of success in those schools which adopted the traditional behaviorist model of competency based curriculum.

Sri Lankan schools have identified their learning outcomes or competencies since the early 1980's, at varying levels of specificity. The institutional or program goals need to be reviewed in terms of health system needs. Most schools have included cases or problems in their undergraduate curriculum with an incremental trend in integration of basic and clinical disciplines. However, there is still some resistance from traditionalists towards innovation and transformative changes. Since Sri Lanka followed the British system in medical education, most changes follow changes in the UK. The Postgraduate trainees who return from UK after their component of foreign training for an MD, have been a motivated group in promoting such educational reforms in Sri Lanka.

## Inter Professional Education

Inter professional education (IPE) is a collaborative approach to develop health care professionals as future members in the health care team. IPE is currently practiced in several universities in Europe, USA and Canada. The Lancet Commission [2], World Health Organization [6] and Institute of Medicine [7] have encouraged Medical, Health and Social

Science programs to go for collaborative IPE to provide better health care and quality of life for all people at all ages at affordable cost.

IPE programs consist of two or more programs associated with health and social care, engaged in learning with and from each other. There are several IPE programs with different combinations and varying periods, from one specific semester course to the total instructional period. However, training of multiple professional groups with the same learning experience, either in the same location or by teachers from different professions, without student interaction and sharing of experiences is not considered as IPE.

In Sri Lanka, efforts to have IPE at the Faculty of Medicine of the University of Peradeniya were thwarted by some members of the medical profession and a few militant medical student, resulting in the formation of a separate faculty for Allied Health Sciences. In the Eastern University the medical school is a part of the Faculty of Health Care Sciences (FHCS) established with a broader vision to initiate IPE, which is yet to be achieved.

In Nepal, at the B P Koirala Health Sciences University, medical and nursing students work collaboratively in a Maternity and Child Health program. The University of Florida in the USA has conducted a yearlong Interdisciplinary Family Health course involving students from the medical, dental, pharmacy, nursing, physiotherapy, and public health and nutrition programs.

## Post Graduate Training and Specialization

This is the second part of training of medical practitioners after their full registration following an internship program. The MEU Peradeniya conducted a research study on internship [8] and made recommendations for follow up. The internship is an important year for medical graduates to decide on their choice of future career in medicine.

In Sri Lanka, the Postgraduate Institute of Medicine (PGIM), University of Colombo, is the only institution currently responsible for conducting postgraduate Diploma, Masters and MD programs. The subject boards include relevant experts from all the universities. The MD program includes a minimum of one year of foreign training in a recognized centre in the UK, Australia, New Zealand, Singapore or India. The PGIM offers specialization in all major disciplines and most sub specialties.

The Ministry of Health is responsible for providing cadre positions in all specialties. However, these positions are yet to be based on scientific HRH projections. Although General Practice or Family Medicine is the first line of contact in the developed world, the health system in Sri Lanka is yet to formalize this important area, which cuts horizontally across all specialties.

The number of specialists in most disciplines is inadequate to fill even the existing vacancies. The situation is worst in the two provinces affected by the civil war over 3 decades. However, the situation is better with the end of conflict. When compared to a country like Nepal, which commenced its medical training almost 100 years later than Sri

Lanka, we are still training only a small number of specialists. In Nepal more than 5 institutions have initiated postgraduate training with expertise hired from leading institutions in India. Our universities have the necessary autonomy under the University Act to initiate programs based on the immediate needs of the country or even to support countries in need – provided proactive steps are taken to convince decision makers with scientific proposals.

## Public Health Education

The World Health Report (2006) and the Lancet Commission Report [2] have identified the inadequacy of institutions and human resources to carry out essential public health functions. At the turn of the century, public health leaders from the South East Asian Region came out with the well-known Calcutta Declaration on Public Health [9]. This declaration called for strengthening and reforming of public health education, training and research. As a follow up of this declaration, WHO made concerted efforts to strengthen institutions and programs in public health.

In the British Commonwealth countries in the region, traditionally, public health was taught mainly in the medical school environment. After the Calcutta Declaration, new schools/ programs were created in India, Myanmar and Nepal. Bangladesh also founded an Institute – the National Institute of Preventive and Social Medicine (NIPSOM) – offering postgraduate programs for medical graduates. Thailand and Indonesia already have well established public health schools with postgraduate programs. In Sri Lanka, the National Institute of Health Sciences (NIHS) Kalutara is the only institution providing basic public health courses in addition to nursing, midwifery and pharmacy. Several reports by international consultants recommended upgrading this institution to offer degree programs. Currently PGIM is the main institution providing postgraduate degrees for MBBS graduates.

Globalization and health trends in the 21$^{st}$ century have alerted the global health community on the need for trained human resources in public health. Threats due to epidemics such as HIV, SARS, Bird Flu, Ebola and Zika have shown the increased vulnerability of the global community and the need for interdependence of countries. It is estimated that over the next 20 years non-communicable diseases (NCDs) will cost more than 30 trillion US dollars, which is almost half the global GDP in 2010. Unless countries invest in institutions and human resources for public health this situation cannot be controlled.

Public health is currently considered an independent profession with varied specializations in administration, management, sociology, economics, and medical informatics. In Sri Lanka, the PGIM trains only public health physicians amongst MBBS graduates leaving no option for other health professionals to lead a career in public health. Public health experts have identified that the way the curriculum is provided in the MD Community Medicine in the Indian sub-continent results in a lack of expertise to tackle disease outbreaks in a scientific manner. WHO has promoted specialized training in 'Field Epidemiology' for public health professionals in SEA countries, including courses at the CDC Atlanta in USA and, more recently, in the Ministry of Public Health program in

Thailand. Sri Lanka should consider alternative models/programs to train human resources for public health. Creating a school of public health following the model in the USA is an option to be considered.

## Conclusion

Medical education in Sri Lanka has gone through incremental changes in pedagogical reforms with a few radical innovations. Medical educators from Sri Lanka have contributed to curricular reforms at national, regional and global levels. As pointed out in the Lancet Commission [2] report the linkages between health and education systems are far from satisfactory. Problems in health care require engagement of politicians and decision makers in an informed and coordinated manner. Since the subject of health and medical education come under different ministries in Sri Lanka, national level coordination becomes more difficult. However, in a devolved provincial administration the autonomous universities should do more to engage politicians to bring about change. The existing system of admission should be discussed at the national level to select appropriate candidates for training in professional courses.

The medical schools should continue to innovate with more contextual learning for students in different settings of individual and population health care. There is a dire need for an inter-professional environment during training and a search for curricular segments where IPE can be implemented between professional groups. The number of graduates selected for training in both curative and public health specialties is inadequate compared to regional norms. There should be more well-planned programs to undertake specialist training in some autonomous universities. The scope for public health education needs to be widened and upgraded. Family medicine training should begin as early as possible in basic medical education and specialist cadres need to be established at the first level of contact with patients in the health system along with specific mechanisms to coordinate General Practitioners in the private sector.

Where there are problems of funding by the Government, Private Public Partnership needs to be encouraged. This is a contractual agreement between a public agency (national, provincial or local) and a private sector entity. Through such agreement skills and assets of both sectors are shared in delivering a service or facility for the welfare of the general public. It is impossible for the State to provide everything for health and education in a country where more applicants are qualified than the availability of places.

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