

# **Improving the Teaching of Public Health at Undergraduate Level in Medical Schools – suggested guidelines**

Report of a review meeting of the Expert Group  
Kathmandu, Nepal, 10–12 August 2010



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Regional Office for South-East Asia

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## 1. Introduction

The “Expert Group Meeting to Review and Finalize the Regional Guidelines to Improve Teaching of Public Health at Undergraduate Level in Medical Schools” was held in Kathmandu, Nepal from 10-12 August 2010. Experts from Bangladesh, Bhutan, India, Indonesia, Maldives, Nepal, Sri Lanka and Thailand participated in the meeting.

The agenda of the meeting and the list of participants are given in Annexes 1 and 2, respectively.

## 2. Background

A regional meeting on “Teaching of public health in medical schools” was organized by the WHO Regional Office for South-East Asia (WHO-SEARO) on 8-10 December 2009 in Bangkok, Thailand for stakeholders in different institutions and organizations to share their views and strategic directions on how to strengthen teaching of public health in undergraduate medical schools in the South-East Asia Region. The specific objectives of the meeting were:

- (1) To review the situation of public health teaching in undergraduate medical schools in countries of South-East Asia Region and globally.
- (2) To share experiences and identify effective/innovative teaching contents and methods to improve teaching of public health in undergraduate medical schools.
- (3) To discuss and develop the regional strategic framework for strengthening teaching of public health in undergraduate medical schools.

The above meeting made the following recommendations for WHO :

- (1) To finalize the regional strategic framework for strengthening teaching of public health in undergraduate medical schools and assist countries in utilizing it.
- (2) To continue advocating to governments and other stakeholders the importance of teaching of public health medical schools in view of the global health scenario, climate change and economic downturn.
- (3) To support countries in the adaptation/application of guidelines for social and preventive medicine/community medicine/community health curriculum in undergraduate medical education and disseminate to medical schools.
- (4) To establish an expert group in public health and medical education to improve teaching of public health in undergraduate medical schools.
- (5) To support countries to establish/strengthen accreditation systems for assessment of public health teaching in medical schools.
- (6) To support establishment of WHO Collaborating Centres in Public Health Teaching or the Regional Training Centre in Public Health Teaching.

Based on the recommendations, an expert group for developing the regional guidelines to improve teaching of public health in undergraduate medical schools was established with experts from Member States.

Subsequently, a concept paper on the guidelines to improve teaching of public health in undergraduate medical schools in South-East Asia was developed and was reviewed and finalized in the meeting held in Kathmandu, Nepal from 10 to 12 August 2010.

### **3. Objectives of the meeting:**

To review and finalize the Regional Guidelines to Improve Teaching of Public Health in Undergraduate Medical Schools in South-East Asia.

## **4. Expected outcome**

Finalized regional guidelines for improving teaching of public health in undergraduate medical schools will be available for sharing and implementation in countries of the Region.

## **5. Proceedings**

### **Inaugural session**

The inaugural session was held on 10 August 2010 and Dr. Praveen Mishra, Health Secretary, Ministry of Health and Planning, Government of Nepal was the Chief Guest.

Dr Lin Aung, WHO Representative to Nepal, made a welcome speech highlighting the importance of the meeting.

In his inaugural speech, Dr Praveen Mishra recollected his undergraduate education and teaching sessions on preventive and social medicine and community medicine topics. He expressed his dissatisfaction about the teaching, which was neither very interactive nor attractive. He expected that with the changing public health context and needs, the teaching-learning process requires change as well in terms of its content and process. He emphasized that public health teaching should be made more interactive, applied and interesting.

The objectives of the meeting were also stated along with the procedures of the meeting and expected outcome. The importance of public health teaching in the present context of public health issues and its relation to revitalization of primary health care and the Millennium Development Goals (MDGs) were mentioned.

The inaugural session was followed by a plenary session comprising a presentation of the concept paper by Professor B S Garg, Director-Professor and Head, Department of Community Medicine, Mahatma Gandhi Institute of Medical Sciences, Wardha, India. This was followed by sharing of observations and comments on the concept paper by Professor Muzaherul Huq, WHO-SEARO. The participants reviewed the concept paper. The issues discussed during the meeting are given in Annex 3.

## **Conclusions**

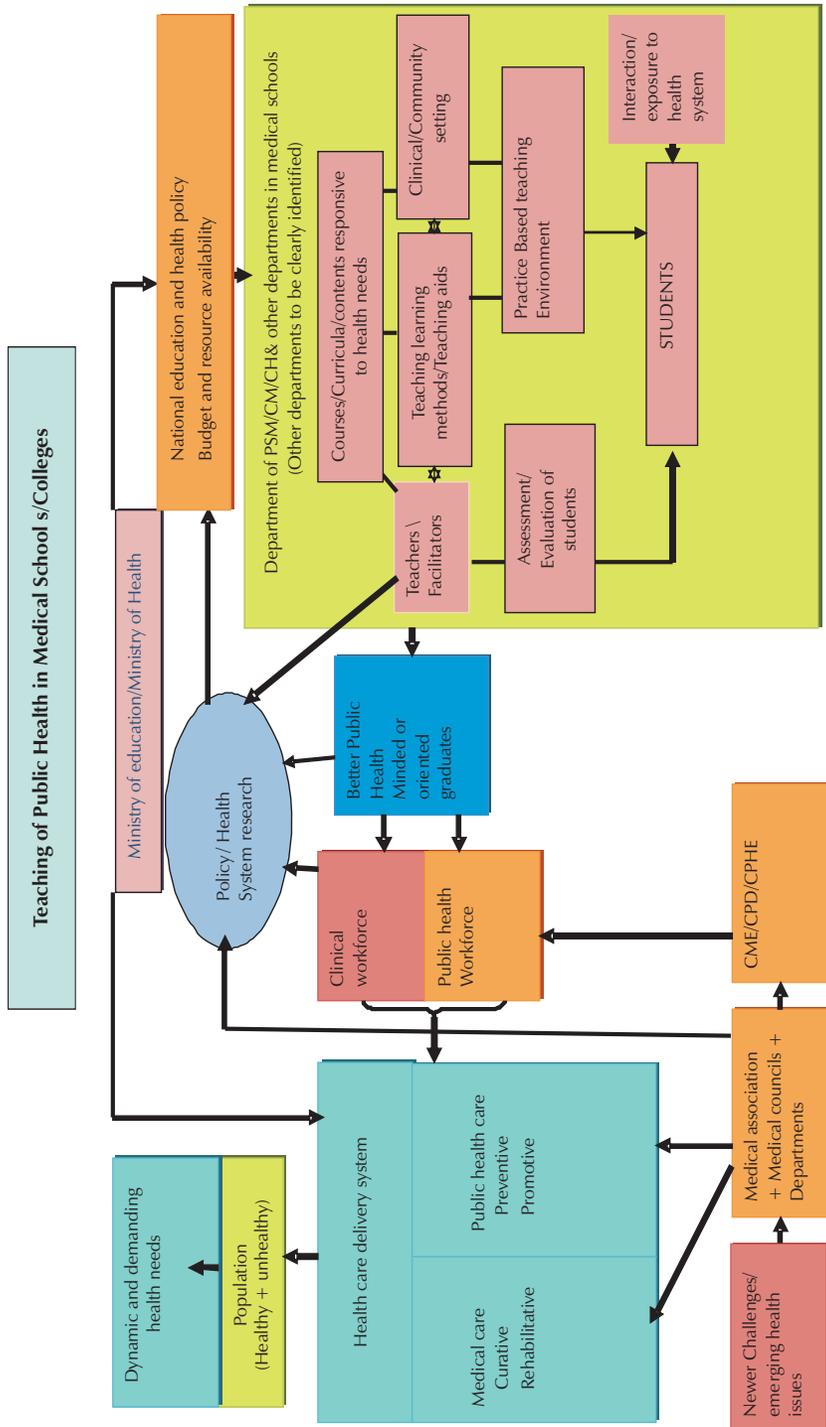
- Inculcation of public health and epidemiological skills is needed for understanding of disease dynamics for effective control, for need-based health planning, effective monitoring and efficient supervision of health programmes by future health managers and to develop the concept of an efficient management information system.
- Practice-based teaching with emphasis on the linkages among multiple determinants affecting health is important in order to respond to the broad, diverse, and multidisciplinary needs the health system that serve the community with the goal of improving their health.
- Partnerships/interaction are needed between academic institutions and the health system/facilities at appropriate levels to facilitate education, service and research through information exchange, programmes implementation and exchange of students and faculty.
- Greater community involvement and other community development activities should be promoted for discussion, collaboration and focused action by developing clearer concepts and different models for testing the most appropriate mechanisms and modalities.

## **Strategic framework for future action**

A Regional Strategic Framework for Strengthening Teaching of Public Health in Undergraduate Medical Schools was reviewed and adopted in principle at the “Regional Meeting on Teaching of Public Health in Medical Schools” held in Bangkok, Thailand from 8-10 December 2010. The framework is given in Figure 1.

Based on the framework, the following recommendations were proposed by this expert group for action:

Figure 1



## **General recommendations for medical schools and departments of community medicine/ preventive and social medicine/public health**

### ***Curriculum review and revision***

The review and revision of medical curricula in medical schools have not taken place at regular intervals and have not taken into consideration the changing health needs of the countries. The core public health competences have not been identified. The review process has failed to include all relevant stakeholders including healthcare providers, policy planners and programme providers, recent graduates and civil society.

### ***Teaching learning methods***

Today most of the teaching in public health is carried out using didactic lectures within the “ivory tower” of an institution with limited exposure to the community. Public health education has to be an active process, student-centered, inquiry-driven, evidence-based and problem-solving as well as addressing the needs of the community. The role of the teacher should be to facilitate the student to acquire the competencies through Field based experiential learning of public health competencies involving dedicated time for practice, receiving feedback and reflecting on its application in their future role as primary care doctors.

Formal and informal methods should be encouraged wherever possible in order to make training student-centered, problem-oriented, integrated, community-based, needs-oriented, interactive and problem-solving. Innovative methods should be used, with greater use of the latest education and information communication technology.

## **Competency-based training for undergraduates in public health**

It is recommended that all public health courses must have provision for utilizing about 40% of time for skill building as basic public health skills are lacking at the undergraduate level. Some of the skills that require strengthening are epidemiological, health management, communication, and documentation and computer skills (IT). The list of participants and competencies is given in **Annex 4**.

## **Practice-based teaching/learning environment**

Practice-based teaching is interdisciplinary, multidisciplinary and multi-dimensional. Interdisciplinary teaching provides a meaningful way in which students can utilize knowledge learned. Given the complexity of most public health challenges, interdisciplinary approaches have become the norm rather than the exception in public health practice. In addition to contributing to the education mission of the schools, practice-based teaching contributes to the research and service missions. Practice-based teaching/learning enhances the development and employment of critical thinking and problem-solving skills to make sound judgments that adapt public health services for diverse populations. Practice-based teaching/learning provide the best learning environment for acquisition of skills such as community diagnosis, prioritization, planning, supervision, monitoring, management of data, investigation of epidemics and problem solving and communication with the community.

We need to produce socially sensitive physicians who are well informed and up to date on current debates in public health. Instead of focusing excessively on behavioural modification at the individual level, medical teachers could make their teaching more relevant by applying their understanding of the social context of health and ill health. The teaching and acquisition of critical thinking and analytical skills go far beyond the memorization of information related to a topic. Practice-based teaching includes observation, feedback and reflective activities that promote critical and analytic thinking among learners.

## **Field practice area**

Each medical school must itself undertake the responsibility of managing one community health centre (CHC) or subdivisional hospital and primary health centres (PHCs). The medical school must provide its own doctors who will work in collaboration with the doctors of the health system. The caseload can be used to give hands-on training to the medical students. The actual management of the service centres by the medical school would provide an opportunity to train the students in all aspects of operation of the centres – ranging from administrative management to independently providing primary health-care services. One can also expect that the CHC/primary health centres managed by the medical school would provide high-quality services, thus making these centres model units in the area

they serve. The caseload should be based on the country-specific health system and disease burden.

The students in the period of their graduate course should be posted to CHCs/PHCs in order to acquire fundamental skills such as basic nursing procedures, immunization procedures and basic laboratory procedures. The student should also gain hands-on experience in diagnosis and management of common health conditions, such as cases of normal delivery; application of the module for Integrated Management of Childhood Illness (IMCI); management of fever cases; management of gastroenteritis and cholera cases in infants; management of tuberculosis cases under the Revised National Tuberculosis Control Programme (RNTCP) etc.

Further, it is recommended that the direction of action should be community-based and relevant to policy and there should be some system of accountability which will result in provision of equitable, effective and compassionate healthcare to the community according to societal needs.

## **Integration/interaction with clinical disciplines**

Clinicians and public health professionals have very little interaction and coordination in teaching of public health contents in the existing curriculum. The community medicine departments of medical colleges should be more proactive in integrated teaching with clinical disciplines. The staff of community medicine departments should also involve themselves in the delivery of services in the teaching hospitals and in primary health care settings for primary health care, immunization, guidance/counseling, annual health check-ups, biomedical waste management and infection control.

Public health and other clinical disciplines could be integrated for the benefit of undergraduate medical teaching. In Thailand, under the integration model public health teaching is coordinated by the faculty of medicine through a special committee with the dean acting as head of the committee. Public health professionals who possess the necessary knowledge and skill in community medicine are co-opted as member secretary of the committee. In such a model, all clinical staff in medical schools are automatically involved in public health teaching activities, e.g., doing a site visit to supervise medical students when they are being trained

in the community, selecting the appropriate local hospital for the training and giving relevant advice in their specialties whenever they encounter any clinical problem in the community. This gives medical students the sense that public health knowledge and skill are very important both in daily clinical practice and health promotion, as well as in disease prevention in the community. Any doctor can do disease treatment as well as disease prevention at the same time. While the clinical staff realize the real clinical problems in the community and these certainly make the clinical teaching more relevant to the needs of the people. For the partial integration model, some of clinical departments, (e.g., department of pediatrics, family medicine and obstetrics and gynecology) integrate with public health teaching according to the needs of the local community, the personal expertise and personal interests of public health professionals.

### **Integration between health services and public health**

At present the medical schools function in isolation without any health service responsibility. In India and Indonesia, the decision of the ministry of health that each medical college should take responsibility for providing health services at least in one community development block has not been implemented. All medical schools must have a close collaboration with district health systems in order to provide exposure to public health practices to the students and faculty. Medical schools can involve public health specialists working with the health system in the teaching and training of undergraduate medical students, both in school and in the field.

### **Quality assurance and accreditation in public health education and training**

The existing framework within countries for quality assurance and accreditation may be utilized and carried out at regular intervals. Accreditation of educational institutions is a means for improving the quality of educational programmes. Quality assurance in turn will help the public health departments of medical colleges to improve their social responsiveness in meeting people's health needs.

The medical councils in the Region should develop accreditation guidelines for public health courses both at undergraduate and postgraduate level. The medical colleges should be provided resources,

including faculty and adequate facilities, to support the curriculum offered to ensure quality; in turn, they should be able to ensure the competence of practitioners of public health.

The main challenges for public health institutions in the Region are to reflect social responsiveness/social accountability, develop the quality assurance system, keep pace with advancing technology and develop an interface with the community and health-care delivery system. Any formal accreditation system specially directed towards medical teaching in general and public health teaching in particular should also address these concerns.

### **Promotion of greater community involvement in public health development activities, social responsibility and accountability**

The community medicine department should be involved in social mobilization and community empowerment in their field practice. The community should be involved in health planning and its implementation. This will help the medical schools to discharge their social responsibility, and can serve as a forum to develop a social accountability matrix.

### **Continuing professional development (CPD)**

It is suggested that the CME for medical teachers and other public health professionals should be compulsory at regular intervals.

- Public health teachers and professionals should maintain their knowledge and skills and upgrade them on advancement in response to the changing needs of the community; acquire new skills; and promote trainers and a pool of resource people (e.g., trainers of trainers). Formal, informal and innovative training techniques could be used, wherever possible.
- All CME programmes (formal and informal) should be based on accreditation guidelines in order to use the programmes to allocate credits which can be utilized in career promotion.

(Specific recommendations for medical schools and departments of community medicine/ preventive and social medicine/public health are given in Annex 4.)

## **Recommendations for professional associations in the Region**

- (1) Facilitate further development of existing programmes for education and training of public health personnel, based on the guidelines agreed at the Calcutta Declaration.
- (2) Develop guidelines to develop national standards for accreditation.
- (3) Ensure adequate representation and participation of appropriate public health personnel in strategic national health planning and policy-making.
- (4) Strengthen managerial capacity and leadership capabilities of public health personnel.
- (5) Develop partnerships with other government sectors, NGOs, private organizations, and the community in developing PH services and training institutions.
- (6) Develop a mechanism for reviving current status of all Public Health training institutes using evidence-based criteria in relation to numbers, distribution, skill mix and career advancement opportunities.

## **Recommendations for the government and regulatory bodies**

- (1) Develop or strengthen existing regulatory bodies for accreditation of all institutions contributing to education and training of public health personnel;
- (2) Promote a separate category of public health professionals rather than merging it in general cadre of health professionals.
- (3) The Public Health Council should be promoted to develop regulations and guidelines for the teaching and training of different cadres of public health professionals.
- (4) The public health departments of medical schools should be involved in planning, monitoring and evaluation for the health system in order to utilize the experience in teaching and research.

- (5) There is an urgent need for:
  - Development of evidence-based public health policies;
  - Development of institutional capabilities for closing the gap between knowledge and practice;
  - Development of appropriate human resources for public health at all levels;
  - Health promotion including healthy lifestyles, with the involvement of civil society through public health department of medical schools;
  - Promotion of community-based public health research through medical schools;
- (6) Development of country-specific strategies incorporating the regional strategy but considering local needs and resources.

## **6. Recommendations for WHO**

- (1) Support the development and utilization of an accreditation system for public health institutions based on internationally endorsed criteria, enabling equivalence between Member States;
- (2) WHO-SEARO should convene a meeting of public health experts in order to discuss these guidelines and finalize a broad consensus on strategy for undergraduate public health education in medical schools;
- (3) Support regional exchange programmes for faculty and students to facilitate learning from “best examples” in public health education, training, and practice;
- (4) Facilitate the establishment of regional networking of public health institutions for capacity-building of teachers, and research on issues of public health importance;
- (5) Facilitate the establishment of regional networking of medical schools to impart community-oriented/community-based medical education.

## **Annex 1**

# **Agenda**

- (1) Inaugural session
- (2) Background and Objectives
- (3) Introduction of participants
- (4) Presentation of the concept paper on guidelines to improve teaching of public health in undergraduate medical schools in South-East Asia
- (5) Sharing of observations and comments
- (6) Group discussions on the contents of the concept paper
- (7) Presentation on the concept paper section by section
- (8) Consensus-building and preparation of final draft
- (9) Closing session

## Annex 2

### List of participants

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### **Annex 3**

## **Discussion issues on the document “Guidelines to improve teaching of Public Health in Undergraduate Medical Schools in South East Asia”**

- (1) Changing concepts in public health especially in the context of South-East Asia
- (2) Issues and concerns related to undergraduate teaching of public health, including training problems
- (3) Strategic framework: how it is applicable to South-East Asia in general and to your country in specific
- (4) Discussion on core curriculum
- (5) Discussion on competency-based curriculum
- (6) Discussion on general recommendations:
  - (a) Teaching-learning methods
  - (b) Partnership with health system
  - (c) Integrated teaching
  - (d) Skill-based teaching
  - (e) Partnering with the community
  - (f) Field practice area
  - (g) Quality assurance and accreditation
  - (h) Continuous professional development
  - (i) Social responsibility/social accountability
- (7) Discussion on specific recommendations
  - (a) Curriculum and curriculum design
  - (b) Infrastructure

- (c) Skills and competencies
- (d) Role of behavioural sciences and medical ethics
- (e) Pedagogy
- (f) Student performance assessment
- (8) Role of professional associations
- (9) Role of government/regulatory bodies
- (10) Role of WHO
- (11) Future directions

## **Annex 4**

# **Specific recommendations for medical schools and departments of community medicine/preventive and social medicine/public health**

Based on the recommendations of the World Federation for Medical Education and recommendations of various WHO consultations on public health teaching and training, the following may be suggested (further they may be considered by an expert group in each country in order to develop an effective and acceptable implementation strategy):

### ***Mission and objectives***

- The medical school in general and the community medicine department in particular must define their mission and vision statement. The mission statements and objectives must describe an educational process to produce a basic health professional competent to work at different levels including as a leader of the health team with area health responsibilities to achieve HEALTH FOR ALL.
- The medical schools should identify what public health competencies (including clinical competency) its students should exhibit on graduation that are linked to meeting the diverse needs of society.

### ***Curriculum models and instructional methods***

- The medical schools must identify and define the curriculum models and instructional methods to be employed that are appropriate to acquiring the competencies required for discharge of duties as a basic doctor on the basis of sound teaching-learning principles.
- Instructional methods should be predominantly “hands on” and where appropriate, field/community-based experiential learning should be available, directed to the achievement of public health competencies with dedicated time for practice in acquiring these skills/competencies, immediate feedback and use of assessment tools that check the

achievement of these competencies. Didactic lectures should be kept to a minimum and should be made into structured interactive sessions, small group discussion, discussion of on-the-job/practice-based scenarios, and ending with students reflecting on their learning and its link to their earlier field learning experience as well as stating its usefulness to their future role as doctors. Field-based experiential learning includes focus group discussion (FGD), participatory learning appraisal (PLA), family and community visits and institutional visits. Other modes of practical training including demonstrations, small community-based research projects and use of e-learning modules and also should be promoted.

### *Physical facilities*

- The medical school should ensure that it has sufficient educational resources for the students for the delivery of the community oriented/community-based curriculum, including libraries and IT facilities.

### **Organizational structure**

- At the outset a group of faculty members should form a curriculum committee, which should be given the authority to design and manage the curriculum.
- The public health curriculum should be multidisciplinary in nature and should have horizontal and vertical integration at different levels, thus involving many disciplines in the teaching of public health.

### **Curriculum structure, composition and duration**

- The medical schools should describe the content, extent and sequencing of courses and other curriculum elements, including the balance between the core and optional content.
- The suggested core curriculum, curriculum, and detailed topic-wise content are given below which may be modified according to local needs.

### **Core curriculum**

A student of preventive and social medicine/community medicine should know:

- (A) The important health problems of the country, their magnitude, epidemiological factors, and measures which can be taken to control them, e.g.
  - (1) Population stabilization
  - (2) Proper emphasis on safe drinking water and basic sanitation (safe collection of refuse, waste water and sanitary latrines)
  - (3) Nutritional deficiency disorders
  - (4) Common diseases from which people die
  - (5) Common illness from which people suffer
- (B) Methods to diagnosis community health
- (C) Methods used for prevention of diseases and disability
- (D) Organization and functioning of healthcare services

### **Suggested core competencies**

A student of preventive and social medicine/community medicine should be competent in:-

- I. Epidemiological competencies
- II. Management competencies
- III. Research competencies
- IV. Leadership competencies

### **Course contents**

- I. Concepts of health and disease
- II. Social and behavioural sciences
- III. Environment and health

- IV. Health education
- V. Public health nutrition
- VI. Occupational health
- VII. Biostatistics
- VIII. Basic epidemiology
- IX. Epidemiology of specific diseases: communicable and non-communicable

***Communicable diseases:***

- Intestinal infections
- Respiratory infections
- Vectorborne infections
- Surface infections
- Zoonosis

***Noncommunicable and lifestyle diseases***

- X. Demography and vital statistics
- XI. Reproductive and child health
- XII. School health
- XIII. Urban health
- XIV. healthcare system
- XV. Health planning, management and administration
- XVI. Disaster management
- XVII. International health
- XVIII. Biomedical waste and its disposal
- XIX. Health care of the elderly

## **Competencies**

### *General competencies*

Competencies in relation to specific topics like communication, team activity, environmental sanitation, Communicable and noncommunicable disease, reproductive and child health, statistics, nutrition, occupation health and managerial skills.

### *Role of behavioural and social sciences, medical ethics and human right issues*

Medical schools should identify and incorporate in the curriculum the contributions of the behavioural sciences, the social sciences (especially the understanding of the social determinants of health and medical ethics, methods, skills and attitudes necessary for effective communication and decision-making and implementation of public health programmes).

### *Acquiring of skills for the expected competencies*

- Students learn most of their skills by observing and learning from their senior colleagues and faculty, who tend to overlook disease prevention and rehabilitative components that should be an integral part of management of any disease. The first logical step would be gathering all the medical teachers to play the role of “health promoters” in addition to “treatment providers”.
- The medical schools should ensure that students acquire knowledge of public health management sciences and skills (including communication skills) necessary to assume managerial responsibility upon graduation. Skills should be given higher priority than knowledge.
- The skill building should be directed to ensure the desired competencies in undergraduate medical students. This can be ensured through deliberate practice and feedback as well as reflection on practice, and supported by periodic assessment of competencies using appropriate methods and tools to measure them.

### *Shift to learner-centered from teacher-centered education*

- The students should experience education as something they do, not as something done to them.
- The medical schools should have a policy of training faculty on teaching technology to build training capacity of faculty as a part of faculty development at entry, mid-level and top level (administrative/policy-makers).

### *Student performance*

Student performance (average study duration, scores, pass and failure rates, success and dropout rates) should be measured in relation to the objectives of the curriculum and achievement of the required competencies.

### *Assessment methodology*

- The summative assessment methods should be appropriate to the measurement of achievement of the desired CORE competencies. For the assessments to be reliable and valid, multiple examiners should assess the same student and wider sampling of the areas to be tested should be done. Modified essay questions, short answer questions, Multiple Choice Questions, problem-solving exercise, Objectively Structured Clinical Examination (OSCE), Objectively Structured Practical Examination (OSPE), epidemiological exercises, records review, checklist, research project reports and structured oral examination should be preferred methods for assessment.
- The formative assessment methods that are directed towards measurement of required competencies are to be used to supplement the summative assessment of students since all the expected competencies cannot be tested at the time of summative exams.
- The assessment should also address affective aspects such as student attitudes to a severe public health situation.
- An examination in community medicine should be at the end of course and formative and summative assessment during internship, so that a basic doctor becomes competent to provide primary care.



An Expert Group meeting was organized by the WHO Regional Office for South-East Asia (SEARO) in Kathmandu, Nepal, from 10-12 August 2010 to review and finalize the regional guidelines to improve teaching of public health at undergraduate level in medical schools in the Member States of the Region. Experts from Bangladesh, Bhutan, India, Indonesia, Maldives, Nepal, Sri Lanka and Thailand participated in the meeting. The document provides a concise report of the proceedings.



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