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Human resources for health care: Some aspects

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The World Health Organization (WHO) has defined health as 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity'. In recent years, this statement has been amplified to include the ability to lead a socially and economically productive life (1).

Being healthy is what each one of us wants to be. Many things that have to be done to achieve physical, mental and social wellbeing have to be done by ourselves. However, the complex interactions that the human beings have with the environment makes it unattainable all by themselves. Several factors have been identified as determinants of health. They include: heredity, environment, lifestyle, socio-economic factors, health care services and other related services. Thus, provision of health care services is an important contributory factor towards achieving and maintaining the health of individuals, families or of communities.

There is growing awareness that access to health care is not only a basic human right but that health is a national asset, a primary aim of social development and an essential means to sound economic and social progress. Thus, the crucial question that decision makers at the highest level have to consider is not whether their country can afford to improve health services but whether it can afford not to do so.

It should also be realised that achieving health and maintaining health is a task on a much broader scale than medical care, and involves knowledge and skills beyond those available within the health sector and most certainly beyond those that are available with the health care providers.

What is health care? Who is responsible for its provision? What are the important considerations in the provision of health care?

Health care could be defined as a 'Multitude of services rendered to individuals, families and communities by the agents of the health services or the professions for the purpose of promoting, maintaining, monitoring and restoring health' (2).

The responsibility of provision of health care varies between countries and communities. With the realisation of the role of health in development, the 'ideal situation' regarding provision of health care has been identified by the WHO as the achievement of Health for All (HFA) by the Year 2000. The concept of Health for All by the year 2000 envisages the attainment by all citizens of the world by the year 2000, of a level of health that will permit them to lead a socially and economically productive life (1). This is of course an ambitious goal.

In Sri Lanka, successive governments have committed themselves to provide free and comprehensive promotive, preventive, curative and rehabilitative care, easily accessible to the people. This commitment was reaffirmed in 1980 by the government signing the Charter for Health Development to provide HFA 2000 with primary health care as the key strategy (3). Among the important considerations in the provision of health care to achieve the above goal are:

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- Availability of comprehensive health care
- Accessibility
- Affordability
- Acceptability

Considering the health systems in many developing and developed countries of the world today, many would agree that improvements are still required in most health care systems to ensure equal access to all those who seek health care as well as optimal protection against avoidable causes of suffering and death. The need for additional resources is a major constraint to achieve the above.

Table 1: Personnel for health care in Sri Lanka -1994

Category	No./100,000 population
Medical officers (MO) - curative	19.6
Medical officers - admin.. & prev.	3.1
Dental surgeons	2.2
Registered / Assistant medical officers (RMO / AMO)	7.6
Nurses	73.1
Public health nursing sisters	0.7
Public health inspectors	5.2
Public health midwives (PHMM)	24.6
Hospital midwives	12.4
Pharmacists	3.5
Dispensers	3.6
Laboratory technicians	3.5
Radiographers	1.4
Physiotherapists	0.9
ECG recordists	0.5

Health care services are labour intensive. Hence human resources are a critical resource for the provision of health care. It is also worth noting that among the financial resources required for provision of health care, a substantial proportion of the recurrent expenditure is spent on personnel.

One of the greatest challenges of the health field today is that of developing human resources for health care to be fully capable of meeting what is stated as a goal in most societies i.e. the development of a more accessible, more equitable and a more effective health system. This requires that there should be: the right type of education and training for the right number and type of people needed to render effectively and safely, the right type of services when and where required by the population (4).

In order to achieve the above, the triple process of planning, production and management of human resources should be harmoniously geared to achieving the single goal of providing health services.

Table 2: Availability of some key health personnel (no./100,000 population) 1980-1994

Category	1980	1984	1988	1992	1994
MO	13.9	12.5	14.0	19.2	22.7
Dental surgeons	1.5	1.8	2.1	2.2	2.2
AMO / RMO	6.9	6.5	6.6	7.2	7.6
Nurses	41.5	47.4	50.1	64.4	73.1
PHMM	2.3	19.2	19.3	23.6	24.6

The type, number, training and distribution of human resources for provision of health care depend on several factors specific to a given country and includes the available resources for provision of health care, pattern of the health care delivery system and priorities for provision of health care.

Some information relevant to the current status of availability of human resources for provision of health care in Sri Lanka are presented in Tables 1 to 3 (3).

Table 3: Availability of health personnel in selected districts per 100,000 population

District	Medical officers	Dental surgeons	Regd./Asst. medical officers	Nurses	Public health nursing sisters	Public health midwives
Colombo	62.5	4.3	4.3	172.3	0.7	12.1
Kandy	29.4	2.2	9.3	107.0	0.9	27.1
Galle	23.0	2.1	7.2	83.2	1.0	24.9
Moneragala	5.4	2.7	11.4	40.4	0	34.6
Hambantota	5.2	1.3	7.1	31.7	0	45.6
Mannar & Vavuniya	6.6	1.2	8.9	23.2	0	6.6
Trincomalee	6.4	1.5	11.3	31.5	0	9.2

Even though the availability shows an upward trend, the distribution of available personnel indicates a wide variation. These variations are related to many factors including the type and number of health facilities in a given area and the population density. This focuses our attention on an important area in development of human resources i.e. the manpower mix appropriate for provision of services in a given area. In Sri Lanka, it has been estimated that the percentage of recurrent expenditure spent on personnel amounts to 63% in Provincial Health Authorities and 39% at the level of the Ministry of Health, giving an overall percentage of 50 (5).

Health personnel working full time in the private sector also contribute to the health care services in this country. No accurate data are available on the number, distribution and the type of services provided by the private sector. Other sources of health care specifically those provided through the Ayurvedic sector also need to be considered to obtain a comprehensive picture of the human resources available for health care.

The importance of human resources has been highlighted in the health policy document prepared in 1992. The policy measure related to the development of human resources as identi--fied in the Health Policy document reads as follows: 'Essential knowledge and skills will be imparted to all health personnel in building appropriate attitudes and interpersonal relationships towards optimal use of services by the people' (6).

This certainly poses a challenge for those who are responsible for the production of human resources for health care. The former Director General of the World Health Organisation, Dr. Halfdan Mahler summarises this challenge in one sentence, 'The development of health personnel able and willing to serve the community by providing health care, promoting health, preventing diseases and caring for those in need is a major and formidable task for educators' (7).

This paper will focus on the training of one category of health personnel, i.e. the medical professional and the training of this group, the area of **medical education.**

The medical professional is a highly skilled member of the health care team who is often required to take a lead role in the planning and provision of health care services.

History of medical education dates back to many centuries. In the early years of this century, when medical schools began proliferating without adequate controls, Abraham Flexner in 1910 reported on the many deficiencies and identified the necessity for a scientific basis for medical education based on a curriculum of basic sciences followed by applied clinical training. These views led to restructuring of medical education first in the United States and later elsewhere.

Thus, the first half of the 20th century saw the development of a disease centred approach to medicine exemplified by the growth of Teaching Hospitals as the home of medical education. This increased the emphasis on the special need of high-tech approaches for diagnosis and management and to some extent, medical research. The medical goal of prevention, psychosocial integration of care and of creation of responsible medical professional citizens who could lead the profession in the direction of service to the population, has been minimised by this approach.

Is there a need for change in the system of medical education? With the extraordinary advances in scientific knowledge, one would have expected comparable changes in the shape and substance of medical education. In fact, such changes have occurred in the content, with the latest scientific findings being included in their lectures, ward teaching etc.. The methods and structure of medical education has stayed fairly constant throughout the post war period.

The need for change stems from the criticisms aimed at the health care services in general, some of which get levelled against educators, much as the problems of children are often blamed on their parents.

The criticisms levelled against medical education stem from situations where the expectations of the public are not met by those serving in the system. Thus, the criticisms related to health care services and those for education of health personnel are interrelated. Among the criticisms are:

- Diversion of health care resources to high technology while life and death requirements of the poor and remote are denied
- Less emphasis on prevention even though prevention is much more efficient and causes much less suffering than expenditure of comparable effort and resources for curative care
- Less emphasis on psychosocial aspects that may be more important to recovery and readjustment
- Creation of a series of negative practices among which are iatrogenic diseases.
- Only a small role in the improvement of health of populations
- Medicine has been expansionist
- Increasingly dehumanised and becoming more 'biological' and sophisticated
- Disease orientation of modern health systems reflect a too narrow paradigm of health, directed solely at biochemical abnormality in what may be a complex aetiologic process that also includes psychological and social factors (8, 9).

Specific criticisms regarding the process of medical education are:

- Stultifies creativity
- Fails to prepare practitioners for lifelong learning
- 'Dulled' problem solving skills
- Sophistication of biomedical and clinical training not matched by comparable training in relevant social sciences
- Minimal opportunity to learn to address the social, economic and political forces affecting health
- Institutions where health professionals are trained are often isolated from decision

making about health service delivery and health policy
- Development of a disease centred approach to medicine
- Increased emphasis on the special need of high-tech approaches for diagnosis and management and to some extent, medical research.

Not all of these criticisms are fair. Medicine is not exempt from the ills and errors of mankind. Yet, within the profession it is thought that it should be judged at a higher standard than other professions because of its high status and high stakes in life and death issues. Hence the need for us to pay attention to these criticisms.

Several organisations and institutions responsible for medical education have responded to this need. As we in Sri Lanka have been following the British system of medical education, it may be worthwhile to consider the recommendations made by the Education Committee of the General Medical Council on Undergraduate Medical Education in December 1993, many of which respond to the criticisms that have been identified (10).

These include the need for reducing the burden of factual information, ensuring a capacity for continued education, inculcating attitudes of mind and behaviour that befits a doctor, integrating the basic and clinical sciences eliminating the rigid preclinical - clinical divide, augmenting the core curriculum by a series of special study modules which provide an insight into scientific method and the discipline of research, emphasising on communication skills, prominence to be given to public health medicine encompassing health promotion, illness prevention, assessing and targeting of population needs and awareness of environmental and social factors in disease, providing experience of primary care and community medical services as well as hospital based services and the need to adapt learning systems and systems of assessment to suit the needs of new curricula.

John Bryant in his article on 'Educating tomorrow's doctors' identified several factors that influence change in medical education. Some factors like advances in scientific knowledge promote change, societal needs direct change and humanism in medicine temper change (11).

What are the directions for change? At the risk of over simplification, one can say that the direction for change is dichotomous. On the one hand, there are the calls for greater competence, on the other, there are calls for new and enhanced roles for doctors in response to emerging social problems such as inequitable distribution of health care services, rising costs of health care and provision of care for underserved populations.

The societal perspective of medical education is a view from outside. In recent years, there has been a call for medical practitioners to be able to:
- Assess and improve the quality of care by responding to the patient's total health needs with integrated preventive, curative and rehabilitative services
- Make optimal use of new technologies, bearing in mind ethical and financial considerations and the consumer's ultimate benefit
- Promote healthy lifestyles
- Reconcile individual and community health requirements, striking a balance between patients' expectations and those of the society at large, both in the short term and in the long term
- Work efficiently in teams within the health sector and between the health sector and other socio-economic sectors that influence health (12).

The intellectual response to these forms of criticisms has been to call for an approach

where medical care provision begins with an assessment of the needs of the population, undertakes a scientific assessment of the options available to meet the priority problems and allocates personnel and other resources accordingly, alongwith the re-orientation of medical education.

Several medical schools both in the developing and developed countries have made innovative changes in medical education e.g. McMasters School of Medicine in Canada, Ben Gurion University in Israel, University of Limburg in Netherlands, Bayero University in Nigeria, University of Edinburgh in Scotland, University of NewCastle in New South Wales, Australia and University of Brasilia, Brazil (7,8).

Changes have been made in admission requirements to medical schools and curricula of medical schools. Some changes in curricula relate to the orientation of training and others to instructional methods. Some of the problems faced by institutions trying to implement innovations have been identified by Katz and Fulop (8):

Faculty members:
Any change is judged to be threatening
Involvement is time consuming

Students:
Conflict with their own expectation of what medical education is
Challenge to their past learning styles, pre-university education often emphasise rote learning

Faculty organisation:
Dominance by strong departments
Inadequate funding and other resources

Educational strategies:
Needs improved techniques of evaluation
Lack of learning materials

Concept of health:
Conception of health is much less refined than that of disease, hence more comfortable to work within the latter framework. This has led to problems in providing sufficient emphasis on health and health promotion.

Two key approaches emerged from the innovations related to the curriculum. They are community oriented medical education and problem based learning.

Community oriented medical education is an attempt to re-orient care towards the needs of individuals within the population, using a more comprehensive model of care and more extensive diagnostic and therapeutic categories deriving from the life of the patient in his/her own context. It is not put forward as a replacement for what is excellent in present biotechnical medicine. Rather, it is an attempt to place the efforts of medicine in a more complete and appropriate context and thereby extend its values to the people who pay for it, directly or indirectly and whom it serves (13).

Key features of community oriented medical education are:

- Community oriented medical education is first and foremost medicine. Scientific medicine is the basis for community oriented medical practice and education
- It is health directed rather than disease directed
- The cornerstone of community oriented medical education is the network of facilities providing health care at all levels in the health care system. They will be the teaching / learning sites
- Should be able to provoke and catalyse social pressures concerned with health i.e. needs relevant knowledge in the appropriate fields in the behavioural and social sciences. These sciences are tools for specific health care tasks as they are related to medicine

What does community oriented medical education aim to achieve?

The new student is generally humanistically oriented and perceives himself as a 'curer'. The student is also eager to learn and absorb information in order to create a meaningful conceptual world. Community oriented education therefore tries to influence the student's conceptual formations in the stage in which they are created. The sciences should be perceived as an important basis of knowledge applied to clinical medicine. Likewise, the hospital must be looked upon as a community establishment, integrated into the health care network. The student must perceive that health needs originate in the homes, workplaces etc. and not in hospitals and laboratories. This approach does not denigrade the importance of the hospital but exposes the students to the hospital in the appropriate context and in the proper proportion (13).

Community oriented medical education is an appropriate framework for meeting the humanistic challenge of young students. Teaching and learning of interpersonal relationships can achieve greater depth than in a hospital based setting because such settings lack the environmental dimension and because they are disease oriented than person oriented. This is specially relevant in the development of empathic attitudes and communication skills. For example, a student would really appreciate and properly understand the concept and consequence of patient compliance only in a community based educational programme.

What is the situation in Sri Lanka?

It would be true to say that to a large extent, we have faithfully followed the British system of medical education, even after some British Medical Schools have made many changes. Our entry criteria have remained much the same, based on the performance at a highly competitive examination. No other entry criteria have been used, except for a viva voce examination held in early 1960's.

The medical education system has expanded from one Medical School until 1960, to six Medical Schools by 1996. In general, the curriculum is divided into the preclinical, paraclinical and clinical training programmes. This system has been followed by all medical schools, even though several innovative programmes have been introduced within the past few decades.

In the Colombo Medical Faculty, the major changes in the medical education programme have included the introduction of the Social Paediatrics Programme as far back as late 1950's, Community Medicine Attachment Programme in 1978 which also provided an opportunity for a community oriented research project and the introduction of continuous assessments in many disciplines.

In 1991, the need for a revision of the curriculum was discussed by the Faculty and several activities have been undertaken which culminated in the introduction of a 'new' curriculum commencing with the batch of medical students who entered the Faculty in 1995.

At the first workshop held in February 1992, the mission statement relevant to the undergraduate training programme of the Faculty of Medicine was identified. This led to the identification of the objectives of the training programme and the competencies needed to fulfil the objectives.

Mission statement:

'To develop a graduate who will contribute to fulfil the health requirements of the individual and of the community with competence, compassion and care'.

Objectives:

On completion of the undergraduate medical education programme, a graduate should be

able to do the following at the level of a general professional practice:

- Identify important illnesses and other health related problems in individuals and in the community and implement appropriate preventive, curative and rehabilitative services
- Identify, recommend and implement activities which promote health of the individual, family and the community
- Work harmoniously with others as a leader / member of the health care delivery team
- Educate and train other individuals, health care personnel and the community towards better health
- Develop and maintain personal characteristics and attitudes for a career as a health professional
- Carry out basic medico-legal procedures and statutory duties
- Plan and carry out appropriate health related research projects
- Develop into a self directed learner with the capacity to recognise the need for self evaluation.

These objectives do seem to fulfil a majority of the expectations outlined earlier.

An attempt has been to make the curriculum, integrated, student centred and community oriented. The curriculum is broadly divided into four 'streams': Introductory Basic Sciences Module and the System Modules, Clinical Stream, Community Stream and Behavioural Stream.

The main innovative features of this curriculum could be summarised as follows:

Integration of teaching under a system of basic sciences and applied sciences modules.
Early introduction to community and clinical settings which will continue throughout the five years
Introduction of a behavioural stream
Introduction of teaching of primary care as a component of the clinical training programme
Continuous assessment

The objectives for the teaching programme in the Community Stream were developed based on the institutional objectives. Teaching programmes commence in year one, term two and continue throughout the five years. Evaluation of the stream activities are conducted throughout the five years.

Most of the learning experiences are student centred, with small group discussions and student presentations being key educational methods. The format of the student presentations vary from formal oral and poster presentations to debates and role play. Early exposure to the community and other health care settings is another important feature of this programme. The activities proposed to be carried out during the third, fourth and fifth years include a community and a family attachment. An opportunity to conduct a community based research activity will also be provided.

The policy measure related to human resources development identified in the health policy document read as follows: 'Essential knowledge and skills will be imparted to all health personnel in building appropriate attitudes and interpersonal relationships towards optimal use of services by the people'. We hope that the proposed changes will contribute towards achieving this goal.

Can changing curricula solve all the problems, specially in developing countries? This is not possible only by changing medical education, because the behaviour of medical professional is determined by the overall socio-economic infrastructure of the society. The failure of the authorities to create proper organisation and working conditions within

the health care system also affects the behaviour and practice of the medical professional. It is a combined effort of the educators, policy makers and the service providers that could contribute towards a sustained improvement of the health services which will be required to achieve the goal HFA 2000 which is essential for development.

HUMAN RIGHTS AND THE QUEST FOR EQUITY AND QUALITY IN HEALTH CARE ARE UNIVERSAL VALUES. THUS, ALL EFFORTS TO RE - ORIENT HEALTH SYSTEMS, SOCIAL SYSTEMS AND EDUCATIONAL SYSTEMS TOWARDS THE ACHIEVEMENT OF A BETTER STATE OF INDIVIDUAL AND COLLECTIVE WELLBEING DESERVE ATTENTION. CHANGES IN MEDICAL EDUCATION HAS GREATER SIGNIFICANCE WHEN SEEN IN THAT PERSPECTIVE - BOELEN 1994 (12).

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