CHAPTER 1
HEALTH MANPOWER PLANNING: AN ASSESSMENT OF NURSING MANPOWER REQUIREMENTS AND AVAILABILITY IN NATIONAL HEALTH SERVICES DEVELOPMENT

INTRODUCTION

Manpower is one of the vital resources for a health service system. But its optimal use is possible only when the needs for health manpower have been determined in specified response to the needs of the health service system and are developed accordingly. As such, the health manpower development process is not merely a growth in the number of different types of personnel and nor must it conform to some not very well thought out international specifications regarding the quality of education and training of these personnel. It is, in fact, determined by the nature of health services that are sought to be developed for a given population. Considering this, health manpower planning has been rightly defined as a process where health manpower development goals, objectives, priorities and activities are established systematically in order to ensure that current and future manpower resources meet adequately the requirements for delivering health service to population. It consists not merely in projecting the number of personnel required but also in planning to provide properly designed
health services with the quality and the personnel they need".

But, the health service system itself is a component of a wider system which determines the state of health of a population. This wider system, for instance, includes services to provide safe drinking water, hygienic sanitary conditions, nutrition, education, housing and employment. One has, thus, to consider a wide range of developmental issues involving a wide range of disciplines in understanding a health system. It is because of this complex nature of health system that the ICSSR-ICMR study group has observed that "a major programme for the development of health care services is necessary but not sufficient. Health is a function, not only of medical care, but of the overall integrated development of the society - cultural, economic, educational, social and political. Health also depends on a number of supportive services - nutrition, improvement in environment and health education."

Even for the limited scope of health service system, one has to take into account a complex of factors related to such disciplines as epidemiology, social sciences, public administration and choice of technology and so forth. Because, "a health service system consists of an organisa-

tional structure which sustains a network of institutions for providing services, training, education, research and evaluation which enables various types of personnel to make certain forms of medical technology available and accessible to a population". Therefore, the needs of health manpower and its development must emerge from wide ranging interdisciplinary studies of health and health service systems. In other words, consideration of health manpower development, in isolation from the issues related at least to health service development, is not very appropriate.

Unfortunately such an approach has not been followed very often in health manpower development. This is partly due to the central fact that adequate attention has not been paid to developing a systematic and scientific approach to even health service development and partly to the tradition of adopting a narrow quantitative approach to the subject of health manpower development. For a third world country like India, it is additionally relevant to understand that health services development is a rapidly growing process. Therefore, health manpower development has to be considered as a dynamic concept; that is; it is not as important to measure health manpower in terms of certain ratios as it is to

understand the process of growth and development of personnel within a health service system over a period of time.

It may be emphasised, in passing, that this relationship between health manpower development and health service development, which is often termed as "HSMD" by WHO, underlines that both qualitatively and quantitatively HSMD must emerge from Health Service Development (HSD). The HSMD concept is defined as "the integration of the different functional elements of the health services and the health manpower system into a unified, comprehensive, acceptable system providing health care directly relevant to the health needs of the population so that the health services would be run by appropriate team of health workers, all trained within the unified system."

This broad frame of HSMD, as defined above, therefore, suggests that manpower planning process should take place within the frame of health service development, duly analysing the nature, size and extent of health problems, the availability of resources and the nature of technology chosen to deal with the given health problems within the given health resources. Further, the three components of health manpower development process - planning, production and management - must be brought in closer and more func-

tional relationship with each other as with health service development". It implies that firstly the manpower needs to be planned in specific response to the needs of the health system and through this to the health needs and demands of the population. Then the personnel must be trained according to the plans with a view to placing at the disposal of the system the right kind of manpower at the right time and in the right place. Implicit in the above is that the management of health personnel should ensure that people planned and trained in view of needs must be properly utilised (managed) for maximum effectiveness of the health services.

6. Ibid. at Sr. No. 1 (p.15)

The paper mentions in the footnote that "the Health Manpower cannot be produced, but the conditions for its development can be created. It is in this sense that the word 'production' is used here.


The paper states that "the term 'management' is normally used to cover the the total process of planning, implementing and reviewing such as is described in the 'Managerial Process of National Health Development' WHO (1981). However, as one of the three components of health manpower development process (i.e. planning, production and Management) 'management' denotes something rather different. The simplest description of 'management' in the context of health manpower development is that health manpower, that has been planned and produced according to the plan must also be properly utilized (managed) for the maximum effectiveness of health services.

These terms 'Production & Management' more or less
In this context, WHO as well as other international agencies have long been advocating the adoption of the approach of health system research to evolve optimal health service system for population. As, unfortunately, there are very few instances where the approach of health system research has been followed in development of health services, it has seldom been possible to conduct research in health manpower development on the lines of health system research. This serious limitation in the study of health manpower development process is bound to affect the overall process of health manpower planning.

Any exercise in manpower planning should, therefore, first address to the various questions like: what are the health needs of the population? How are these being met? What is the infrastructure provided? What type of technology has been chosen? Is it adequate, cost effective and affordable by the people in general? What type of services are being provided and at what levels? Is the present delivery system adequately meeting the health needs of the people and if not why? What changes would be needed to make the system more relevant to the needs? Are these feasible and, if so, what policy directions would be needed to effect them? In fact, there are a host of such questions which need to be answered before embarking on any exercise in realistic

...Continued...

conform to the terms - Development and Utilization as components of 'Manpower Planning process' described in Chapter II of this paper.
manpower planning in terms of assessing supply and demand.

An attempt to find answers to the above questions would need a restrospection of the past events, policies and programmes which have led to the emergence of current situation. Looking back on the evolution of health services in India, it becomes clear that the health policy for India of British colonialists was distinct from that urged by the leadership of the national movement and consequently that adopted by the government of independent India. The movement gave expression to a greater concern for health problems of the under-privileged and those residing in rural areas.

On the eve of independence, medical services were scattered and highly inadequate not only in number but also in the kind of medical care they delivered. The rural population, in particular, was starved of services. So, independent India embarked on implementation of comprehensive health services step by step through setting up of primary health centres, mass campaign against communicable diseases, population control through a national programme for family planning, social orientation of education and training of health workers of various kinds, promotion of indigenous systems of medicine, provision of adequate protected water supply, environmental sanitation and nutrition programme, etc.

Besides, "India also built up an extensive network of institutions of various kinds - institutions for providing
curative, preventive, promotive and rehabilitative services of various kinds, institution for education and training of different kinds of personnel needed for running various health institutions, institutions for generation of knowledge through basic research and institutions for formulation of policies, plans and programmes of health and family welfare and for their evaluation.

But somehow, the urban health services continued to receive much greater attention than the rural health services. Public funds were made available to establish a number of hospitals, which had the latest, sophisticated equipment for providing intensive care, open-heart surgery, brain surgery and cancer therapy services on the model of the industrialised countries.

The phased programme of building up the health infrastructure was taken up with the hope of expanding them progressively, as resources increased, till the entire population is covered. But the major resources allotted for development of health resources were exhausted in building up of big hospitals and purchase of sophisticated, and expensive equipments and the amounts that finally trickled down remained too limited to equip the hospitals/PHCs at the district/block levels. The whole process has resulted in greater disadvantage to the poor, the under-privileged, particularly those who form the rural population.

8. Ibid. at S.No. 3, p.53.
The physician in our country continued to be highly sophisticated, technology oriented, trained in modern medicine according to international standards but alienated from the real health needs of the population. In 1952 itself, the social orientation of education and training of health personnel was conceived as an important requirement to make them relevant to the prevalent health needs. Upgraded departments of "Preventive and Social Medicine" were established in medical colleges to provide a community oriented base to clinical disciplines. But this did not meet with much success. Again, in 1974, the need for change in medical education was felt by the Government of India and the famous scheme called 'Re-orientation of Medical Education' (ROME) was introduced as part of the MBBS curriculum. But an evaluation conducted in 1984 revealed that the scheme could not arouse basic interests either among the faculty (who were not used to the unfamiliar teaching conditions in the community and had little conviction for the change needed in the routine curriculum) or among the students who considered it only a waste of time.

Not only this, the huge network of institutions built up to provide a sound base for integrating the scientific knowledge emanating from the "Western Model" with the so-

9. Ibid. at Sr.No.2.

cial, cultural and economic web of our country did not make any significant contribution through undertaking good piece of research on the lines of health system research. In the absence of this, the recommendations of the committees working groups came up as a resort for taking crucial policy decisions in the field. The limitation of this simplistic approach to such a vital area could do no good.

In the area of manpower planning too, whatever little work was undertaken during the period pertained merely to ad hoc exercises on the projections of requirements for doctors and nurses without consolidating the then situation in regard to their availability, labour market conditions and rates of growth during preceding years and the constraints of resources - material, financial and technological etc. The exercises were based often on indicators which were not developed on the basis of our local conditions but those prevalent in affluent, advanced countries. Such exercises further distorted the direction of planning with regard to the expansion of education and training facilities for doctors. Adequate supply of high level manpower categories formed the major plank of the government policy at that time.

However, very soon it was realised that there should also be special effort in increasing the output of nurses. One of the very significant features of development of nursing manpower in India has been that while the classical registered nurse (RN) remained an important element in
nursing manpower, simultaneous efforts were also made to
develop a substantially large cadre of auxiliary nursing
personnel (e.g. ANM), on the one hand, and the graduate and
post-graduate, with much higher level of education and
training than the conventional RN training, on the other.
Resultantly, significant increase in the number of nurses
were noted during 1951-61, 1961-71 and thereafter. The
number of general nurses which was only 18,306 in 1951
became 34,391 in 1961, 72,303 in 1971 and and rose further
to 1,17,749 in 1981. Similarly, the number of ANMs which
was only 384 in 1956, grew to 39,860 in 1971 and 90,039 in
1981. The number of graduate nurses grew from only 14 in
1951 to 748 in 1961, 896 in 1971 and further to 2336 in
1981. The number of post-Certificate Diploma holders became
6900 in 1981 as against their number of 1097 in 1961.

But the phenomenal increase in numbers could not meet
the distinct requirement of the rapidly developing health
services of the country due to lack of community orientation
in their programme of development. Instead the cultural gap
between the provider and the receiver continued to widen
further resulting in enormous gap between the rural and
urban areas and in urban areas, between, the rich and the
poor, in the matter of accessibility of primary health

11. The Figure quoted here are from the exercise undertaken in
the present study (Ref Table VII. i).
services.

Following the commitment of the political leadership of the independent India, considerable efforts were also made to develop the health service in rural areas, even though hospital based curative services which often served the more privileged sections of the society continued to receive disproportionate allocation of resources. For infrastructural development in rural areas, the beginning was made in October 1952 in the form of providing a primary health centre for a population of 60,000. Since then not only has there been an increase in the coverage of population through PHC but the rapid growth and development of family planning programme has led to a sharp increase in the number of personnel. The 1952 pattern of PHC envisaged posting of an ANM in a sub-centre for every 20,000 of population. The number of ANMs has doubled when the family planning programme was sought to be implemented through the PHCs. Another landmark in the development of rural health services was the acceptance of the recommendations of the committee on multi-purpose worker under health & family planning programme 1973 (Kartar Singh Committee) by the Government of India. The Committee envisaged integration of family planning work with the other activities of the primary health service.

---


centre and the workers who performed such integrated function were re-designated. The erstwhile Auxiliary Nurse-Midwife was called as Multipurpose Worker (Female) and the Basic Health Worker as MPW (Male). There was also change in the nomenclature of their supervisor: the old Lady Health Visitor was redesignated as Health Supervisor (F) while the Sanitary Inspector was redesignated a HS (M).

It may be mentioned in passing that the Kartar Singh Committee had assigned a large number of functions for MPW (M/F) and HS (M/F) without ascertaining the practicability of performing all those functions. This brings out a major issue of health manpower development viz., allocation of functions to personnel without ascertaining the practicability of a single person carrying out the workload under the actual field conditions that prevail in the country.

Another significant development following the Kartar Singh Committee report was to change the qualifications of the supervisor of ANM/MPW (F)—the erstwhile LHV. In fact, in the original concept of primary health centre envisaged by the Bhore Committee (1946) they were supposed to be public health nurses. When there was rapid expansion of the sub-centres and PHCs, it was realised that the only way to meet the number of HS(F) was to provide extra in-service training to MPW(F)s, after they had completed five years of

experience and to designate them as HS(F). This had the additional advantage of providing upward mobility to ANMs/HPW(F)s. The instance of substitution of PHNs by LHV's and of LHV's by HS(F)'s through extra in-service training underlines the changing pattern of manpower development to adjust to changing administrative situations.

Yet another major development that took place in the beginning of Sixth Five-Year Plan, when, apparently following the recommendations of the ICSSR - ICMR Committee, there was a significant expansion of the infrastructure. The old PHCs which were then covering an average population of over one lakh each were re-designated as Community Health Centres (CHCs) with 25 beds and the staff of 4 Medical Officers, 7 nurse-midwives, 1 dresser, 1 pharmacist, 1 lab. technician, 1 radiographer and other non-technical employees. A new PHC in the scheme is to cover only a population of 30,000 in plain areas and 20,000 in hilly/tribal areas. They are to have six beds with a staff of one medical officer, one community health officer, one pharmacist, one nurse midwife, one HW(F) one HW(M), one HA(F), one HA(M) and one health educator along with other non-technical staff. Besides, a new PHC has six sub-centres serving a population of respectively 3000/2000 in plain/hilly & tribal areas.

In 1977, a Community Health Worker's (CHW) Scheme was launched to have one such worker chosen by the people themselves for every 1000 persons. It also envisaged at least one trained birth attendant for every 1000 population. This
rapid expansion of infrastructure for rural areas has profound implications for manpower development which will be discussed later in this presentation. But still, it needs a specific mention that none of these development programmes were preceded by health system research. These developments were not inspired by findings of any systematic research work but for other considerations.

In this way, the health manpower development process in our country had continued to operate in isolation from the considerations of the need of the health services.

Taking note of past experience, the Group on Medical Education and Support Manpower (Srivastava Committee) 1975, remarked that "Problems of medical manpower needs have not received adequate attention. The number of admissions to medical colleges and the number of medical colleges themselves should be based on a sound policy of Health Manpower Development which, in its turn, should be related to the health/needs and national resources. The document emphasised for in-depth discussion on taking of concrete steps for "immediate, vigorous and sustained implementation in tackling important issues relating to medical education starting from the wider issue of determination of objectives of undergraduate medical education, giving a positive community orientation to the entire programme and various related

15. GOI, Ministry of Health & FIW "Health Services & Medical Education. A Programme for Immediate Action - Report of the Group on Medical Education & Support Manpower, New Delhi 1975 (pp.33 and 42)
issues. The ICSSR-ICMR Report further reinforced the Group's recommendations. The Working Group of the Planning Commission, set up to work out a detailed strategy for attaining Health for All by AD 2000, reiterated the need for radical transformation. The goal of HFA has been adopted by the Government of India (GOI) as the policy objective after becoming signatory to Alma-Ata Declaration. In a gathering of Health Ministers of all countries in the World, a historic declaration on attainment of the goal of Health for All by AD 2000 through adoption of the primary health care approach was made at Alma Ata in 1978. The meaning and implication of the primary health care approach are specified as "Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination."

In 1982, the GOI brought together the new approaches to health services development in the form of a document "National Health Policy (NHP)". The NHP has analysed the cause for the present unsatisfactory state of affairs by stating that "the existing system is largely endangered by

------------------------

16. Ibid. at S.No.2.

whole adoption of the health manpower development policies and establishment of curative centres based on western model which are irrelevant to the real needs of our people and the socio-economic conditions obtaining in the country". But it is interesting to note that the policy document does not contain anything in the form of policy guidelines to bring about the necessary changes in the health care delivery system, in manpower development process so as to promote community self-reliance and to reduce its dependency on the present cure oriented system. It has set the targets for certain indicators to be achieved by the end of the century as measure of achievement of HFA.

The discussion in the above paragraphs, therefore, underlines a need to undertake health manpower planning in a scientific manner in consonance with the health services needs of the population. There are numerous problem areas for investigation. Our interest lies in studying the various aspects of health manpower planning process focusing on the assessment of health manpower needs.

There are a number of health manpower categories, and the factors/conditions governing their requirements vary from category to category. As has been pointed out earlier, the assessment of manpower requirements is a complex process; various linkages and interactions are to be taken into account. In view of this, we have confined our analysis to

18. Ibid - at Sr. No.11 (p.3).
"Nursing Manpower" which play a key role in the health care delivery system. In addition to the patient care in hospitals, nursing services are also important for the holistic vision of the health among the communities which is the basic element for the success of Primary Health Care approach. In this wider frame, nurses have also to play a significant role in Health for All by performing various functions under preventive, promotive and curative activities within the network of governmental health programmes. Therefore, the term nursing manpower does not only mean the nurses required for patient care under hospital setting, but it also includes auxiliary nurse midwives and Public Health Nurse/Lady Health Visitor, who perform important roles in promoting the overall health of the community.

The present research endeavour aims at undertaking an assessment of current and prospective requirements and availability of the nursing manpower within the frame of the health service development envisaged for the country to achieve the goal of HFA by 2000 AD, duly analysing the regional disparities. The objective is not to work out the precise requirements but to have a broad order of magnitude of likely demand so as to throw light on the policy issues concerning the development of nursing manpower perspective. An attempt is made to analyse the situation statewise for rural/urban separately studying the regional imbalances and the reasons thereof.

Manpower assessment is an important component of man-
power planning process to build up deeper knowledge and understanding about the extent, composition and causes of manpower surpluses and shortages and other problems that affect the full and effective development and utilization of manpower resources. An appraisal of the current situation analysing the factors affecting the demand-supply relationship is a pre-requisite for making any long-term projections for manpower demand and supply. For the purpose, a series of exercises need to be undertaken to determine the qualitative and quantitative dimensions of the problems relating to manpower demand and supply.

The quantitative and qualitative dimensions of the problem of assessment of needs are equally important but these have typical implications of their own with regard to their measurement and objectives. The qualitative dimensions usually refer to the improvement in the programme of education and training for various categories of health personnel to increase their relevance with the epidemiologically assessed health needs of the community with an object to affect appropriate modifications in the training curricula. The framework, in this context, is identified through in-depth micro level field studies. On the other hand, the quantitative dimensions are the broad magnitude of the manpower needed for a given area so that education and training facilities could accordingly be expanded. The quantitative dimension is important in the sense that it provides meaningful basis for examining cost implications,
prioritisation of the problem and a sort of feasibility check on launching various programmes in the light of various constraints. It is determined through analytical studies on the basis of the data available from different sources. In the light of the limited financial resources, there is a need to balance the qualitative and quantitative aspects for optimization of the health services.

Since the two aspects have different approaches for their study, our effort in the present research endeavour is to undertake an assessment of the current and prospective health manpower requirements vis-a-vis their present supply in quantitative terms. Though our focus is on the quantitative aspect, we will take into account the qualitative aspect on the basis of the studies/surveys already conducted. Our approach for the assessment of requirement is based on the programmes relating to the development of medical care services and infrastructure of rural health services and staffing pattern norms.

Conceptually, the qualitative considerations are implicit in the approach. The staffing pattern norms are developed through assessment of the need for health services determined by the public health professionals on the basis of epidemiological, medical and technological considerations which require a certain set of functions to be performed to deliver the desired services. How much manpower would be needed to cover a given segment of population with an adequate level of services requires an analysis of the work
load vis-a-vis the expected functions. These are usually ascertained through micro level in-depth studies of the functioning of the personnel while at work, in terms of activity analysis/or time motion studies etc. Pooling together the findings of such various studies and analysing the existing situation, the staffing pattern norms and the set of infrastructure could thereby be decided upon. It is, however, needless to say that it is an ideal situation while in actual practice, the staffing pattern norms may generally be determined in consideration of resource availability or political commitment than on any other systematic consideration viz., workload or requirement of services etc.

An appraisal of the prevailing situation duly analysing the manpower imbalances vis-a-vis the health services need identifying the causes underlying such imbalances is a prerequisite for any exercise on assessment of requirements. The present exercise has elaborately gone into the analysis of the existing situation.

In this context, a wide range of information is needed to undertake detailed assessment but the problem is of availability of adequate and reliable data. It may be noted that even the basic data on current supply are not available from any source. It is not known as to how many doctors, nurses are there in the country. As such one has to depend on registration data available from professional councils. The data suffer from inherent limitation on account of updating. There are various other sources viz., the Decen-
nial Census, documents from the Ministry of Health, Indian Nursing Council and Directorate General of Employment and Training. The data available from these sources are often not comparable due to the difference in the coverage, concepts and classification adopted. Thus there is also a problem of reconciliation of these data to make them consistent and comparable.

It may be mentioned here that to build up consistent time series estimates of stock of nursing personnel for the different states by different characteristics on the basis of fragmented data had been a cumbersome exercise requiring a great deal of labour and patience. It has thus been mainly an analytical exercise. This is one of the reasons why very little work has been done on this aspect. Most of the work done is based on field studies/surveys. However, the need for such analytical studies for developing information base for manpower planning for a country as big and as diverse as India cannot be disputed. This is a modest effort in this direction.

As a prelude to the exercise on assessment of requirements and availability of nursing manpower, an attempt is made in the following chapter to develop a conceptual frame indicating the linkages between the manpower planning process and the health care delivery system. There are numerous activities falling under these areas influenced by numerous factors in their functioning. These activities interact with each other in a complex manner. A clear understanding
of the operation of the entire process in its intricate and complex relationship is essential for undertaking any study in health system research. Interestingly, this aims at simplified, practical problem solving results. Such an in-depth analysis of the prevailing conditions falls in the area of Health Services and Manpower Development (HSMD).