Strategic Framework for Strengthening Undergraduate Medical Education in addressing the Current Health Challenges

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Foreword

Countries in the South-East Asia (SEA) Region are confronted with numerous continually evolving health challenges that need to be appropriately addressed. For example, climate change has a wide range of impacts on human health; so does the Region's vulnerability to natural and manmade disasters. Epidemiologic and demographic transitions bring about rapid increase in the elderly population and incidence of noncommunicable diseases. Deaths due to noncommunicable diseases have overtaken the death toll of communicable diseases. Furthermore, with inadequate health promotion and primary disease prevention, many people get sick unnecessarily, putting additional burden on the already over-stretched health systems. Those seeking medical care are often confronted with high out-of pocket health expenditure that may become catastrophic.

To face these overarching health challenges, countries in the SEA Region need robust health systems based on primary health care, where a good balance between public health interventions and medical care prevails. These two important functions of the health systems must work in perfect tandem in order to ensure optimal efficiency and effectiveness of health care at all levels.

Medical doctors, as leaders of the health-care teams, need to have appropriate competencies in public health to be able to address the health challenges. However, conventional medical education is oriented towards medical care at various institution-based health services. As such, medical graduates have limited public health orientation, and there is low interest in public health among medical students.

The WHO South-East Asia Regional Office (WHO-SEARO) has accorded high priority to strengthening public health for improving the health and well being of the population in the SEA Region. The Public Health Initiative was launched in 2004, followed by various innovative approaches that included national and regional networking for strengthening public health workforce. Special efforts were made to improving public health teaching in medical schools.

The strategic framework for strengthening medical education in addressing the health challenges is a continuation of earlier efforts for

improving public health teaching in medical schools. It is developed in close consultation with Member States. The valuable contribution of the participants of the Regional meeting on "Role of Medical Education in Addressing the Current Health Challenges", June 2012, to the development of this strategic framework is gratefully acknowledged.

WHO-SEARO stands ready to collaborate with its Member States to strengthen their undergraduate medical education in addressing health challenges to ensure equitable and quality health care as part of our efforts in achieving universal health coverage.

Dr Samlee Plianbangchang
Regional Director

1. Introduction

All countries in the WHO South-East Asia (SEA) Region are confronted with current and evolving health challenges brought about by various factors and changing environments. These include challenges related to health systems[1] (such as accessibility to health services), sociodemographic changes (such as unplanned urbanization), changing disease patterns (such as growing crisis of noncommunicable diseases) and changing vulnerabilities and risks (such as health impacts of climate change). These health challenges are complex and require a multidisciplinary approach and multisectoral collaboration to address them. Not being able to manage these challenges well would result in widening of health inequity within and across countries, increased inefficiency, skyrocketing health care cost, increased poverty and less responsive health care, to mention just a few. All of these may jeopardize countries' efforts in achieving universal health coverage.

To deal effectively with these challenges, countries need to strengthen their health systems using the primary health care approach with a good balance between public health services (primary level of care that focuses on health promotion and disease prevention), and medical services (secondary and tertiary level of care with the primary focus on curative and rehabilitative services). Medical care and public health interventions are not mutually exclusive. They need to be complementary to each other in order to ensure a continuum of care with effective referral system.

The primary level of care, the first contact point of the individual, family and community with the health care system, needs an effective referral back-up at the secondary and tertiary levels. While hospitals that constitute secondary and tertiary level of care and serve as medical referral to primary care, they also need to be involved in health promotion and disease prevention. Failure to do so would result in suboptimal performance of the health systems. Experiences of "Health Promoting

[1] Health systems are defined as 'all organizations, people and actions whose primary intent is to maintain, promote or improve health'. [World Health Organization, *Everybody's business. Strengthening health systems to improve health outcomes: WHO's framework for action*. Geneva: WHO, 2007.]

Hospitals" in some countries of the SEA Region reveal that a hospital can effectively promote health by empowering the patients and their family members, as well as surrounding communities for healthy behaviours and life style changes.

It is crucial that the health systems are able to effective address the health challenges in order to promote and maintain the health of the population and to avert or minimize their negative consequences. Thus, health-care providers must be able to tackle these health challenges effectively. The medical doctor, who is usually considered the leader of a health care team, be it at the primary, secondary or tertiary level of care, must be able to address these health challenges effectively. Appropriate competency in public health is, therefore, needed by medical doctors at all levels.

However, it has long been recognized that there is low interest of medical students in public health. The regional meeting on "Teaching of Public Health in Medical Schools" in 2009[1] tried to address this issue. Actions are being taken to strengthen public health teaching in the medical schools, particularly in the Departments of Community Health/Preventive and Social Medicine and to link it with other clinical departments. Recent regional events like the Regional Consultation on Strengthening the Role of Family/Community Physicians in Primary Health Care, 2011[2] and the Meeting of Experts on Doctor–patient Relationship, 2011[3] attempted to address some of these issues.

Furthermore, medical education is an expensive undertaking. The opportunity cost can be quite high if we compare it with education of the other categories of the health workforce, in particular, other community-based health workers.[2] Hence, it is natural that we expect to obtain the highest benefit from the medical graduates not only for taking care of sick people, but also for promoting the health of the population. Strengthening

[2] All health care workers who are part of the formal health organization, and have undergone formal training to carry out a series of specified roles and functions, and spend a substantial part of their working time actively reaching out to the community, discharging their services at the individual, family or community level. These may include doctors, nurses, midwives who fulfil the above criteria, public health inspectors, health attendants, health supervisors and family health visitors, etc. who spend a substantial part of their working time actively reaching out to the community [World Health Organization, Regional Office for South-East Asia. *Strategic directions for strengthening community-based health workers and community-health volunteers in the South-East Asia Region*. New Delhi: WHO-SEARO, 2008.]

management of human resources for health was thoroughly discussed in a regional consultation in February 2012.[4] This meeting recommended, among others, to strengthen health-personnel educational institutions to meet the evolving health needs of the country, and to develop partnerships between health-personnel educational institutions and health care delivery systems to establish synergies between the two for making the educational system more responsive to the health needs of the community.

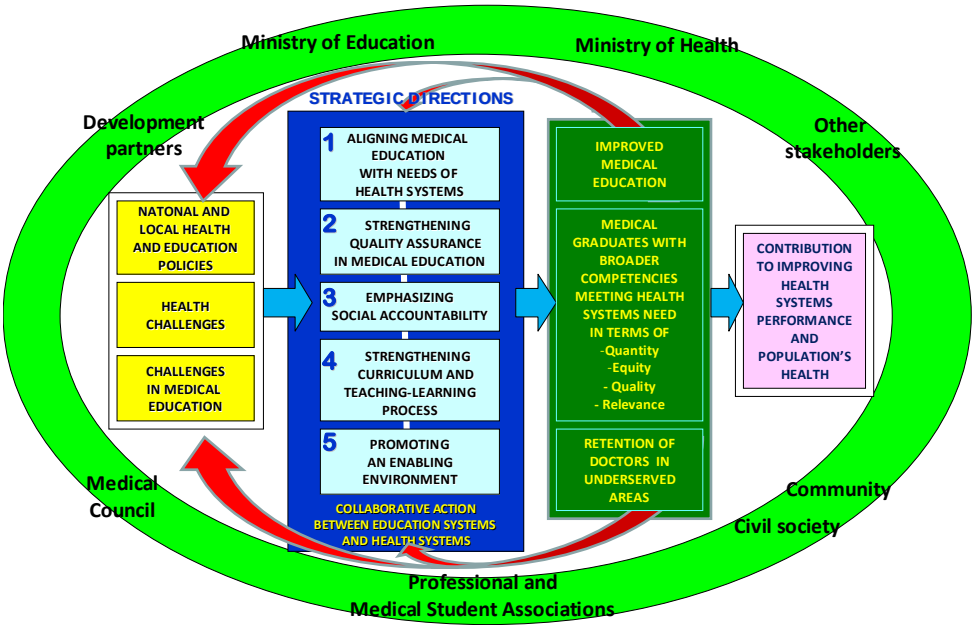
Despite these efforts, much remains to be done to equip medical doctors to effectively address the health challenges. In addressing the health challenges, the medical graduates are expected to continue providing institutional medical services, but with broader public health orientation/mind, and to support community-based health workers in the provision of community/population-based health interventions for improving the health of the population and for appropriate response to public health emergencies. Therefore, the regional meeting on "The Role of Medical Education in Addressing the Current Health Challenges" was convened in June 2012[5] to further deliberate on this issue. The meeting specifically looked at how the medical school could better prepare its medical graduates to effectively address the health challenges.

This document, which is an outcome of the deliberation of the above-mentioned regional meeting, presents the strategic framework for strengthening undergraduate medical education in addressing the health challenges. This strategic framework provides guidance to countries, at both national and institutional levels, with regard to factors that they need to consider in educating medical doctors, as well as strategic directions and actions they should carry out in order to produce medical doctors who could effectively address the health challenges. Countries will need to ensure that their medical graduates have clinical and public health competencies as well as other broader competencies to meet the needs of the health systems in terms of quantity, equity, quality and relevance. Countries will have to decide how to move forward to better educate their medical graduates for this purpose. Thus, they will need to critical assess the current situation, and identify challenges and opportunities for further actions in a concerted manner as recommended in the strategic framework.

2. Strategic framework for strengthening undergraduate medical education

The strategic framework in Figure 1 below is based on a systems approach, that is input, process, output and outcome.

Figure 1: ***Strategic framework for strengthening undergraduate medical education in addressing the current health challenges***



Legend:

- Yellow boxes: inputs
- Light blue boxes: processes
- Green boxes: outputs
- Pink box: outcome
- Light green circle: context - political and technical environment

To strengthen undergraduate medical education in addressing the health challenges, countries will need to take into account the national and local health and education policies and challenges in health and medical education – the inputs. The national and local health and education

policies will give directions on how medical education should be provided. While health challenges will influence the practice of medical professionals and how they should be educated, challenges in medical education will help in determining areas requiring special attention.

The health challenges will necessitate the need for medical education to produce medical graduates with not only clinical competencies, but also public health and other broader competencies to fulfil the needs of the health system in improving its performance. In this regard, better collaborative action between the medical education systems and the health systems -the '**process**' - is the crux of this strategic framework. It consists of five key strategic directions which are related to each other.

The first strategic direction is 'aligning medical education with the needs of health systems'. It includes joint stewardship and governance between ministries of education and health to establish an effective collaboration and shared accountability to harmonize medical education with the health system. Special efforts have to be given in this area, as it is a common observation that in some countries, education of health professionals, including medical education, has been isolated from health systems needs and not kept up to date with the rapidly changing health challenges.

The second strategic direction is 'strengthening quality assurance in medical education'. Quality assurance in medical education will be achieved by establishing/strengthening the regulatory systems, including accreditation at the national level, to ensure quality medical education, and establish/strengthen quality assurance at the institutional level, so that medical education will meet the highest standards, particularly in the light of the fast growing number of private medical schools in many countries.

The third strategic direction is 'emphasizing social accountability'. While the medical schools struggle to improve the quality and relevance of their education, they also need to contribute to improving quality, equity, relevance and effectiveness in health care delivery. Through their medical graduates, they have the responsibility for a greater contribution to the improvement of both health systems performance and people's health status. This will be achieved, not only by tailoring educational programmes to priority health problems, but also by a responsive and responsible governance of medical schools as well as fostering deployment of medical graduates in rural/remote/underserved areas.

The fourth strategic direction is 'strengthening curriculum and teaching-learning process'. So far, there has been a vast improvement of medical education curriculum, especially since the initiation of "Reorientation of Medical Education" (ROME). However, due to the rapid changes in the health challenges, the curriculum should be periodically reviewed and revised, relevant to the need of new competencies required in the undergraduate. More importantly, the teaching-learning process that encourages the students to be more public health oriented should also be strengthened.

The fifth and final strategic direction is 'promoting an enabling environment'. A conducive environment that promotes the teaching and learning process is very important for both the teachers and the students. The environment should support the learning process of the students and enhance their efforts in achieving the ultimate goals of the student-centred education. It should also help and encourage the teachers to improve their knowledge, attitude and practice in the various roles of teachers; e.g. as a teacher, clinician, researcher or administrator. In this regard, the roles of the teacher must be relevant to producing graduates who are prepared to take on the challenges of the current and changing health systems needs.

Change or improvement in competencies is not the only factor responsible for improving the performance of the new graduates and ultimately, the performance of the health care delivery systems/health systems. There are other factors that are of equal importance, such as criteria for admission and career pathway.[6]

Successful implementation of actions under those five strategic directions will yield an improved medical education - the '**output'**. This will produce medical graduates with clinical competencies as well as public health and other broader competencies in meeting the health systems needs, in terms of the quantity, equity, quality and relevance of the medical graduates[7]. For quantity and equity, in most countries, the shortage of medical doctors is often aggravated by uneven distribution across population. Collaborative planning between ministries of education and health to rationalize the production and deployment systems is needed to fill the gap and ensure adequate production and equitable distribution of medical doctors. For quality, merely fulfilling the number of medical doctors is not a guarantee to improve the health of the population, unless they are also technically competent and efficient in medical care as well as in public health care, and able to work in a multidisciplinary and multisectoral environment, to tackle the more complex health challenges.

For relevance, the knowledge, attitudes and skills of the new graduates acquired from their professional education often match poorly with the real epidemiology of the community which they work. They need to be well prepared to address the disease and sociocultural epidemiology of the population they serve. Moreover, by proper planning, production and deployment of newly graduated medical doctors, the underserved areas will be sufficiently staffed with competent and motivated medical doctors.

The problems and challenges as well as achievements in implementing the strategic directions and attaining the output become a feedback to the process and input, and will be taken into account periodically in the implementation of the strategic directions.

When the aforementioned outputs are attained, this will eventually enhance the contribution of medical schools to improve the performance of health systems and the health of the population - the **'outcome'** of this strategic framework.

However, to achieve the desired outcome of the health systems, the contribution of other categories of health workforce as well as health-related professionals from other disciplines is also important.

Moreover, strengthening undergraduate medical education will also need further collaboration with other key stakeholders such as ministries of education and health and other relevant ministries, development partners, medical council, professional and medical associations, civil society, community, and other key stakeholders.

3. Health challenges: how medical education is addressing them

A. The health challenges

During the 21st century, the world is observing the widening of health inequity within and across countries. The South-East Asia Region is no exception. Health equity is one of the important indicators for measuring health systems performance. In fact, equity and social justice are the values upheld by Primary Health Care (PHC) in the Alma Ata Declaration adopted in 1978 along with Health for All (HFA).

PHC is a tool for health development. PHC can be viewed from three interlinked angles namely:

(1) Level of care: primary, secondary and tertiary levels of care.

(2) Approach/pillar/principle: universal coverage, community participation and empowerment, intersectoral coordination and collaboration and use of appropriate technology.

(3) A package of cost-effective public health interventions.

As a tool for health development, PHC should focus on public health in good balance with medical care and emphasize the importance of primary level of care (primary care) with good medical referral back-up. Unfortunately, not many countries pay special attention to primary care. Public health is more cost effective than medical care, yet more resources are allocated more towards medical care.

Primary care needs a good medical referral at the secondary and tertiary levels of care where sophisticated medical devices are available. The absence of this referral system, which generally happens, would make patients bypass primary care, causing unnecessary burden to the higher level of care and increased cost of health care.

Deviation in implementing PHC has resulted in inequitable access to health care, skyrocketing health care costs and high out-of pocket health expenditure that may impoverish the spender. Inequitable access to health care will lead to inequitable health status.

Social determinants of health that include education, occupation, income, gender and, ethnicity are the root causes of health inequity[8]. Health care system is itself a social determinant. Special consideration is, therefore, needed to address the social determinants of health when dealing with a health problem.

Environmental determinants such as pollution, housing condition, urbanization, migration and environmental changes brought about by climate change[9] are also crucial in influencing health equity.

In 2008, all Member States of WHO agreed to improve the performance of the health systems by *revitalizing Primary Health Care through four areas of reforms*[10]:

(1) *Universal coverage*, to improve health equity through the provision of universal and equitable access to health care coupled with financial or social protection to prevent catastrophic health expenditure that might impoverish the spender.

(2) *Service delivery*, to improve the responsiveness of the health care services to the legitimate needs of the population.

(3) *Public policy*, to establish Health in All Policies or Healthy Public Policy i.e. policies of other sectors beyond health that promote health.

(4) *Leadership*, to improve accountability of the government.

The health challenges that need to be addressed in undergraduate medical education are grouped into four categories, i.e. (1) challenges related to the health systems; (2) challenges related to sociodemographic changes; (3) challenges related to changing disease patterns; and (4) challenges related to changing vulnerabilities and risks. These are not mutually exclusive categories, since they are intricately interlinked with some overlaps.

(1) **Challenges related to the health systems:** these include, among others, ensuring good governance, effective health workforce, accessibility and quality of health products and medical devices, efficient health financing, functional health information system, and quality and accessibility of service delivery.

(2) **Challenges related to sociodemographic changes:** these include, among others, health inequity and social determinants of health, unplanned urbanization, globalization, increasing ageing population, rapid advancement of medical and information technology, and skyrocketing of health care cost and economic crisis.

(3) **Challenges related to changing disease patterns:** these include, among others, growing crisis of noncommunicable diseases and unhealthy lifestyle, and public health threats (emerging/re-emerging diseases)**.**

(4) **Challenges related to changing vulnerabilities and risks:** these include, among others, vulnerability to disasters, health and

nutritional threats of climate change, mental health (particularly the aftermath of disasters and displacements), and public health emergencies (infections, food safety, biological, chemical, radio-nuclear emergencies).

B. How undergraduate medical education is addressing the health challenges

Medical education in countries of the SEA Region is at different stage of development. Nine[3] out of eleven countries of Region have undergraduate medical education programmes. While one country has just started its medical school in 2005, several other countries have been offering medical education for a very long time and are quite well developed.

Furthermore, the majority of the medical schools for most countries are under the jurisdiction of the government. However, for a few countries, large numbers of medical schools are in the private sector. Special efforts are, therefore, needed to ensure the quality and relevance of medical education under these private medical schools to be at par with those of the public medical schools.

A rapid assessment on the current situation of the medical schools in addressing the current health challenges in undergraduate medical education was carried out during April-May 2012 in countries of the Region that offered undergraduate medical education programmes. The salient findings of the rapid assessment based on country self-assessment reports from six countries[4] are provided below:

- There are wide variations within and between countries with regard to the extent those identified health challenges were incorporated in the undergraduate medical education; and how these were introduced, taught and learned. There is no uniform practice in this regard in any country of the Region.
- With few exceptions, these health challenges in undergraduate medical education are largely inadequately addressed in most countries. There is also inadequate community exposure in the

[3] Bangladesh, Democratic People's Republic of Korea, India, Indonesia, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste.

[4] Bangladesh, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste.

teaching–learning process. Some countries indicated that large number of students and shortage of faculty members hindered their efforts to enhance community exposure.

- Some of the identified health challenges, such as the increasing crisis of noncommunicable diseases are well covered in most schools, while several other challenges such as ageing, globalization and urbanization are inadequately or not addressed.
- For those medical schools with conventional medical curriculum - discipline-oriented curriculum, these challenges are mainly covered in preventive and social medicine toward the end of their education. Only in a few countries with integrated medical curriculum with no department boundaries, are these health challenges apparently incorporated throughout their curriculum, starting from the first year to the final year.
- With few exceptions, medical schools in most countries follow the conventional way of teaching-learning, with limited innovative approaches for effective learning. There is inadequate student-centred learning, lack of self-directed learning and limited opportunity for project-based/research learning.
- Although problem-based learning is practised in varying degrees in several schools, its wide application has yet to gain momentum.

Countries will need to undertake an in-depth assessment of the current situation of undergraduate medical education and its response to their priority health challenges to have a comprehensive picture of the situation in the countries. This will help countries to identify areas requiring special attention as well as challenges and opportunities for concerted efforts in further strengthening undergraduate medical education.

4. Strategic directions and actions

There are five strategic directions guiding the actions to be carried out in order to effectively produce medical graduates with clinical competencies as well as public health and other broader competencies to meet the needs of the health systems and the community. These strategic directions are

(1) aligning medical education with the needs of the health systems; (2) strengthening quality assurance in medical education; (3) emphasizing social accountability; (4) strengthening curriculum and teaching-learning process; and (5) promoting an enabling environment. Key actions to be carried out under each strategic direction are provided below:

Strategic direction 1: Aligning medical education with needs of health systems

Actions

a. *Establishment of a forum for joint planning between the ministries of education and health, and other key stakeholders, such as medical council, professional associations and civil society.*

It is a common observation that in several countries, medical education is under the responsibility of the education ministry with little or no coordination with the health ministry. This results in a situation where medical education tends to be based on traditional precepts without much needed attention to health systems needs. There is an urgent need to establish mechanisms to ensure coordinated action by the education and health sectors.

Countries may consider high level bodies to guide and steer coordinated development and/or strengthening of medical education at the national level. This high level coordinating body could identify health needs and prepare joint plan for medical workforce development and/or strengthening of medical education as well as facilitate and oversee the implementation of the plan. It is crucial that the medical workforce development plan be an integral part of the integrated national health workforce development plan for efficient health systems.

Furthermore, it is also essential to facilitate and foster closer collaboration between medical schools and key stakeholders in medical education at the institutional level to facilitate and ensure quality and relevance of medical education to the needs of the community.

b. Redefining the roles and competencies of medical graduates in the light of current health challenges.

As has been mentioned earlier, medical graduates need competencies in both medical care and public health issues. A common observation is that current medical education is skewed towards medical care, as teaching-learning in medical schools gives high emphasis to curative medical care. Public health issues are relatively underrepresented in the curricula. As a result, fresh graduates may not have appreciation of and skills for public health issues.

Countries need to review the needs of the health systems in addressing the current medical and public health challenges; to re-examine the roles that medical graduates, particularly as leaders of health teams, need to play to address these challenges; and to define the competencies that are needed for these roles. Medical graduates will need to have a balance between the clinical competencies and public health competencies as per the health system needs. Moreover, they will also need to have other broad competencies such as skills in leadership and management, team work, communication and interpersonal skills, empathy, and self-directed and life-long learning to effectively discharge their duties.

Afterwards, countries need to ensure alignment between the defined competencies with the curriculum contents, the teaching-learning process including the assessment and evaluation in medical education.

c. Establishment of mechanisms for periodic review for regularly updating and innovating curricula to continue to make medical education relevant to the evolving needs of the health systems.

With rapid evolution of epidemiology, demographics, health technology and ever increasing information and knowledge about health issues, periodic review and revision of the curricula become necessary to keep up with the emerging health needs and challenges. The periodic review jointly carried out by the education and health sectors will go a long way in making medical education responsive to health challenges.

As warranted, the high level coordinating body (mentioned in item a above) may oversee the review and revision of the curriculum at the national level. However, the curriculum review and revision exercise should

also be done periodically at the institutional level as an integral part of its quality assurance effort.

d. Strengthening evidence-based policy development in medical education

Improvements in medical education will be incremental, which may incur additional cost. It is, however, worth it as improvements are expected. Interventions for improving medical education need to be evidence-based. Operational research is, therefore, needed to explore the best alternatives for reform of medical education to make it more responsive, effective and efficient to meet the country's needs.

Research in medical education and medical health workforce will need to be augmented to generate evidence. For this to happen, research capacity, particularly of medical school teachers, will need to be further strengthened; and funding and other logistic support will need to be provided.

Strategic direction 2: Strengthening quality assurance in medical education

Actions

a. *Establishment/strengthening of regulatory systems including accreditation at the national level to ensure quality of medical education*

There must be effective regulatory systems to ensure that the medical students receive quality education, and medical graduates are certified or licensed upon entry to professional practice and maintain competency throughout their active professional career. The regulatory systems should cover both the education and practice of medical professionals. In addition, with the increase in private medical schools in countries of the SEA Region, it is imperative that an effective system for accreditation of medical educational institutes and programmes must be ensured.

A medical council normally has legislative responsibility to regulate education and practice of medical professionals. In general, the council will define, promote, oversee, support and regulate the affairs of its members. Typically, the medical council is responsible for setting standards of medical

education and for the licensing of medical professionals, and may additionally accredit the medical educational institutes and programmes, set examinations of competence of medical graduates and enforce adherence to an ethical code of practice.

It is crucial that the medical council or the body that functions like the council be strengthened so that its regulatory functions are effectively performed and the accreditation system is effectively established and/or enforced.

b. Establishment/strengthening of the quality assurance system at the institutional level

To ensure that medical education meets the highest standards and is relevant and responsive to health needs, effective oversight mechanisms, including quality assurance system at the institutional level are necessary. It is crucial that the medical educational institutes are also responsible for assuring the quality and relevance of the education they provide.

Special efforts will need to be made to facilitate and foster quality-oriented culture within the medical schools for this purpose. Moreover, collegial working relationship and team spirit will also need to be fostered for effective peer review under the institutional quality assurance system.

Strategic direction 3: Emphasizing social accountability

Actions

a. Creating responsive and responsible governance in medical schools

The medical school should have governance structures that enable the institute to exert its role as a key actor in health system and workforce development. It should integrate principles of social accountability into its education, research and service delivery programmes. The school should engage its teachers and students to address health challenges and needs of the health systems and the community it serves: for example, making medical school responsible for health of particular area/community, linking tertiary medical centres under the jurisdiction of the medical schools to improve secondary and primary levels of care through use of technology

like telemedicine; and timesharing of medical school teachers for community care.

Moreover, the medical school needs to develop sustainable partnerships with key stakeholders in health and health workforce development, including other health professional schools, in order to produce medical graduates in adequate numbers, with quality meeting the needs of the services. This partnership will also help in facilitating effective deployment of its medical graduates as well as in enhancing their impact on health.

It is imperative that the medical school ensures that existing resources are appropriately allocated and efficiently managed; that new resources are mobilized to enable it to function as a socially accountable institution; and that resources are committed to ensuring adequate numbers of qualified teachers, appropriate and properly functioning infrastructure so that the quality of medical education could be pursued effectively.

b. Fostering deployment of medical graduates in the rural, remote and underserved areas

To the extent possible, the medical school should use targeted admission policies to recruit and select medical students from the rural/remote/underserved areas in order to increase the likelihood of medical graduates choosing to practice in rural/remote/undeserved areas. Moreover, special support will need to be given to these students to enable them to succeed in their education.

It is desirable to locate the medical schools and campuses as well as community-health field practice areas and family medicine residency programmes outsides of capitals and other big cities, as graduates of these schools and programmes are more likely to work in rural areas.[11]

Strategic direction 4: Strengthening curriculum and teaching–learning process

Actions

a. *Development or strengthening of competency-based curricula that are responsive to changing needs of the health systems*

A competency-based curriculum allows students to learn skills and to apply their learning in real-life. The role of the medical school teacher is to facilitate, supervise and assess the student's learning. It, however, requires careful planning, preparation, and a long-term commitment from everyone involved in the educational process to transform a convention medical curriculum into competency-based medical curriculum. Concerted efforts are, therefore, needed to build capacity of medical school teachers to enable them to be able to effectively implement the competency-based medical education.

The undergraduate medical educational curriculum will need to be re-designed to ensure that upon graduation, the students acquire all the necessary competencies as per roles and competencies of medical graduates that are re-defined in action item b under strategic direction 1 mentioned above.

In general, medical graduates need to have clinical competencies as well as public health and other broader competencies in order to play an effective role in the changing health scenario. In addition to conventional clinical and public health skills, medical graduates need to be equipped with other broader skills such as skills for an integrated and epidemiological approach to manage clinical conditions, leadership and managerial skills, team work, communication and interpersonal skills, empathy, self-directed and life-long learning.

b. *Promotion of interprofessional education that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams*

Patient care is a complex activity, which demands that medical, public health, other health care professionals and social care professionals work

together as a team in an effective manner. Common observation shows that these professionals do not collaborate well together. In interprofessional education, students from various professions learn together as a team. They will learn the roles of other health professionals and will have mutual respect to other professionals and willingness to collaborate.

Countries should strive toward providing interprofessional education. As a starting point, medical schools may consider having joint community-based experiences and/or joint project between medical students and students of other health professionals such as nursing students, midwifery students, and public health students. This will enable them to appreciate each other's roles and contribution to health development and foster team building among them.

c. *Application or strengthening of problem-based learning in developing competencies related to the health challenges*

Conventional education in some medical schools tends to be didactic. There is a need to explore alternative instructional methodologies/ techniques to enable medical graduates to address health challenges. Problem-based learning with redefined competencies is an alternative that can be adopted for developing competencies to address current and evolving health challenges.

Problem-based learning is student-centred pedagogy that helps the students develop flexible knowledge, effective problem solving skills, self-directed learning, effective collaboration skills and intrinsic motivation. Teachers will need to facilitate, support and monitor the learning process. Special efforts will need to be made to ensure that the medical school teachers are well prepared to take on this challenge. This will require preparation and investment of the teacher's efforts to identify and prepare learning resources. Incremental development in this area may be pursued by applying problem-oriented learning approach in medical education while striving towards development of problem-based learning.

Moreover, the medical schools need to ensure that the student's assessment is aimed to assess the required competencies, as assessment has great influence on how students learn. Students will largely learn and practise on what they are going to be assessed on.

Strategic direction 5: Promoting an enabling environment

Actions

a. *Strengthening faculty development programmes to build high quality pedagogical skills for learner- centred education and to enhance interest towards public health.*

A well trained and motivated faculty who can facilitate learner-centred education will go a long way in producing doctors who are aware of the health challenges and have the capacity to innovate to address them. In addition to building clinical skills, medical school teachers need to have capacity to inculcate values for an ethical practice of medicine and interest toward public health in the students. Faculty development programmes for upgrading the skills of medical school teachers are needed to equip them with skills required for this purpose, such as in problem-based learning as well as in their skills as clinician, researcher and administrator.

Countries need to consider linking continuing professional development to career advancement and to ensure provision of the required continuing professional development programmes. There should be a requirement for all new medical school teachers to undergo mandatory basic training in pedagogy in medical education. There should also be a series of advance training programmes for medical school teachers to update their knowledge and skills in the latest developments in medical education and instructional technology. Moreover, appropriate public health orientation/update should be incorporated in the faculty development programmes in order to enhance their skills and interest towards public health.

Additionally, there should be a mechanism in place for performance evaluation of the medical school teachers. This mechanism should also form part of quality assurance efforts at the institutional level. This evaluation should aim at improving teachers' performance, and should not be used for administrative purpose. The outcomes of this evaluation should also be used to identify training needs for further building capacity of medical school teachers.

b. *Provision of appropriate and adequate infrastructure like library services, appropriate information and communication technology and conducive physical environment*.

Advances in teaching/training technology, particularly information and communication technology (ICT) can be harnessed to train medical students. In addition to making learning interesting, this can be a cost-effective method of imparting training. In addition to computer-assisted instruction, the advancement of the Internet enables medical schools to provide more opportunities for electronic learning (e-learning) for students. These include on-line lecture/course, email, and access to educational resources on the web, etc. However, access and cost are challenges. Medical schools should pursue for appropriate ICT infrastructure and resources for effective learning. Also, all medical schools in the SEA Region should gain access to HINARI programme to have access to electronic biomedical and health literature.

Furthermore, it goes without saying, the availability of a conducive environment including community-based learning opportunities will build capacity in medical graduates to respond effectively to current health challenges. Special efforts should be made to ensure that the learning environment for medical students is conducive to effective learning, particularly for fostering positive attitudes toward public health and working in the rural/remote/underserved areas..

c. *Ensuring mutual benefit for students and community at the field practice area*.

The selection of field practice area is very important. Training in the selected field practice area should have benefits for both the medical students and the community. The students will have a new learning environment relevant to the epidemiology and community health needs. Local government, community leaders and the community members should be aware of the student's learning activity and associated benefits in reducing the local health challenges they will get, hence they will support the field practice accordingly.

The medical schools should strive towards achieving tangible benefits for the community from the field work of medical students. Moreover, the schools can also be made responsible for the health of the field practice

areas they use in the undergraduate medical education to enhance their contribution to health development of the community at the field practice area.

d. Promotion of national and regional networking of medical schools

National, regional and global networking of medical schools will provide a platform for exchange of information and experiences that can be customized to meet individual country needs. Networking can also promote evidence-generation for assisting development/strengthening of medical education policy.

There should be effective networking of medical schools within the country as well as between countries of the SEA Region. These networks can help in further strengthening medical education of countries of the Region. They can facilitate sharing of information, teaching-learning resources and expertise. They can also pool ICT resources, among others, to accelerate the development of e-learning in medical education in the Region.

5. Conclusion

Medical doctors, as leaders of health-care teams, must be able to effectively address the health challenges by themselves as well as support other health care providers to do so. Most of the challenges identified can be addressed by appropriate public health interventions. Therefore, relevant competencies in public health are needed by all medical graduates. Medical education has a significant role to play in this regard, in equipping its graduates to be able to effectively address the health challenges.

However, it has been long recognized that most medical students have low interest in public health. Various efforts were, therefore, given for improving public health orientation in medical education in the Region. These included Reorientation of Medical Education, a Regional Meeting on Teaching of Public Health in Medical Schools (2009), Regional Consultation on Strengthening the Role of Family/Community Physicians in PHC (2011) and the Meeting of Experts on Doctor–Patient Relationship (2011).

Despite these efforts, a rapid assessment of the response of medical education in addressing the current health challenges was carried out in the Region. The responses from six countries, reveal that there are wide variations within and between countries on how these health challenges are introduced, taught and learned. With few exceptions, most of the health challenges are not adequately addressed in the medical curriculum. Many medical schools follow the conventional way of teaching–learning with limited innovative approaches for effective learning. Thus, special efforts would be needed to rectify the situation.

This paper presents the strategic framework, including strategic directions and actions for strengthening undergraduate medical education in addressing the health challenges. It is envisaged that when countries and medical schools carry out key actions recommended in this strategic framework, they will be able to produce medical graduates who have clinical competencies as well as public health and other broader competencies meeting the need of health systems' in terms of quantity, equity, quality and relevance, to effectively address the health challenges. This, ultimately, will contribute to improving the performance of health systems' and the health of the population in countries of the SEA Region.

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All countries in the WHO South-East Asia Region are confronted with numerous health challenges that need to be appropriately addressed. To deal effectively with these challenges, Member States need to strengthen their health systems using the primary health care approach, with a good balance between public health and medical services. The health systems must be able to promote and maintain the health of the population and to avert or minimize the negative consequences of these health challenges.

The medical doctor, who is usually considered the leader of a health-care team, be it in primary, secondary or tertiary level care, must possess appropriate public health competencies and capacity to influence the health systems in order to be able to address effectively these health challenges. However, medical education conventionally is oriented toward institutional-based medical care rather than public health services. As such medical graduates have limited public health orientation. Therefore, a Regional meeting on "The Role of Medical Education in Addressing the Current Health Challenges" was convened in June 2012 to look specifically at how medical schools can better prepare their medical graduates to address effectively the health challenges.

This document is an outcome of the deliberation of this Regional meeting. It presents the strategic framework for strengthening undergraduate medical education in addressing the health challenges. It identifies strategic directions and actions countries should carry out to produce medical doctors who have clinical and public health competencies, as well as other broader competencies, to meet the needs of health systems.

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