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Allied Health (Paramedical) Services and Education

*Report of an Intercountry Consultation
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1. INTRODUCTION

An Intercountry Consultation on Allied Health (Paramedical) Services and Education was held in Bangkok, Thailand from 20-24 March 2000. Nineteen participants from eight countries of the Region and seven observers attended. The list of participants and the programme of the consultation are at Annexes 1 and 2 respectively.

2. INAUGURAL SESSION

Dr Mongkol Chetthakul, Director, Office of the Collaborative Project to Increase the Production of Rural Doctors, Ministry of Public Health, inaugurated the meeting on behalf of Dr Sujarit Sripaphan, Permanent Secretary. He thanked WHO/SEARO for convening the meeting in Thailand and extended a warm welcome to all. He stated that numerous categories of allied health (paramedical) personnel in Thailand had contributed significantly to health services delivery, particularly to primary health care services, in the country. They needed to have the right numbers as well as to be well educated so that they could provide quality care. Therefore, it was essential to identify issues confronting allied health education and utilization of allied health personnel. He highlighted the need for devising appropriate strategies to strengthen allied health services and education in the Region.

Professor Dr Subarn Panvisavas, Executive Vice-President, Mahidol University, Bangkok, Thailand, welcomed the participants to the meeting and Thailand. He expressed his gratitude to WHO for organizing this important meeting to strengthen allied health services and education in the Region in order to meet the changing health problems and needs. He underscored the important roles that allied health personnel played in delivering quality health care to the population to make Health for All a reality.

The address of Dr Uton Muchar Rafei, Regional Director, World Health Organization, South-East Asia Region, was read out by Dr E.B. Doberstyn, WHO Representative to Thailand. The Regional Director extended his greetings and highlighted the important role played by non-physician, non-nursing health care providers, known as allied health (paramedical) personnel, in the field of health care. Unfortunately, allied health services and education

had been a relatively neglected area in most countries of the Region. Realizing the need to fill the gap, WHO/SEARO launched a series of activities in 1998 starting with a situational analysis of the allied health workforce in the Region followed by a regional meeting to identify problems and issues related to allied health personnel.

Dr Rafei stated that as the world moved into the new millennium, it became necessary to devise strategies to strengthen the education and training of allied health personnel so that they were equipped to provide quality health care not only for the present but also in the changing environments in the future.

The changing health needs and service requirements in the next century would have an impact on the services delivered by the allied health personnel and, consequently, their roles and functions would also change. Therefore, nursing and midwifery personnel had to be well prepared to meet that challenge. This consultation was therefore organized to identify strategies to strengthen allied health services and education in the countries of the Region, with particular emphasis on improving the utilization of these personnel. The Regional Director urged the participants to propose feasible and implementable strategies in the regional context.

3. TECHNICAL SESSION

Dr Virapong Prachayasittikul (Thailand) was nominated as Chairperson and R.K.M. Bhattacharya (India) as Co-Chairperson. Dr Ye Win (Myanmar) and Dr S.D. de Silva (Sri Lanka) were nominated as Rapporteurs.

Dr Duangvadee Sungkhobol, Regional Adviser for Nursing and Midwifery, WHO/SEARO, provided the background to the meeting. She recalled that the Regional Office had taken some initiatives in the past few years towards the strengthening of allied health services and education. A situational analysis of the allied health workforce in the countries of the Region was conducted in 1998. It was followed by a meeting of the principal investigators who took part in the study (from nine countries) to identify problems and issues related to allied health personnel.

This consultation was a follow-up to the above initiatives in order to devise strategies for further strengthening allied health services and education in the countries of the Region.

The objectives of the meeting were:

- (1) To critically review the current status of and issues related to allied health (paramedical) education and utilization of allied health (paramedical) personnel in SEAR countries;
- (2) To identify major challenges in the 21st century related to allied health services and education;
- (3) To propose regional strategies for strengthening allied health services (with particular emphasis on the utilization of allied health personnel) and education;
- (4) To develop country-specific action plans for the strengthening of allied health services and education, and
- (5) To propose recommendations for strengthening allied health services and education in SEAR countries.

3.1 Overview of Allied Health Services and Education in the WHO South-East Asia Region

Dr Win May, Scientist, Human Resources for Health, WHO/SEARO, emphasized that allied health (paramedical) personnel were important but unrecognized players in the field of health care in the WHO South-East Asia Region. Allied health services and education had been a relatively neglected field in most of the countries of the Region although allied health personnel did play an important role in the provision of health care delivery. It was, therefore, essential to assess the status of allied health education and services in the Region in order to identify what would be effective strategies to strengthen allied health services, with emphasis on improving the utilization of allied health personnel as well as assuring the quality of allied health education.

In many countries of the Region, the term “paramedical health personnel” was used for health care providers who were non-physicians and non-nurses. Other countries used the term “allied health personnel” or “auxiliary health personnel”. However, the meeting agreed that the term “allied health” would be used in place of “paramedical” for uniformity as well as to correctly reflect the services that these personnel provided to the health service delivery system.

In the Region, allied health personnel included a wide array of health personnel. Such personnel provided services both in urban and rural areas, in primary, secondary and tertiary care institutions, and in health centres. In many countries, some categories of allied health personnel were front-line health workers in the rural areas.

Education and training of allied health personnel took place both in the public and the private sectors. The curricula of these health personnel also varied widely. In some countries, there were opportunities for higher education.

Issues identified with regard to allied health professionals were: lack of clear national policies for paramedical development; norms and standards for paramedical professionals generally do not exist, resulting in an inappropriate mix of health personnel; lack of mechanisms for the exchange of information on paramedical education and training in the Region; absence of uniform standards for paramedical education and training among the countries of the Region; absence of quality control mechanisms in paramedical practice; and involvement of paramedical health personnel in policy development related to their work within the health team.

3.2 Status of Allied Health Education and Utilization of Allied Health Personnel: Country Level Experiences

Bangladesh

A gradual development of allied health services over the past 15 years has resulted in a system with some well-developed categories. Attention has been paid to the grassroot-level workers based on the ideals of PHC. With the recent emphasis on sector-wide approach to health and the Health and Population Sector Programme (HPSP), there has been considerable movement in in-service training for some existing categories of allied health personnel at the Thana level. Overall, however, there is an acute shortage of most categories of allied health personnel. As the demand remains high for some categories of allied health personnel, e.g., pharmacy assistants, radiography and laboratory technicians, there are many untrained workers practising mainly in cities and their environs.

In Bangladesh, nurses and dentists are not considered as allied health workers, while pharmacists are. Major categories of allied health professionals

include: medical technologists (laboratory), medical technologists (radiography), medical technologists (dentistry), medical technologists (physiotherapy), medical technologists (sanitary inspector), medical technologists (pharmacy), Medical Assistants, Family Welfare Visitors, Family Welfare Assistants, Health Assistants/Health Inspectors, statisticians, district statistics officers, health educators, health education officers, Expanded Programme on Immunization (EPI) Technicians/Supervisors.

For the education of allied health personnel, there are two state-funded schools that cater for the production of most categories of allied health personnel other than the grassroots-level workers. One is in the capital, Dhaka, and the other in the far north of the country, in Rajshahi. Most allied health personnel employed below the Thana level are produced by an institute set up by the Family Planning Directorate. There are two private institutions that have been established more recently. One of these produces only physiotherapists and occupational therapists. The state-funded institutions, although adequately staffed, are lacking in essential equipment, periodicals, and books. Staffing, though adequate in numbers, is inappropriate in terms of expertise. Most are not from any of the several categories of allied health personnel. Rather, they are doctors with some postgraduate qualification, commonly public health. Career structure and clear lines of progression upwards are ill-defined or lacking.

Major issues in allied health services and education include: absolute shortage of all categories of allied health personnel; low status of allied health personnel; absence of policies and plans to complement the National Health Policy and HPSP; no formal career development system, and unregulated practice prevalent mostly in cities.

Lessons learned include: requirement for need-based, resource-realistic planning for allied health services and education; databases needed for continuing education and regulation; inappropriate categorization/nomenclature of allied health personnel and inability of state-funded institutions to meet demand even if government funds become available.

Bhutan

Bhutan has followed a policy of providing integrated health services based on the principles of the primary health care approach. The health workers are responsible for providing comprehensive curative, preventive, promotive and

rehabilitative health care at all levels. The different categories of technicians, such as laboratory, dental, pharmacy, radiology, physiotherapy and ophthalmic assistants, assist medical and nursing professions in providing services related to each discipline.

For allied health education, all allied health personnel are trained at the Royal Institute of Health Sciences according to the curricula approved by the Health Department and the Royal Civil service Commission, which are responsible for the employment of all health workers. The duration of training for all categories is two years after passing class 10; they follow a structured course of instruction and practice.

Although opportunities for further enhancement of their qualification is limited due to their low academic background, most of them are provided in-service training to improve the quality of care provided. They are also promoted to the higher salary grades after a certain number of years.

Major issues in allied health include: no clear-cut policy regarding allied health workforce (although paramedical personnel constitute a major portion of the total health workforce in Bhutan); the term "allied health" is not even used in Bhutan; need to review all categories of health personnel in the context of economic development and changing health needs of the people, and low educational entry qualifications limit opportunities for advanced education.

The lessons learned was that supportive supervision contributes toward the provision of quality care and staff morale.

India

Currently, there exists a vast variety of allied health service professions with newer categories of allied health personnel coming on stream. In the North-Eastern Regions, with mostly rural population, the shortages are currently being addressed through a coherent production plan that is linked to ascertained needs.

Major categories of allied health personnel are physiotherapists, occupational therapists, medical laboratory technicians, radiology technicians (diagnostic imaging technicians, radiotherapy and radioisotope technicians, speech therapists and audiologists, clinical technicians, operating theatre

technicians, and ophthalmic technicians. The roles of the existing personnel are expanding throughout the country. It can be stated that in the large urban conglomerates there is over-provision of some of these services while unregulated practice is prevalent in some categories.

For education and training of allied health personnel, there are a number of courses ranging from short-term (up to 3 months), certificate, diploma, and graduate level. There are currently 24 categories of allied health personnel in the country. The more established categories have well-organized structured programmes with updated curricula. A number of other categories currently have only a syllabus.

Issues in allied health are: nurses dental surgeons and pharmacists are considered as allied health personnel; regulatory bodies have been established only for doctors, dentists, nurses and pharmacists; introduction of new categories of personnel seems to be the norm rather than role expansion of existing cadres; categorization and nomenclature issues; continuing/in-service education for career advancement are not well established in some categories.

Lesson learned include: some degree of within-country standardization necessary; more input into health policy by allied health personnel is needed; and region-specific educational initiatives may help retain allied health personnel in rural areas.

Maldives

The national health system consists of a four-tiered referral services from family health posts at the island level, to health centres at atoll level, then to regional hospitals at the regional level, and to the central level at Male, the capital. There is one island health post/family health section for every island 35 health centres, and seven hospitals, including one private hospital. Allied health workers are important members of the health care team. They are engaged in disease prevention as well as promotion of health of the population at every level of the health care system.

Acute scarcity of skilled health personnel was a major constraint in the delivery of quality services throughout the country. Presently, most of the qualified health personnel were expatriates. The very basic services previously provided by TBA and family health workers are no longer an aspiration of the

island community. Hence they need to be trained and upgraded to meet the demanding new roles.

Currently, the majority of allied health staff working in the island and atoll levels are family health workers, community health workers, and pharmacy assistants. Prior to 1994, community health workers also provided curative care at the health centre level. Since then doctors have been recruited to all main health centres.

Other allied health workers, such as radiographers, laboratory technicians, occupational therapists, speech therapists, physiotherapists and optometrists worked at regional and central levels.

The Institute of Health Sciences (IHS) is the only facility for the training of health personnel, be it paramedical or otherwise. IHS was previously a part of the health sector but since January 1999 has become a part of the Maldives College for Higher Education. IHS offers training programmes only for non-professional categories of allied health personnel. Courses offered include: diploma in primary health care; certificate courses for community health workers, family health workers and pharmacy assistants. From 1998 IHS introduced a diploma course in medical laboratory technology. Due to acute shortage of trained teachers, up to now IHS has done very little in terms of retraining and continuing education for allied health personnel.

Major issues in allied health services include: recognition of paramedical health personnel; lack of clear national policies for paramedical personnel development; acute shortage of trained paramedical personnel at all levels of health care system; lack of norms and standards; uneven distribution; lack of adequate quality assurance measures; absence of regulatory mechanisms to ensure quality of paramedical service; lack of career development opportunities; lack of evidence-based HRH policies and plans; and inadequate facilities, supplies and equipment and other resources for quality service delivery, especially at the peripheral level.

Major issues in allied health education were: shortage of qualified teachers; shortage of qualified candidates to undergo paramedical training; lack of clear policies and plans for education; inadequate quality assurance measures in education; lack of continuing education opportunities for allied health personnel and trainers; shortage of appropriate teaching and learning

materials, and inadequate physical facilities to meet the training needs of the health sector.

Lessons learned included: developments made in achieving health for all can be attributed mostly to the services provided by paramedical personnel; utilizing allied health workers was economically more feasible; in the absence of qualified candidates to pursue medical professions, paramedical was a more viable option; allied health personnel worked more closely with the community.

Myanmar

The national health policy of Myanmar is to achieve one of the social objectives, i.e., to uplift health fitness and education standards of the entire nation. To implement this policy, the Ministry of Health has taken the responsibility to improve the health status of the people by promotive, preventive, curative and health restorative measures. A significant achievement has been made in the health status of the nation.

Allied health profession aids in the diagnosis, treatment and prevention of diseases. Training in allied health was started in 1964 under the Department of Medical Sciences, with the opening of the School of Paramedical Sciences at Yangon General Hospital. In response to the need for better prepared allied health personnel, this school was upgraded to the level of the Institute offering a degree programme, in 1991. However, the production of these allied health personnel has not met the needs of the country, either in terms of quantity or quality. Therefore, a new Institute of Paramedical Science will be opened in Mandalay in May 2000. Furthermore, several categories of allied health personnel (such as dental technologists, prosthetic/orthotic technicians) are produced by various hospitals and laboratories under the Department of Health.

Allied health personnel currently working are medical technologists, laboratory technicians, radiological technologists (radiographer), physiotherapists, dental technologists, assistant reflectionists, prosthetics/orthotics technicians. They are utilized at all levels of the health system. The health policy of Myanmar has clearly identified the need for adequate training of paramedical personnel for an efficient health care delivery system. Still there is a shortage of manpower which has a significant impact in the provision of quality services, particularly at the peripheral level.

Nepal

For health care delivery, in each Village Development Committee (VDC) there is one sub-health post, and in each electoral constituency, one primary health care centre where the majority of health assistants, ayurvedic health assistants, and certified medical assistants provide preventive, promotive, and curative health services. Health assistants also work at district and zonal-level hospitals. Zonal hospitals serve as referral hospitals for district hospitals. Community-based health volunteers and traditional birth attendants carry out health promotion and safe motherhood activities, supervised by maternal and child health workers and village health workers. The health delivery system is heavily dependent on allied health personnel who function at primary and secondary levels of health facilities, and laboratory-based personnel functioning at district, zonal and tertiary levels.

Educational programmes for allied health personnel vary from basic-level vocational training of 15 months to degree and master's level. The majority of allied health personnel are trained at the Institute of Medicine, Tribhuvan University. Currently, Kathmandu University also provides a Bachelor of Pharmacy course. Since 1993, basic and mid-level programmes for health professionals are conducted in private and public institutions recognized by the Council for Technical and Vocational Education. In general, all educational programmes have well-documented community-based curricula. In addition, a few allied health professionals are also produced at BP Koirala Institute of Health Sciences and other private medical colleges. Continuing education for allied health personnel is being offered by the National Health Training Centre of the Ministry of Health and its regional training centres.

Major issues in allied health include: need to improve the quantity and quality of allied health personnel; monitoring of quality of training at private institutions; strengthening of Nepal Health Professional Council should be strengthened; more facilities for continuing education and updating knowledge and skills; and revision of entry requirements for different levels of allied health personnel according to their new roles.

Sri Lanka

Development of health manpower for service delivery is the responsibility of the Department of Health Services with the exception of training of medical undergraduates. However, even at present, there is a shortage of allied health professionals, nurses, midwives and supervisory cadres.

Strengths of allied health education and services include: common curriculum is used at different institutions for training of the same category of health workers; common evaluative procedures and evaluation tools are used at different centres; a certain amount of health learning material is available at training institutions and is accessible to trainees; limited, residential facilities are available for trainees and trainers; intersectoral cooperation and community involvement for the training of allied health professionals; and devolution of training facilities, i.e., central to the regional level.

Weaknesses of allied health include: non-availability of a master plan for basic training and continuing education of allied health professionals; non-availability of training curricula for certain categories of health workers; need for revision of certain existing curricula; inadequacy of trained trainers; inadequacy of infrastructure facilities, library and teaching-learning materials; less attention paid to ensure welfare of trainees; communication gaps, poor liaison and coordination among health ministry, health department and training institutions; and career development opportunities are limited for some categories and poorly planned for others.

Lessons learned was the need to ensure: facilities and opportunities to develop the required health manpower in a cost-effective and culturally-acceptable manner; proper skill mix and multidisciplinary team approach for quality health care delivery at all levels; and involvement of allied health professionals at decision-making.

Thailand

The definition of allied health personnel is not well understood among health professions. For the purpose of this presentation, allied health personnel are persons who were educated in health or medical science in a recognized institution and are designated to work in the health system as members of a health team and assist a physician in medical work or give first aid or other health care in the absence of a physician. Health professionals (such as dentists, pharmacists, nurses, community health workers and their auxiliaries) who are able to perform their professional task independently are not considered as allied health personnel.

In general, most allied health personnel education is hospital-based. Primary health care orientation is not explicit, there is no evidence that their education and training are PHC oriented. Practicum is mainly hospital-based, very few courses are community-based.

Currently, major categories of allied health personnel in Thailand include: medical technologists, medical laboratory technicians (clinical pathology), medical laboratory technicians (pathology), medical laboratory technicians (cytology), medical laboratory technicians (haematology and blood bank, transfusion medicine), radiological technologists, radiographers, orthotic and prosthetic technicians, speech therapists/clinical audiologists, physical therapists (physiotherapists), occupational therapists (vocational therapists), rehabilitation workers, emergency medical technicians, and medical records officers. These personnel could be further categorized into three groups based on the educational preparation, i.e., professional or bachelor degree group, auxiliary or certificate group and special education group.

There are various mechanisms to assure the quality of allied health education and several organizations are responsible for them. These mechanisms include a proper process for student selection to ensure the quality of product as well as to address the problem of uneven distribution and high turnover rates of health personnel in rural areas; licensure examination for some categories; and accreditation of educational institutes and programmes. According to the new National Education Act of 1999, the education system will be drastically changed, there will be new approaches and interventions aiming to improve the quality of education as a whole.

There are also various mechanisms for quality assurance in allied health services, such as blind investigation method for laboratory services conducted by the Department of Medical Sciences, Ministry of Public Health. Recently, performance evaluation in terms of client satisfaction has emerged. Hospital accreditation has been conducted nationwide in order to ensure the quality of practice. It is one of the most feasible quality mechanisms. ISO 9002 is also certified in many organizations. In concurrence with those quality activities, allied health personnel have to participate and ensure their performance.

As regards employment of the allied health personnel, more than half of professional group work in the private sector while the other groups work mainly in the public sector.

The situation regarding employment in the public service depends upon the government policy. With the health sector reform movement, placement in public service is strictly limited while rural areas still need their services. In addition, some emerging health problems which need new types of services and different educational preparation may not be able to be provided by the

public sector. For example, emergency medical service has been recognized as a crucial service to reduce mortality rate from accidents, which ranks second among the causes of death in Thailand. However, there are no placements for emergency medical technicians.

In conclusion, allied health personnel in Thailand still need to be clearly defined as well as their functions, roles, relevant educational system, proper utilization and career development to further strengthen their contribution to national health development.

3.3 Summary of Issues and Lessons learned from Country Level Experiences on Allied Health Education and Utilization of Allied Health Personnel

From the country presentations major issues have been grouped into four broad categories, i.e., Policies and plans; Production; Management, and Regulation. Lessons learned have been grouped under a separate heading.

(1) Major Issues

Policies and Plans

- Need for clearly-stated policies for planning, production and management of allied health (paramedical) professionals in the national health or HRH policies and plans.
- Definition, roles and job descriptions of allied health professionals not clearly defined in many countries.
- Inappropriate skills mix of health personnel, including allied health personnel.
- Norms and standards for most categories of allied health professionals are not present in many countries.
- Need for policies to ensure quality of allied health services and education in many countries.

Production

- Lack of regional standards or guidelines for allied health education.
- Need for effective mechanisms for curriculum review and revision to respond to the changing roles and health care needs.

- Insufficient involvement of professional organizations and experts in curriculum development.
- Shortage of educational facilities, including infrastructure, qualified teachers, and learning- teaching resources.
- Need to review student selection criteria.
- Insufficient learning opportunities for working as a member of the health care team.
- Inadequate provision for upward educational mobility (articulation).
- Need to use various learning approaches, such as problem-based learning, community- oriented learning.
- Wider use of different modes of learning, such as distance learning.

Management

- Lack of mechanisms for exchange of information on allied health services and education in the Region.
- Need for uniform nomenclature for allied health professionals with comparable roles in the countries of the Region.
- Need for effective mechanisms for regular review and revision of the roles and responsibilities of allied health professionals in respond to the changing health care needs.
- Lack of a system for retraining of allied health professionals linked to their new evolving roles.
- Inadequate mechanisms and/or facilities to ensure proper utilization of allied health professionals in some countries.
- Minimum involvement of allied health professionals in decision-making processes related to their work.
- Need for recognition and consideration of the occupational health hazards faced by allied health professionals.
- Limited opportunities for continuing education and career development for allied health personnel in both service and education sectors.
- Gaps in economic opportunities between public and private sectors.

- Weakness of allied health professional organizations in promoting and facilitating their own professional development.
- Need for effective supervision and support systems.

Regulation

- Need for effective mechanisms for quality assurance in allied health practice and education.
- Need to examine licensing (or registration) and re-licensing (or re-registration) of paramedical professionals.

(2) Lessons Learned

- Countries have become self-reliant in the production of basic allied health personnel.
- Well articulated educational programmes for various levels of allied health professionals in a few countries.
- Increased attention given to quality of allied health services and education in both public and private sectors in some countries.
- Increased opportunities for continuing education of allied health personnel in some countries.
- Increased accessibility to health care for rural communities by certain categories of allied health professionals.
- Supportive supervision contributes toward the provision of quality care and staff morale.
- The term "allied health or paramedical professionals" interpreted differently within and among countries of the Region.
- Mushrooming of various categories of allied health personnel for highly specialized tasks.
- Poor quality of education, especially in the private sector in some countries.
- Low educational entry requirements limit opportunities for advanced education.

3.4 Definition and Roles of Allied Health Personnel

The meeting, through group work, agreed on the following definition of allied health personnel, in the context of SEAR countries.

Allied health personnel are personnel who have specific connections with the art and science of health care and are recognized as members of health team in the national health system. They are educated, at either professional or lower levels, in a recognized or accredited health or health-related or academic Institution.

Existing allied health personnel in the countries of the Region and their roles and responsibilities identified during the group work are provided in Annex 3.

3.5 Challenges to Allied Health Services and Education

Dr Don Bandaranayake, Medical Officer for Human Resources Development, WHO, Bangladesh, noted that there is an essential requirement to ascertain that all education and training programmes for health professionals are providing the necessary input to meet the requirement of the health service system. In many countries of the Region, there is ample evidence that allied health personnel play a key role in the HFA strategy and, in some situations, have a far greater impact on the health status of the population as a whole. The challenge is to optimise this impact and for this a vision of a status-enhanced allied health workforce for the 21st century needs to be identified.

Currently there is an acute shortage of allied health personnel in most countries in the Region. In some countries, this may be mainly a question of disparity of distribution, with the rural areas being seriously affected. Therefore, planning for allied health education should be based on evidence of country-specific needs.

In conclusion, allied health workforce plans must be reviewed and revised in the context of the national health policy, identified needs, and economic realities. The requirements in the revised plans will then need to be addressed by sustainable adjustments to the training system. This will no doubt require some revision of job descriptions within each category, ideally based on a needs analysis of the required competencies. A major curriculum review will be the end product. From the production side, once a resource realistic plan has been drawn up, some new initiatives will be required to

meet the obvious shortage of human resources. There must be a concerted effort to mobilise the community by increasing awareness about the vital role of allied health personnel. Such an effort will also enhance the status and image of these personnel. Proper policing by the regulatory bodies must be instituted to control unqualified persons in practice, as such a practice is dangerous to public health. Training in management and leadership must be extended to these categories of health workers, and medical doctors should gradually withdraw from the front-line of institutional administration. A vision for the future based on high quality production, service delivery, and institutional management is needed as we move into the 21st century.

Dr P.T. Jayawickramarajah, Medical Educationist, WHO, Nepal, gave a presentation on future directions of allied health education in terms of evolution of different allied health occupations as professions. All professions as such are expected to master a discrete body of knowledge and skills over which its members have exclusive control; use practical knowledge to solve problems; have long periods of formalised training programmes, increasingly in higher educational institutions and universities; have professional bodies which serve as ultimate authorities of certification; have an established sub-culture with codes and conduct with ethical practice with exclusive rights and duties to discipline unprofessional conduct; have the right to charge fees for services rendered to their clients; and value performance above reward, and are held to higher standards of behaviour than other occupations.

As each of the allied health occupations becomes a profession, there is an increased expectation on delivery of health care of higher quality along with well-defined and rigorous educational programmes. When occupations become professions and formalise their training programmes, there could be a resulting negative impact, such as a tendency to move away from practical training towards a strong theoretical academic base, and thus widening theory-practice gap. Therefore, provision of relevant contexts for learning is important in professional education. It is acknowledged that most of what is taught in allied health schools is relatively less relevant to their future work situation; provided out of context in isolation, except for satisfying their examiners many of whom are not practitioners. The relationship between professional knowledge and professional competence needs to be turned upside down.

He underscored the need for reorientation of allied health education. Several forms of innovations are carried out in innovative medical as well as

allied health schools to overcome the problems of relevance, theory-practice isolation, continuity of learning and reflective practice. These include community-based learning, problem-based learning and multi-professional education. In addition, allied health professionals are expected to be familiar with all recent advances in their respective disciplines by continuously updating their knowledge. Hence, there is the greatest need to provide continuing education for allied health personnel with possible re-certification arrangement in the future. Furthermore, it is essential that contribution to knowledge by allied health practitioners must go beyond academic research institute.

3.6 Regional Strategy to Strengthen Allied Health Services, with Particular Emphasis on Utilization of Allied Health Personnel

Based on the review of challenges to allied health and country experiences presented in the earlier sessions, the meeting, through group discussions, identified major challenges in the 21st century and their implications, related to allied health services, with particular emphasis on the utilization of allied health personnel. The outcomes of the group discussions are provided in Annex 4.

The meeting further identified strategies to strengthen allied health services, particularly the utilization of allied health personnel in the countries of the Region as follows:

- Develop a comprehensive human resources for health (HRH) plan for allied health personnel at the country level, that would ensure gender equity.
- Establish guidelines or frameworks for quality assurance of gender-sensitive allied health services at country and regional levels.
- Ensure gender balance representation of allied health personnel at every forum for making decisions related to their work.
- Develop a proper career development plan for allied health personnel.
- Develop a system for continuing education of allied health personnel.

- Develop and operationalize a plan for cost-effective, integrated, quality health service delivery that will ensure equity in relation to geographical location.
- Develop a mechanism for the education of consumers on their rights and obligations.
- Introduce and operationalize mechanisms for safeguarding allied health personnel from work-related hazards.
- Provide opportunities for individual allied health personnel organizations to devise mechanisms for strengthening their own professional development.
- Strengthen public relation activities to create awareness of important contributions of allied health professions.
- Strengthen partnership of key stakeholders in allied health services.
- Ensure a mechanism for regional networking related to rational HRH planning.
- Establish guidelines or frameworks for nomenclature and role definitions of allied health at the regional level.
- Setting up a regional training centre that would address training needs for meeting the double burden of diseases, emerging and re-emerging diseases.
- Establishing a regional mechanism for exchanging information and experiences on the changing disease patterns and trends in relation to allied health personnel.
- Provide a regional forum for allied health personnel organizations to exchange information and experience and decide on future developments that would ensure their professional advancement and gender equity.
- Designation of a WHO collaborating centre to strengthen allied health services and education.

3.7 Regional Strategy to Strengthen Allied Health Education

The meeting, through group discussions, further identified major challenges in the 21st century and their implications, related to allied health education. The outcomes of the group discussions are provided in Annex 5.

The meeting further identified strategies to strengthen allied health education in the countries of the Region as follows:

- Develop national policies related to education and training of allied health personnel based on service needs (including entry criteria, student selection, student assessment, etc.).
- Develop national policies related to career development for trainers.
- Recruit teachers with appropriate qualifications.
- Develop continuing education programmes for existing allied health personnel to provide career advancements and for meeting changing health service needs.
- Develop and implement a plan for continuous upgrading of trainers in teaching and learning methodology, advancements in health care practice and information technology.
- Develop a mechanism for involving professional organizations and experts in curriculum development.
- Establish mechanisms for systematic curriculum development, review and revision to respond to community health needs.
- Ensure that curriculum prepares trainees to meet changing service needs, ethical and legal responsibilities, changes in information technology, as lifelong learners, and provide evidence-based and cost-effective care.
- Promote multi-professional curriculum.
- Ensure uniformity in allied health education in the Region, e.g., same basic level qualification (high school graduates), development of core curriculum.
- Establish/strengthen regional training centres and establish national and regional centers of excellence for allied health education that would address the changing health needs of the Region.
- Conduct regional training programmes based on the assessed needs.
- Develop and strengthen regulatory bodies to ensure quality of training/education and establish and implement guidelines or frameworks for quality assurance of gender-sensitive education and training of allied health personnel at country and regional levels.

- Set up a mechanism to share information, research and education expertise, teaching-learning resources, both within and among countries and within and outside the Region.
- Develop processes to ensure availability of adequate resources (human, physical, logistics and teaching-learning materials) to respond to the allied health training needs of the country as well as advancements in health and education science and technology.
- Establish processes to ensure equal opportunities for training and education, especially for disadvantaged people and those in underserved areas.
- Foster collaboration between the education and service sectors for sharing information and resources and for working together for the common cause of betterment of human health.
- Establish a regional research centre and a collaborative research programme.
- Conduct research into education innovations.
- Strengthen teaching and learning practices by ensuring the use of innovative teaching and learning methods, such as problem-based learning, community-oriented learning and use of different modes of learning, such as distance education.
- Collaborate with the WHO collaborating centre in related areas to strengthen allied health education.
- To raise entry level in allied health education and provide upgrading/conversion courses as a transition programme for existing personnel.
- Mobilize resources, reallocate existing resources to strengthen allied health education.
- Encourage NGO and private sector participation in allied health education.

3.8 Country-Specific Plan of Action for Strengthening of Allied Health Services and Education

The participants were requested to formulate their own country-specific action plans towards the strengthening of allied health services and education

in the country as a blueprint or template for action taking into account identified regional strategies. The newly-formulated action plans were then shared among the participants.

3.9 Recommendations

Based on the plenary and group discussions, resulting from the terms of reference, the following recommendations were made to strengthen allied health services and education in countries of the Region:

For Member States

- (1) In the context of national human resources for health (HRH) policies, develop/review/revise HRH policy for allied health services and education-based on evidence (numbers, distribution, skills mix, career advancement structure, resource allocation, educational programmes, etc.).
- (2) Standardize entry educational requirements for allied health personnel and provide opportunities to meet the requirements.
- (3) Establish a focal point/body at the national level from among the allied health personnel to be responsible for allied health services and education.
- (4) Ensure representation/inputs of allied health personnel in policy-making and planning processes.
- (5) Increase accessibility of essential allied health services, particularly for disadvantaged and underserved communities.
- (6) Create opportunities for advancement/development of allied health personnel.
- (7) Develop/strengthen and implement mechanisms (including regulatory bodies) for quality assurance and accreditation of allied health services and education.
- (8) Support research to develop/strengthen allied health services and education.
- (9) Strengthen supervision and support systems for allied health personnel to function safely and effectively.

- (10) Strengthen managerial capacities of allied health personnel in both education and service sectors.
- (11) Identify and strengthen institutions as national centres for services and education, in specific areas of expertise for allied health personnel.
- (12) Establish mechanisms for curriculum development, review and revision to respond to health and professional needs.
- (13) Foster multi-professional education and innovative educational strategies (e.g., problem-based learning, experiential learning, distance learning).
- (14) Ensure continuing education opportunities for allied health personnel.
- (15) Develop a network for sharing information, resources and expertise among allied health within country.
- (16) Strengthen/encourage formation of professional body(ies) for allied health personnel to facilitate development of the profession and protection of its members.

For WHO

- (1) Encourage and support the development/strengthening of national centres for allied health services, education and research.
- (2) Support the development and implementation of regional training programmes for allied health services and education, based on needs.
- (3) Facilitate and support networking among countries within and outside the Region for sharing information, resources and expertise in allied health services and education.
- (4) Promote and support countries in research and development in allied health services and education.
- (5) Promote and support the production of learning-teaching materials for education of allied health personnel.
- (6) Support national capacity building of allied health trainers in educational science and technology.

Annex 1

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Annex 2
PROGRAMME

Monday, 20 March 2000

- 0830-0930 hrs Registration
- 0930-1000 hrs Inaugural Session
- 1030-1100 hrs Introduction to the Consultation (Dr Duangvadee Sungkhobol)
- 1100-1200 hrs Overview of allied health (paramedical) services and education in SEAR countries (Dr Win May)
- 1300-1620 hrs Status of allied health education and utilization of allied health personnel: Presentation of country reports (Bangladesh, Bhutan, India, Indonesia, DPR Korea, Maldives)

Tuesday, 21 March 2000

- 0900-1120 hrs Status of allied health education and utilization of allied health personnel: Presentation of country reports (continued) (Myanmar, Nepal, Sri Lanka, Thailand)
- 1120-1200 hrs Plenary discussion on major issues related to allied health education and utilization of allied health personnel based on country-level experiences
- 1300-1630 hrs Study visit on allied health services/education

Wednesday, 22 March 2000

- 0830-0930 hrs Summary of issues and lessons learned from country-level experiences on allied health education and utilization of allied health personnel
- 0930-1200 hrs Group work: Session 1:
– Definition and roles of allied health workforce
- 1300-1400 hrs Presentation and discussion of report of Group work: Session 1
- 1400-1500 hrs Challenges to allied health services and education (Dr Don Bandaranayake and Dr P.T. Jayawickramarajah)

- 1500-1630 hrs Group Work Session 2:
- Regional strategy to strengthen allied health services, with particular emphasis on utilization of allied health personnel

Thursday, 23 March 2000

- 0830-0930 hrs Group Work Session 2
- Regional strategy to strengthen allied health services, with particular emphasis on utilization of allied health personnel
(continued)
- 0930-1030 hrs Presentation and discussion of report of Group work: Session 2
- 1030-1200 hrs Group work: Session 3
- Regional strategy to strengthen allied health education
- 1300-1400 hrs Group work: Session 3
- Regional strategy to strengthen allied health education
(continued)
- 1400-1500 hrs Presentation and discussion of report of Group work: Session 3
- 1500-1630 hrs Individual country Group Work
- Country-specific plan of action for strengthening of allied health services and education

Friday, 24 March 2000

- 0830-0845 hrs Sharing of country-specific plans of action for strengthening of allied health services and education
- 0845-1000 hrs Plenary discussion
Recommendations for strengthening allied health services and education in SEAR countries
- 1000-1100 hrs Preparation of Draft Recommendations
– Working group
- 1100-1200 hrs Adoption of Recommendations
- 1200-1230 hrs Closing Session

Annex 3

EXISTING ALLIED HEALTH PERSONNEL IN SEAR COUNTRIES AND THEIR ROLES AND RESPONSIBILITIES

MAJOR CATEGORIES OF ALLIED HEALTH PERSONNEL

- Medical technology
- Physical therapy
- Occupational therapy
- Radiography/Radiological technology/Imaging technology
- Medical Assistant/Health Assistant/Auxiliary Medical Officer
- Speech pathologist
- Audiologist
- Pharmacists/dispenser
- Community/public health worker/Certified Medical Assistant
- Dental hygienist/technician/therapist
- Optometry
- Traditional/Alternative medical practitioner
- Nutritionist
- ECG/EEG technology
- Health promotion and education
- Medical records science technician
- Orthotic and prosthetic technician
- Clinical psychologist
- Social worker
- Emergency medical technician/Paramedic

ROLES AND RESPONSIBILITIES OF SELECTED ALLIED HEALTH PERSONNEL

(1) Medical Assistant/Health Assistant/Assistant Medical Practitioner

Health Assistant (Bhutan, Nepal); Primary Health Care Officer/Worker and Community Health Worker (Maldives)

Roles and Responsibilities

- Curative care at the primary level.
- Promotive and preventive health care.
- Planning and managing of health programmes.
- Supervision of peripheral-level health personnel.

(2) Community/Public Health Worker/Auxilliary Health Worker

Auxilliary Health Worker (1 year training); Village Health Worker (6 months training), Public Health Officer (Bachelors degree or training and experience as a Health Assistant topped up with Bachelors in Public Health (Nepal); Family Health Worker (Maldives - 6 months training); Basic Health Worker; Basic Health Worker (Bhutan - 2 years training); Village Health Guide (India - 1 year training); Public Health Inspector (Sri Lanka - 18 months training); Sanitary Inspector (Bangladesh - 3 years Diploma)

Roles and Responsibilities

- Promotive and preventive health care.
- Basic curative care in the absence of any other health personnel.
- Management of peripheral level health posts/centres/units.

(3) Pharmacist/Dispenser

Bachelor of Pharmacy (4 years degree) and Diploma in Pharmacy (2 years) in India; B Pharm (High School Certificate + 3 years) Diploma in Pharmacy (Secondary School Certificate + 3 years), Master in Pharmacy (Bachelor in Pharmacy + 2 years) in Bangladesh ; Bachelor in Pharmacy (Grade 12 + 5 years Bachelor's degree), Doctor in Pharmacy(Grade 12 + 6 years doctoral degree), Pharmacy Technician (Grade 12 + 2 years certificate) in Thailand; Pharmacy Assistant (Grade 9 + 1 year certificate) in Maldives; Pharmacist (O Level + 2 years certificate), Dispenser (O Level + 12 months) in Sri Lanka; Bachelor in Pharmacy (Grade 12 + 3 years degree), Pharmacy Assistant (Grade 10 + 18 months certificate) in Nepal.

Roles and Responsibilities

- Dispensing drugs (only for lower categories).
- Quality assurance of drugs.
- Management of dispensaries/drug stores at hospitals.
- Pharmaceutical manufacturing.
- Clinical Drug Monitoring.
- Consumer protection including licensing.
- Training and research.

(4) Health Promotion and Education

Health Educators in India; Health Education Officer (Health Worker + 1 year training/MSc in Health Education) in Sri Lanka; Health Education Officers (Bachelors degree in Health Education --> Masters degree) in Nepal; Junior and Senior Health Education Officer in Bangladesh; Health Educator (B.Sc. in Public Health/Health Education --> Doctoral degree) in Thailand.

Roles and Responsibilities

- Plan, organize and conduct health education programmes.
- Work with primary health care team members and the community.
- Monitor and supervise health education programmes.
- Training and research.

(5) Dietician

(Bachelor to doctoral degree)

Roles and Responsibilities

- Plan diets for persons with specific health conditions.
- Health education of clients.

(6) Nutritionist

(Bachelors --> doctoral degree)

Roles and Responsibilities

- Nutrition education.
- Monitoring of nutritional status.
- Research and training.
- Input into policy formulation.

(7) Medical Records Science Technician

Medical Record Officer (Grade 12 + 2 years certificate), Medical Record Technician (Bachelor's degree) in Thailand; Medical Record Technician (Grade 12 + 2years certificate), Medical Record Officer (Bachelor's degree) in

India; Medical Record Technician in Sri Lanka; Statistical Assistant and Medical Record Officer – assistant and officer level in Nepal; Statistician and Statistical Officer in Bangladesh.

Roles and Responsibilities

- Collect and analyse data on hospital patients - in - and outpatients.
- Collect and analyse data from periphery.
- Management of hospital records room, including retrieval of information.
- Data processing and reporting.
- Provide data for the national health information system.
- Research and training.

(8) Allied Health Personnel in Medical Technology

- Laboratory technologist
- Laboratory technician
- Laboratory assistant
- Physical therapist
- Physiotherapist/Physiotherapy Aid
- Physiotherapy technician/assistant
- Rehabilitation worker
- Occupational therapist
- Occupational therapist assistant
- Radiographer/radiology technician/imaging technologist
- Speech pathologist

(9) Audiologist

- Audiologist - PG- Thailand
- Audiologist - Graduate level- India
- Audiologist - Certificate level- Sri Lanka

Roles and Responsibilities

- Identify, assess, and manage auditory, balance and other neural systems.
- Supervision.
- Training.
- Research.
- Planning and management.

(10) Optometry Technicians

- Optometrist
- Refractionist/ophthalmic assistant/technician

(11) Allied Health Personnel in Dentistry

- Dental nurse/dental therapist
- Dental hygienist
- School dental therapist
- Dental technician
- Dental assistant
- Orthotic/Prosthetic Technician

Roles and Responsibilities of Orthotic/Prosthetic Technician

- Make dental prostheses.
- Provide health education to the client about proper use and caring of these prostheses.
- Supervision.
- Training.
- Research.
- Planning and management.

(12) EEG or ECG Technician/ Biomedical Technologist

- Technologist - Degree - India
- Technologist - Certificate - Sri Lanka

(13) Clinical Psychologist

(Bachelors --> Masters degree)

Roles and Responsibilities

- Counselling and/or psychotherapy.
- Health education for promoting mental health.
- Psychological testing for diagnosis purposes.
- Training and research.

(14) Social Worker

(Bachelors --> PhD. degree)

Roles and Responsibilities

- Counselling.
- Facilitate in obtaining welfare support.
- Liaise with health team members and community to provide support to the client and family.
- Provide outreach care to elderly, those with chronic diseases and mentally and physically challenged (disabled), and special groups.
- Health education for promoting social wellbeing, family planning and prevention of social problems, such as child abuse, drugabuse, etc.

(15) Traditional/Alternative Medical Practitioners/Assistants

(Ayurvedic, Siddha, Yunani, Homoeopathy, Acupuncture, Thai Traditional Medicine, Dhivehibeys (Maldives), Aromatherapy, Osteopaths, Chiropractors, Naturopathy etc)

Roles and Responsibilities

Diagnosis, treatment and management of medical conditions using alternative therapies, at the primary care level.

Annex 4

CHALLENGES AND THEIR IMPACTS ON ALLIED HEALTH SERVICES

CHALLENGES

- Meeting the double burden of diseases, emerging and re-emerging health needs - in terms of competent health personnel.
- Keeping the right balance between curative, preventive, promotive and rehabilitative health care.
- Meeting the related high cost of care in the face of dwindling resources.
- Making available cost-effective, efficient services that are acceptable to the clients/community.
- Ensuring equity in the delivery of quality integrated health services irrespective of the geographical location.
- Improving and maintaining quality of services.
- Ensuring that health service is gender sensitive.
- Ensuring consumer protection.
- Meeting the demands for quality of care and specialized services.
- Expanding roles of allied health professionals.
- Increasing legal litigation/burden.
- Increasing NGOs' involvement in the provision of allied health services.
- Ensuring necessary resources for service delivery.
- Keeping up with changing technology.
- Ensuring rational use of drugs and medical procedures.
- Preventing brain drain to foreign countries out of the field of allied health.
- Giving due recognition and status to allied health personnel.
- Ensuring optimum utilization of trained health personnel and appropriate skill mix to meet the service needs of public and private sectors.

IMPACTS ON ALLIED HEALTH SERVICES

- Higher demand for quality allied health services.
- Need for appropriately qualified allied health personnel.
- Improvement in status and recognition.
- Decreasing humane touch, dependent upon machines rather than the professionals.
- Overlapping of roles.
- Increase in workload and responsibility.
- Decreasing resource allocation.
- Burn out leading to more attrition.
- Need for development of managerial skills.
- Change in roles and functions, status and recognition.
- Need for retraining and continuing education.
- Change in gender mix of allied health personnel.
- Shift from urban hospital-based work environments to more rural- and community-based services.
- Change in public private mix in services.
- Facing more legal issues.
- Increase in information technology literacy.
- Client/consumer -centered services.
- Better management of services.
- More integrated and multidisciplinary services.
- Resistance from medical profession.
- Client/consumer centred services.
- Better understanding between allied health personnel and other health professional.
- Increase in evidence-based practice.
- Increase in cross-border trade in services.

Annex 5

CHALLENGES AND THEIR IMPACTS ON ALLIED HEALTH EDUCATION

CHALLENGES

- Changing demography and epidemiological transition.
- Globalization and advancement in technology, including information technology.
- Keeping up with global changes in education and training methods, techniques.
- Providing quality training relevant to the health needs at the required time.
- Producing the required numbers and skill mix of people without compromising quality.
- Changes in economy and diminished resources.
- Meeting the cost of training and resource requirements, including physical facilities, teaching and learning resources/materials.
- Meeting upgrading and continuing education needs of trainers and trainees.
- Keeping a balance of scientific principles, compassionate care and ethical values in the educational curricula.
- Providing education and training that addresses gender issues related to health care.
- Training becomes more commercialised.
- Meeting the licensing/accreditation requirements for training.
- Medico-legal concerns.
- Changing public attitudes to recognize and accept local training institutes in the face of increased competition from international training institutes (market competition).
- Recognition of training from institutes outside the country.

- Need for management skill.
- Increased demand for specialized services.
- Need to contribute to advancement of profession.

IMPACTS ON ALLIED HEALTH EDUCATION

- Need for training and skill development of allied health personnel.
- Higher demand for quality training and need for quality assurance in allied health education.
- Need for reorientation of education with new approaches and outlook on education.
- Introduction of new modes of training and use of new approaches to training and change to more self-directed learning, more emphasis on learning processes rather than content - more process-oriented than content-centred.
- Change in curricula (more gender-oriented, integrated, competencies-based, evidence-based, and need-based, closing theory and practice gap, etc.).
- Expansion of training facilities - both human and physical - as well as type of courses.
- Increase in workload for trainers.
- New resources for management skill development.
- Increase in cost of training.
- Fluctuation in financial support may result in poor quality of training and less number of personnel produced.
- Increase attention to research as without research both allied health education and services will lag behind.
- Increase in the duration of training and improvements in entry requirements and selection criteria.
- Increase in professional attitudes of trainers and trainees.
- More liaison between national and international training institutes.
- Greater collaboration and sharing of resources between allied health service and education sectors.
- Need for specialized training.
- Increase in re-training, continuing education and upgrading training.