

Bajaj  
Committee  
Report

# CHAPTER I

## INTRODUCTION

### 1.1 Constitution of the Committee:

The Ministry of Health and Family Welfare, Government of India, set up an Expert Review Committee for Health Manpower Planning and Development with major emphasis on the creation of additional facilities for vocational training vide Resolution No. U. 11010/2/86-MEP dated the 8th May 1986 and subsequently dt. 29-5-86, 1-8-86 & 5-9-86 with the following composition :

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|--|------------------|
| 1. Prof. J.S. Bajaj, Professor of Medicine   | <i>Chairman,</i> |
| 2. Dr. Harcharan Singh, Joint Advisor (Health), Planning Commission.   | Member           |
| 3. Shri Satya Bhushan, Director, National Institute of Educational Planning & Administration or his nominee.           | Member           |
| 4. Shri A.M. Nimbalkar Director-General of Employment & Training/Joint Secretary, Ministry of Labour (or his nominee). | Member           |
| 5. Dr. J.P. Gupta, Joint Director, National Institute of Health & Family Welfare.                                      | Member           |
| 6. Mrs. P.K. Karthiyani, D-2, Kaveri Apartments, Alkananda Colony, New Delhi.  | Member           |
| 7. Shri S. K. Handa, Dy. Educational Advisor(H), Ministry of Human Resources Development.                              | Member           |
| 8. Dr. K.B. Sharma, Deputy Director-General of Health Services, New Delhi.   | Member-Secy,     |

### 1.2 I. The terms of reference of the Committee are as follows :

1. To provide an assessment of existing and projected national health manpower requirements for the primary and intermediate level health care programmes, and to recommend the establishment of mechanism(s) through which such projections could be continuously reviewed in the context of evolving socio-epi-demiological needs and demographic requirements.
2. To recommend the type of health-related courses of instruction that should be incorporated at the +2 stage for vocational education and to recommend appropriate educational content at the pre-vocational level which would stimulate and encourage the students to enter health related vocational courses.

3. To recommend the essential educational infrastructure including establishment of educational institutions and facilities or strengthening of such facilities in already existing educational institutions that would facilitate the production of appropriate categories of health manpower.
4. To recommend such modifications in the education and health systems that would facilitate the establishment of essential interlinkages between health manpower production, deployment and utilisation.
5. To make recommendations that would safeguard the career prospects of various categories of health manpower at the primary and intermediate level, through the development of bridge courses for horizontal mobility and vertical progress.
6. To recommend the establishment of mechanisms or agencies so as to ensure an expeditious development of educational objectives, curricular contents and learning settings for the course of instruction recommended by the Committee.

II. The Committee will also take into consideration the reports of the Expert Committees already available on manpower projection and the present supply of vocational, technical and professional manpower in the medical and allied health related areas.

III. The Committee may also consider and make its recommendations in regard to any other related matter.

1.3 The Committee commenced its work on the 20th May, 1986 when it had its first meeting. The Committee met on 20-5-86, 20-6-86, 9-8-86, 17-9-86, 2-10-86, 13-10-86, 27-10-86, 8-12-86 and 17-12-86.

1.3.1 In the meeting held on 20-5-1986. Shri S. C. Basu and Shri S. K. Giri attended as nominees of Shri A. M. Nimbalkar, Director-General of Employment and Training, Ministry of Labour. Shri K. C. Saxena attended the subsequent meetings as the nominee of the Director-General of Employment and Training.

1.4 At its first meeting, the Committee decided to elicit the opinion of all the Principals and Deans of Medical Colleges as well as Directors of Health Services in the States, other eminent medical people representing professional organisations bodies, requesting them to submit such Memoranda relevant to the terms of reference of the- Committee, that would facilitate the work of the Committee. The Committee also constituted two Working Groups for the preparation of appropriate background documents and suitable recommendations. Working Group I consisting of Dr. K. B. Sharma and Dr. J. P. Gupta were assigned the preparation of appropriate material related to the terms of reference No 1 and 6. Working Group II consisting of Dr. Harcharan Singh, Prof. Satya Bhushan and Prof. J. S. Bajaj were assigned the task of preparing background documents with recommendations related to the terms of reference No. 2, 3 and 4. Mrs. P. K. Karthiyani was requested to prepare a note on Nursing Education. She subsequently joined Working Group I as a member

1.5 At its Second meeting, the Committee decided to invite the representatives of the organised sectors including Defence, Railways, Post and Telegraph, and E.S.I to submit norms for health manpower planning as being used in their respective organisations for the delivery of health services alone with the present number of different categories of health manpower in service, and projections for the future health manpower planning.

1.6 It was also decided to have special invitees who were actively involved in the development of educational programmes for vocationalisation of +2 stage of general education. Other special invitees representing professional bodies as well as professional councils representing medical education and other health-related areas were also consulted

1.7 In view of the availability of a number of reports on medical education at the undergraduate and the postgraduate level, it was decided that only relevant references to medical education at various levels are made in the report, with particular emphasis on the interaction of medical and allied health professionals at different levels as member of the health care delivery team. The major focus in the report, as envisaged under the terms of reference, is on the planning, production and management of allied health professionals essentially needed at primary and intermediate health care levels.

1.8 In the third meeting it was decided that an interim report be submitted with major focus

on the following terms of reference :

1. To recommend the type of health related courses of instruction that should be incorporated at the +2 stage for vocational content at the pre-vocational level which would stimulate and encourage the students to enter health-related vocational courses.
2. To recommend the essential educational infrastructure including establishment of educational institutions and facilities or strengthening of such facilities in already existing educational institutions that would facilitate the production of appropriate categories of health manpower.

1.9 The interim report was considered in the meeting of the Committee on 9-8-86 and was submitted with the unanimous endorsement of all the members.

1.10 The interim report was presented at the 12th Central Council of Health, held on 22-24th September 1986. The report was approved at this meeting.

1.11 In the meeting held on 17-9-86, the Committee held discussions with the representative of the Nursing Council of India. In the meetings held on 2-10-86 and 13-10-86, discussions were held with the representatives of Dental Council and Pharmacy Council of India. It was also decided that a sub-committee should visit the States of Karnataka, Andhra Pradesh and Tamil Nadu where vocationalisation of health related courses is being carried out.

1.12 A sub-committee consisting of Prof. J. S. Bajaj, Prof. Harcharan Singh, Prof. Satya Bhushan, Prof. A. K. Mishra and Prof. K. B. Sharma visited the States of Karnataka, Andhra Pradesh and Tamil Nadu on 22-25th October 1986 to have a first hand knowledge of the vocational health related courses being conducted in these States. The Committee met the health and education authorities in these States and visited several schools/institutions where these courses are held, to obtain first hand knowledge of the facilities available, the conduct of courses, acceptability by the students and employment potentials. The Committee also met the students, teachers of vocational and general courses and ascertained their views also. The report of the visit is given in Annexure 5.

1.13 The draft report was presented in the meetings on 8-12-86 and was finalised in the meeting on 17-12-86. The Report is being submitted with the unanimous endorsement of all the members

## CHAPTER II

# HEALTH AND EDUCATION: AN INTERFACE FOR HUMAN RESOURCES DEVELOPMENT

### SITUATION ANALYSIS

2.1 Health development is a continuous and dynamic process. From time to time, strategic; for development of health services have to be reviewed.

2.1.1 *Bhore Committee* (1946) - One of the most outstanding efforts in health services planning in this country has been the Health Survey and Development Committee (1943-1946), popularly known as Bhore Committee.

2.1.1.1 The basic principles underlying recommendations of the committee were :

- (i) No individual should fail to secure adequate medical care because of inability to pay for it;
- (ii) Health service should provide all consultant, laboratory and institutional facilities for proper diagnosis and treatment;
- (iii) The health programme must, from the very beginning, lay special emphasis on preventive work;
- (iv) Health services should be placed as close as possible to the people in order to ensure the maximum benefit to the communities to be served;
- (v) Health consciousness should be stimulated by providing health education on a wide basis as well as by providing opportunities for the individual participation in local health programmes, and
- (vi) Medical service should be free to all without distinction.

2.1.1.2 These principles have, by and large, stood the test of time in our planning efforts through the instrument of Five Year Plans and have also provided basis for functioning of various Committees appointed from time to time.

2.1.1.3 Apart from these factors, another significant development which changed the complexion of the health services delivery system in post-independent India, has been the Community Development Blocks—a novel experiment in inter sectoral coordination. Recently, however, the most notable developments which have tremendous implications for not only all the health services development but the entire field of human resource development have been the Alma Ata Declaration and Asian Charter of

Health Development, of which India is signatory, the National Health Policy which has adopted the goals of Health For All through primary health care, and Net Reproduction Rate of Unity by 2000 A.D., and the National Education Policy, with the goals of eradication of illiteracy and universalisation of Education by 2000 A.D.

The basic framework of health services infrastructure, with minor variations, has remained the same as was recommended by the Bhore Committee and which came into being between 1947 and 1952. This framework consisted of sub-centres, primary health centres and district health organisation.

2.1.1.4 It is also interesting to know that the role of community participation which is now considered as the pivot for health services development, was also conceived by the Bhore Committee.

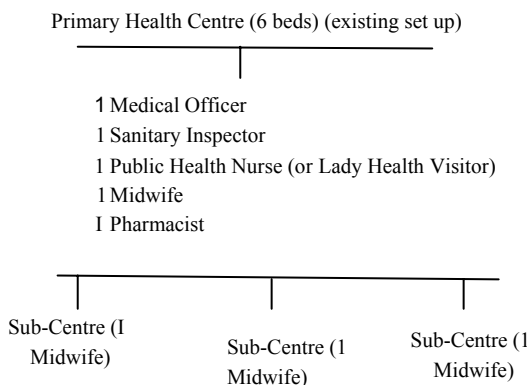
"Health consciousness should be stimulated by providing health education on a wide basis as well as by providing opportunities for the individual participation in local health programmes".

"A Health Committee of 5-7 individuals in every village would stimulate local efforts for the improvement of environmental sanitation and control of infections. The committee considered that the development of local efforts and promotion of a spirit, of self-help in the community are as important to the success of the health programme as the specific services which the health officers will be able to place at the disposal of the people".

2.1.1.5 In any given situation the categories of health manpower required to deal with health of the community will be guided largely by the morbidity and mortality pattern and the factors responsible either causative or contributory to such morbidity and mortality patterns.

2.1.1.6 With regard to the role of Indian System of Medicine (ISM), the Bhore Committee realised the wide acceptance of the ISM by a large section of the population of India and the part that these systems had played in the past in influencing the development of medicine in other countries of the world.

2.1.1.7 The development of primary health centre complex proceeded along the recommendations of Bhore Committee and it became an integral part of community development blocks with the launching of this movement in 1952. The primary health centre set up established as a result of the abovementioned development at the time of constitution of Health Survey and Planning Committee (Mudaliar Committee)-1961 is- given below:



2.1.2.1. *Mudaliar Committee* (1961).—As a result of launching of several national health programmes mostly of a vertical nature around late 50\*8 and early 60\*8, the complexion of primary health centre and its constituent units in so far as the entire health manpower in a block was concerned, has been undergoing changes. The Health Survey and Planning Committee *popularly known as Mudaliar Committee* (1961). was constituted with following terms of reference:

1. The assessment for evaluation) in the field of medical relief and public health since the submission of the Health Survey and Development Committees' report (the Bhore Committee);
2. Review of the first and second Five Year Plan Health projects; and
3. Formulation of recommendations for the future plan of health development in the country.

The Committee recommended consolidation of the then existing structure and opening of the new primary health centres on the pattern recommended by Bhore Committee for a population of 40,000 as given below:

Medical Officers	2
Public Health Nurse	4
Nurse	1
Midwives	4
Trained Dais	4
Public Health Inspectors	2
Health Assistants	2
Pharmacist	1
Clerks	1
Fitter Mistry	2
	1

2.1.2.2 As stated earlier while the basic infrastructure of health services consisting of sub-centres, primary health centres, district health organization etc. have remained the same over the years, the structure on health manpower manning these complexes has been undergoing a change from time to time. Although the major emphasis remained around the doctors and the concern has been with the undergraduate and postgraduate medical education, nevertheless certain developments in terms of enhancing the training of allied health personnel consisting of nurses, health visitors, ANMs, Dais, laboratory assistants, perfectionists, opticians, auxiliary health workers or health assistants, pharmacists and public health engineering personnel had taken place.

2.1.2.3 The deliberations of Mudaliar Committee in so far as the health manpower is concerned were again heavily weighted in favour of undergraduate and postgraduate medical education. However, it made a slight departure from the past as can be seen from the following extracts:

The expression 'professional education' as applied to medicine and public health may be broadly defined as education comprising those courses of training which are necessary for the proper preservation of the health of the nation, it will thus include the training of doctors, dentists, pharmacists and pharmacologists, public health personnel, nurses and midwives, and several varieties of paramedical personnel so essential for the proper coordination of all aspects of medical and public health care. The paramedical personnel will include auxiliary medical and public health personnel like public health engineers, laboratory technicians, radiographers, dieticians, dental auxiliaries, vaccinators, malariologists, etc.

2.1.2.4. On the issue of *manpower requirements*. the gist of the Mudaliar Committee recommendations is as follows:

- (i) that if recommendations for the use of auxiliary and paramedical personnel are accepted and more of these person are trained. the services of the doctor would be better utilised for those duties which really fall on a trained medical person.
- (ii) the numbers of doctors, nurses, dentists, pharmacologists and public health engineers along with paramedical personnel are at present not adequate to meet the requirements of the country.
- (iii) for manning the training institutions, there has been a deficiency of trained personnel which has to be made good as soon as possible.



- (iv) the institution of a Master of Science degree which will be available for graduates in science who have taken up Mathematics, Physics, Chemistry, Botany or Zoology is rewarded. There is a wide held for useful employment of such graduates and post-graduates both in die public health department and in many institutions for medical relief.
- (v) it is very essential that a large number of technicians should be trained for multipurpose duties in the field of medicine. It is felt that all district headquarters hospitals and all the large hospitals with a bed strength of 200 can train these technicians, the period of training may vary from 1 year to 2 years and persons to be taken on for training must be those who have completed their school final or equivalent course.

2.1.2.5 With regard to the training of paramedical and other personnel, it observed the following:

"So far as nurses are concerned, there should be three grades of nurses :

- (1) the basic nurse with 4 years training including six months in midwifery and six months in Public Health.
- (2) the auxiliary-nurse midwife having two years training; and
- (3) the nurse with a degree.

At die same time, facilities should be available for the basic nurse to be able, under specified conditions, to get higher qualifications. Similarly, the auxiliary-nurse-midwife may be given opportunities under specified conditions to work for the basic course of nursing after putting in 3 years' work."

2.1.2.6 "Besides medical and nursing personnel, there is an urgent need for different types of medical auxiliaries to help doctors and public health workers in various fields. Among the groups that may be mentioned under the medical auxiliaries are chiropodists, dieticians, laboratory technicians, occupational therapists, physiotherapists, radiographers, remedial gymnasts, almoners, dental hygienists, and dental mechanics."

2.1.2.7 With regard to the Indian System of Medicine (ISM), the following observations of Mudaliar Committee may be noted :-

"Linkage between practitioners of ayurveda and the modern system of medicine may be tried, by offering to practitioners of ayurveda a specific course of training for 2-3 years covering preventive medicine, obstetrics and gynaecology and principle of surgery to that after training

then services can be utilised for health care. Such training will not, however, entitle them to a degree in modern medicine. It also recommended that postgraduate training in ayurveda should be available to medical graduates following the conferment of the degree of M.B.B.S."

2.1.3 *Chadha Committee* (,1963).—In the late 50's and early 60's, the Government of India was, therefore, seized with the problem of integrating the maintenance phase of the malaria eradication programme with the general health services in the country consisting of sub-centres, primary health centres, and district level organizations. It, therefore, appointed a Committee known as Special Committee on the Preparation of Entry of the NMEP into maintenance phase, popularly known as Chadha Committee, which gave its recommendations in 1963.

2.1.3.1 The Chadha Committee recommended that the then existing malaria surveillance worker may be changed into auxiliary health workers/basic health workers, one per 10,000 population, supported and supervised by sanitary inspectors/health inspectors at the rate of one per 20-25,000 population for which an additional post of health inspector was to be created in each of the blocks.

2.1.3.2 It recommended creation of the post of laboratory technicians at the PHC, and a post of a family planning held worker (FPFW), health assistant at the rate of one per 30,000 population to take care of the emerging problem of population growth and, therefore, intensifying family planning measures.

2.1.3.3 It recommended that the services of the extension educator should be utilised for all the national health programmes.

2.1.4 *Mukherjee Committee* (1966).—Mukherjee Committee was appointed by the Government of India to review what additions and changes are necessary as a result of the greatly altered situation due to the IUCD having come in the forefront of the family planning programme, in the staffing pattern, financial provisions etc. The recommendations of the Committee were :

2.1.4.1 There should be one FPFW tor every two sub-centres.

2.1.4.2 that an extra post of LHV should be created so that one LHV is available for 40,000 population.

2.1.4.3 that part-time workers for motivating population for acceptance of IUD should be appointed with honorarium.

2.1.4.4 that at the block, and district levels, education leaders be appointed for intensifying motivational campaign and be paid honorarium of Rs. 600 per annum.

2.1.4.5 that the government doctors may be provided incentives which should also be available to part-time private medical practitioners in terms of honorarium of Rs. 100 p.m.

2.1.5 *Kartar Singh Committee (1974)*.—As a result of launching of several national health programmes, there occurred tremendous variations in the categories of manpower requirements which posed problems in terms of providing integrated services. The feasibility of integrating various categories of health manpower at the grass-root level to provide integrated services having become available, the Government of India had appointed in 1972 a Committee popularly known as Kartar Singh Committee with the following terms of reference:

- (1) the structure for integrated services at the peripheral and supervisory levels;
- (2) the feasibility of having multipurpose bipurpose workers in the field;
- (3) the training requirements for such workers
- (4) the utilisation of mobile service units set up under Family planning Programme for integrated medical, public health and family planning services operating from Tehsil/Taluq level.

2.1.5.1 The Committee observed that National Programmes in the field of health, family planning and nutrition had been running almost independently of each other by still re-canted under each programme. There was little or no coordination between the field workers of these programmes and even at the supervisory level there were separate and independent functionaries. It had also yielded some results notably in malaria and smallpox. However, the major issue was whether the objective could be better achieved by coordinating the programmes and pooling the personnel.

The Committee recommended that the concept of change of unipurpose to multipurpose workers was both feasible and desirable.

2.1.5.2 The recommendations of this Committee visualised a team of male and female workers at grass-root level serving a population of 3000-3500 within a distance of not more than 5 kms.

2.1.5.3 Under the scheme there would be one female supervisor for 4 ANMs and one male supervisor over 3-4 male health workers. This would mean creation of additional post of a Lady Health Visitor and clubbing of the posts of Health Inspectors, Sub-Inspectors, Malaria Surveillance Inspectors and Vaccinators, Supervisors together to make them into male supervisors.

2.1.5.4 This scheme, after studying its feasibility, was launched on a nation-wide scale in the Fourth Five Year Plan.

2.1.6 *Shrivastav Committee (1975)*.— the issue of developing alternative strategies for the delivery of health services and rationalisation of the health manpower both in terms of number of personnel as well as categories of personnel had been engaging the attention of the Govt, of India from time to time. Accordingly, a Group on Medical Education and Support Manpower under the chairmanship of Dr. J. B. Shrivastav was established to focus on this issue; with the following terms of reference :

- (1) to devise a suitable curriculum for training a cadre of Health Assistants conversant with basic medical aid, preventive and nutritional services, family welfare, maternity and child welfare activities so that they can serve as a link between the qualified medical practitioners and the Multi-purpose Workers, thus forming an effective team to deliver health care, family welfare and nutritional services to the people;
- (2) keeping in view the recommendations made by the earlier Committees on Medical Education, specially the Medical Education Committee (1968) and the Medical Education Conference (1970), to suggest suitable ways and means for implementation of these recommendations, and to suggest steps for improving the existing medical educational processes so as to provide due emphasis on the problems particularly relevant to national requirements; and,
- (3) to make any other suggestions to realise the above objectives and matters incidental thereto.

The Group in its deliberations had come to a conclusion that their proposals for basic reforms in medical education and organization of support manpower should be made in the context of organization of a nation-wide network of efficient and effective health services in the country. The report submitted in 1975 highlighted the following :

2.1.6.1 Development essentially means the development of human rather than material resources.

2.1.6.2 A conscious and deliberate decision should be taken to abandon the model of western medicine and replace it by a model which will have to place a greater emphasis on human effort for which we have a large potential.

2.1.6.3 Health is essentially an individual responsibility in the sense that, if the individual cannot be trained to take proper care of his health, no community or State programme of health services can keep him healthy.



2.1.6.4 The community responsibility in health arc even more important. It is the duty of the community to provide a proper environment for helping each individual to be healthy.

2.1.6.5 The group recommended a four-tier structure given below :

- (1) The members from the community chosen by the Community themselves and trained by the health departments to function as community health worker health guides. These workers of honorary character would bridge the gaps between the community and the organised health services at the grass-root level.
- (2) The Multipurpose Workers (Male and Female) belonging to the organised health services at grass-root level for a defined population.
- (3) The Health Assistants who would be functioning in the primary health centres.
- (4) The medical officers and other para medicals at the level of Primary Health Centre.

The recommendations of this Committee in terms of bridging the gap between community and the organised health services in terms of creation of band of workers from within the community were put into operation on October 1977 and the scheme since then has been operating in the country in a phased manner, the name of these workers undergoing change from time to time.

2.1.7 Experiments in microplanning on the hues had. in fact, preceded the submission of Srivastav Committee report and the launching "1 national plan of action in October 1977. I IK State of Jammu & Kashmir in 1975 had initialed Rehbar-i-Sehat programme utilising the set vices of primary school teachers, to strengthen health promotion and disease prevention activities, besides providing first contact health care for common ailments.

2.1.8 *Medical Education Review Committee (Mehta Committee 1983).*—Part II of the Report of Mehta Committee specifically deals with lack of availability of Health manpower data in India, recommendations regarding methods for updating such data, and manpower projections for doctors, nurses and pharmacists. Part-I of the Report deals with medical education in all its aspects, but there is a major recommendation regarding the establishment of Universities of Medical Sciences and Medical and Health Education Commission.

2.1.9 *Working Group on Medical Education, Training and Manpower Training, Planning Commission (1984).*—The Working Group on Medical Education, Training and Manpower Planning as one amongst eight Working Groups appointed by the Planning Commission for formulating the 7th Five Year Plan had brought out some basic issues such as restructuring of organizational set up, management reforms,

decentralised planning, Bureau of Health Man-power Development, setting up of institutional objective, post-graduate training in public community health management, Medical location and Rome Scheme, Institutional network through University of Health Sciences and or Health and Medical Education Commission, which have implications for health manpower development especially related to paramedical manpower.

The group had recommended that emphasis and high priority should be given to train para-professional and auxiliary personnel, so as to correct the imbalances. It also laid down priorities for training of manpower as given below:

- (1) Training and development of auxiliary personnel.
- (2) Training and development of para - professional personnel.
- (3) Basic and preservice/induction training in public health and health management.
- (4) Continuing education in health management and public health.
- (5) Undergraduate medical education, and
- (6) Postgraduate medical education.

## 2.2 National Health Policy

2.2.1 India is committed to attaining the goal of "Health for All by the Year 2000 AD", through the universal provision of comprehensive primary health care services. As emphasised in the Policy adopted by the nation in December 1982, the attainment of this goal requires a thorough overhaul of the existing approaches to the education and training of medical and health personnel and the re-organisation of the health services infrastructure. Furthermore, considering the large variety of inputs into health, it is necessary to secure the complete integration of all plans for health and human development with the overall national socio-economic development process specially in the more closely health-related sectors, e.g. drugs and pharmaceuticals; agriculture and food production; rural development; education and social welfare; housing, water supply and sanitation; prevention" of food adulteration; maintenance of prescribed standards in the manufacture and sale of drugs, and the conservation of environment. In essence, the contours of the National' Health Policy will have to be further evolved within a fully integrated planning framework which seeks to provide universal, comprehensive primary health care services, relevant to the actual needs and priorities of the community at a cost which the people can afford, ensuring that the planning and implementation of the various health programmes is through the organised involvement and active participation of the community, adequately utilising the services being rendered by private voluntary organisations active in Health Social Sector.

2.2.2 It further states that it is also necessary to ensure that the pattern of development of the health services infrastructure in the future fully takes into account the revised 20 Point Programme. The said programme attributes very high priority to the promotion of family planning as a people's programme, on a voluntary basis; substantial augmentation and provision of primary health care facilities on a universal basis; control of leprosy, tuberculosis and blindness; acceleration of welfare programmes for women and children; nutrition programmes for pregnant mothers, nursing mothers and children especially in the tribal, hill and backward <- areas. The programme also places high emphasis on the supply of drinking water to all problem villages; improvement in the housing and environment of the weaker sections of society; increased production of essential food items; integrated rural development programme; spread of universal elementary education; expansion of the public distribution system, etc.

2.2.3 The Policy statement emphasises that irrespective of all the changes, no matter how fundamental, that may be brought about in the overall approach to health care and the restructuring of the health services, no much headway is likely to be achieved in improving the health status of the people unless success is achieved in securing the small family norm, through voluntary efforts, and moving towards the goal of population stabilisation. In view of the vital importance of securing the balanced growth of the population, it is necessary to enunciate, separately, a National Population Policy.

2.2.4 The National Health Policy reaffirms that it is also necessary to appreciate that the effective delivery of health care services would depend very largely on the nature of education, training and appropriate orientation towards community health of all categories of medical and health personnel and their capacity to function as an integrated team, each of its' members performing given tasks within a coordinated action programme. It is, therefore, of crucial importance that the entire basis and approach towards medical and health education, at all levels, is reviewed in terms of national needs and priorities and the curricular contents remodelled, and training programmes restructured, to produce personnel of various grades of skill and competencies, who are professionally equipped and socially motivated to effectively deal with day-to-day problems, within the existing constraints.

2.2.5 Towards this end, it is necessary to formulate, separately a National Medical and Health Education Policy which (i) sets out the changes required to be brought about in the curricular contents and training programmes of medical and health personnel, at various levels of functioning, (ii) takes into account the need for establishing the extremely essential interrelations between functionaries of various grades, (iii) provides guidelines for the production of

health personnel on the basis of realistically assessed manpower requirements, (iv) seeks to resolve the existing sharp regional imbalances in their availability, and (v) attempts to ensure that personnel of all levels are socially motivated towards the rendering of community health services.

### 2.3 Kothari Commission for Education 1964-66

Since independence, while developments in health sector have been gradually converging upon the necessity as well as desirability of linkages with education system, an attempt to introduce vocationalization of higher secondary education was initiated as a result of the report of Kothari Commission. It was conceived that there would be two equal streams at +2 stage each carrying around 50% of the total students. It was expected that the vocational stream over a period of time, will become a major outlet for the development of socially relevant skills, thus generating not only a pool with a higher employment potential, but also aiming to supply the manpower needed for developmental activities both in the private and public sector in the country.

### 2.4 National Policy on Education 1986

Taking cognisance of the fact that education in India is at the critical cross-roads where neither a normal linear expansion nor an acceleration of existing pace and nature of improvement, can lead to the realisation of the ultimate goal of rapid socio-economic development through the strengthening of human resource potential, a major effort has been undertaken to restructure National System of Education.

2.4.1 A new National Policy on Education has, therefore, been developed and adopted by Parliament of India in May 1986. The Policy aims to view education as a dynamic process with inherent flexibility and capability enabling the future generations to internalise new ideas constantly and creatively.

2.4.2 A key emphasis in the new Policy is on the development of manpower for different levels of the economy, recognising that such a process is indeed the substrate on which research and development in all areas of scientific and technical activity should be nurtured, thus leading to the ultimate objective of national self-reliance.

2.4.3 The national system of education envisages a common 10+2+3 educational structure, with efforts to develop an elementary system comprising of five years of primary education and three years of upper primary, followed by two years of high school in the first phase of ten years of education. As a part of common key curriculum during this phase, emphasis has been placed on social and moral education. The core curriculum also refers to the protection of environment, observance of the small family norm, and inculcation of the scientific temper.

2.4.4 The Committee is of the firm view that social, moral, health and physical education should constitute a holistic approach. The curricular contents of courses of instruction for school teachers, and more particularly physical education instructors, should include these components so that the rationale of such an approach is imbibed during the period of training. Curricular reforms on the lines indicated were initiated in the State of Jammu & Kashmir and linked with the community oriented primary health care system through the Rehbar-i-Sehat programme.

2.4.5 Eradication of illiteracy and universal education are the two most important enabling objectives enunciated in N.P.E. Besides elementary school education already referred to, adult education and non-formal education constitute the major intervention strategy. While adult education focuses at the age group 15-35 years-, non-formal education aims at development of learning programmes for school drop-outs, for children of habitations without schools, working children and girls who cannot attend whole day schools.

2.4.6 The introduction of systematic, well-planned and rigorously implemented programmes of vocational education has been recognised as crucial in the proposed reorganisation. The key elements in vocational education are meant to enhance individual employability, to reduce the mismatch between the demand and supply of skilled manpower, and to provide an alternative for those pursuing higher education without particular interest or purpose.

2.4.7 Although the vocational courses will ordinarily be provided at the +2 stage of the 10-4-2 system, the scheme has been kept flexible so as to make available some of these courses after Class VIII. Furthermore, non-formal, flexible and need-based vocational programme will also be made available to neo-literates, youths who have completed primary education, school dropouts persons engaged in work and unemployed or partially employed persons. It is envisaged to give special attention in this regard to women.

2.4.8 It is proposed in the New Education Policy that vocational courses cover 10 per cent of higher secondary students by 1990 and 25 Per cent by 1995. Steps will be taken to see that a substantial majority of the products of Rational courses offered would be regularly undertaken. Government will also review its recruitment policy to encourage diversification the secondary level.

2.4.9 Work experience, viewed as purposive integral meaningful manual work, organised as an integral Part of the learning process and result-to the either goods or services which are useful to the community, is considered as an essential

component at all stages of education, to be provided through well-structured and graded programmes. Such an experience as a part of pre-vocational programmes, and provided at the upper primary and lower secondary stages, is likely to facilitate the choice of the vocational course at the secondary stage.

## 2.5 Inter linkages between Health and Education Policies:

2.5.1 There are several interlinking areas between National Health Policy and National Policy on Education, amply reflecting the inter dependence of literacy and health. For the purpose of this report, the following excerpts from the National Policy, on Education need reiteration:

"Health planning and health service management should optimally interlock with the education and training of appropriate categories of health manpower through health-related vocational courses. Health education at the primary and middle levels will ensure the commitment of the individual to family and community health, and lead to health-related vocational courses at the +2 stage of higher secondary education."

"Graduates of vocational courses will be given opportunities, under predetermined conditions, for professional Growth, career improvement and lateral entry into courses of general technical and professional education through appropriate bridge courses."

2.5.2 A similar awareness of the role and place of public health education as a motivational force for the development of an attitude of healthy living, is demonstrated in the National Health Policy which states :

"The public health education programmes should be supplemented by health, nutrition and population education programmes in all educational institutions, at various levels. Simultaneously, efforts would require to be made to promote universal "education, specially adult and family education, without which the various efforts to organise preventive and promotive health activities, family planning and improved maternal and child health cannot bear fruit."

2.5.3 The Expert Committee is of the considered view that implementation strategies aimed at intersectoral coordination between education and health have been conspicuously lacking in the past, and that the stated goals and objectives have not been translated into concretised plan of action. The awareness generated by the new Education Policy should, therefore, be utilised for achieving health-related objectives.

2.5.4 Following operational strategies are recommended in this connection :

2.5.4.1 7th Plan formulations of integrated planning and coordinative implementation on decentralized and participative basis, may be initiated in areas of health and education. Integrated Area Development Model with suitable changes and modifications may be considered for the purpose.

2.5.4.2 Active participation of the community, a commonly accepted" intervention-strategy both by Health and Educational, policies, should be strengthened through the village committees, learner groups, and proposed centers for continuing education in rural areas and District Boards of Education, as envisaged in the

National Educational Policy.

2.5.4.3 District Institutes of Education and Training and Institutes in Health Sector should develop integrated Training modules for various categories of field workers in both the sectors and organise orientation programmes accordingly..

2.5.4.4 Voluntary-Organisations are playing a vital role in the processes of implementation of national objectives in Health and Education. Strengthening of this mode of delivery mechanism is emphasized by both the Policy documents. It is recommended that a coordinative machinery be set up at the national level, to devise methods and procedure for generation and development of holistic programmes, with appropriate financial assistance.

## CHAPTER III

### HEALTH MANPOWER NEEDS AND RESOURCES

#### 3.1 Health Planning - System approach :

3.1.1 To achieve and attain the goal of Health for All By the Year 2000 AD health services in the country are being organised on a 4-tire system :

- (i) at the village level; training and deployment of village level workers;
- (ii) Establishment of the sub-centre for a population of 5,000 in the plains and 3,000 in difficult areas like the tribals and the hilly areas or desert areas;
- (iii) Establishment of a Primary Health Centre for a population of 30,000 in the plains and 20,000 in the difficult hilly and tribal areas; and
- (iv) Establishment of a Community Health Centre for a population of 1,00,000 with provision of referral link services. Such a Centre would function as a rural referral hospital for 3-4 Primary Health Centres, and will be provided with indoor facilities of 30 beds, Such a centre will provide investigative facilities in the shape of clinical laboratory and an X-ray unit. Such a Centre will also provide first line specialists' sentences in the specialities of medicine, surgery, paediatrics (child health) and obstetrics and gynaecology.

3.1.2 Till date, the following number of personnel institutions have been established :

1. Village Health Guides: 3.8 lakhs;
2. Trained birth attendants : 5.1 lakhs;
3. Number of sub-centres established: 83000"by the end of 6th Five Year Plan:
4. Number of Primary Health Centres established: 11500 by the end of the 6th Five Year Plan; &
5. Number of Community Health Centres established: 650 by the end of the 6th Five Year Plan.

3.1.3 It is proposed to establish another 50,000 Sub-Centres, 12,000 Primary Health Centres and 1,500 Community Health Centres during the 7th Five Year Plan. To ensure the establishment of these institutions, adequate funds have been provided in the Central and State

sectors. These institutions will be further supported by Sub-divisional / Tehsil / Cottage Hospitals / sub-district hospitals at the Divisional Tehsil level of a district There are many Sub-divisional hospitals already in existence. The Sub-divisional hospitals will be supported by a chain of District hospitals, which in turn will be linked with Medical College hospitals or an equivalent State hospitals.

3.1.4 The main instrument to achieve Health for all By 2000 AD in India has been identified as Primary Health Care which will form the base and basis of comprehensive national health care system in India. By definition :

"Primary Health Care is essentially health care universally acceptable to individuals and families in the community by means acceptable to them through their full participation and at a cost that the community and country can afford. It forms an integral part both of the country's health system of which it is the nucleus and of the overall social and economic development of the community."

3.1.5 Primary Health Care aims to meet health problems in the community and provide promotive, preventive,, curative and rehabilitative services accordingly. Since these services reflect and evolve from the economic conditions and social values of the country and its communities, they will follow a pattern consistent with social norms and community aspiration. In order to make Primary Health Care universally acceptable in the community as quickly as possible maximum, community and individual self-reliance for health development are essential. To attain the requisite self-reliance, full community participation in the planning, organisation and management of Primary Health Care is of the essence. Such participation is best mobilised through APPROPRIATE EDUCATION which enables communities to deal with their real health problems in the most suitable ways.

3.1.6 Primary Health Care is likely to be most effective if it employs means that are understood and accepted by the community and applied by community health worker at a cost the community and the country can afford. These community health workers include traditional practitioners where applicable, and will



function best if they reside in the community they serve and are trained socially and technically to respond to its expressed health needs.

3.1.7 Since Primary Health Care is an integral part both of the country's health system and of the overall economic and social development without which it is bound to fail, it has to be coordinated on a national basis with the other-levels of health systems as well as with the other sectors that contribute to a country's total development strategy. The Village Health Guide Scheme which is being operated in the country is destined to meet the above challenges.

### 3.1.8 *Component of Primary Health Care:—*

3.1.8.1 The following are the 8 essential components of Primary Health Care:

1. Family Welfare and MCH;
2. Water Supply and Sanitation;
3. Immunisation;
4. Nutrition;
5. Control of common communicable diseases;
6. Health education covering common Health problems and the methods of preventing and controlling them;
7. Treatment of common diseases and injuries; and
8. Provision of essential drugs.

3.1.8.2 *National and International Commitments.*—India is a signatory to the ALMA ATA declaration of 1978, whereby it is committed to achieve Health For All By the Year 2000 AD. As a part of its national and international commitment, the following important targets have been indicated in the National Health Policy to be achieved by the year 2000 AD from its present position :

	indicated Current Level	Goal by 2000 AD
Infant mortality	105	below 60
Crude death rate	11.5	9
Child mortality	25	10
Maternal mortality	4-5	below 2
Life expectancy at birth	54.7	64+
Life birth rate basics (%)	25	10
Crude birth rate	33-6	21
Net reproduction rate	1-34	
Anti-natal care to mothers (%)	50%	1100%
Deliveries by trained attendants(%)	50%	100%
Universal Immunisation	50-60%	85—100%

3.1.8.3 *Brief Reference to Intervention Strategies.*—For raising the standards of health and improving the quality of life of our people, the strategies to be adopted will necessarily have to be:

- (i) Scientifically sound;
- (ii) Economically cost effective;
- (iii) Spatially universally available;
- (iv) Readily accessible; &
- (v) Socially acceptable to the community.

The technologies to be followed will have to give greater emphasis on preventive and promotive aspects of health care, and the strategies to be adopted will have to be wedded to local culture and ethos. These strategies must essentially respect the local values and customs. The main instrument of the strategy as stated earlier will have to be Primary Health Care.

### 3.1.8.4 *Community as a major resource.*—

The essence and essential of Primary Health Care is community participation. Without the active participation of people in the management of their own health care, it will be impossible to raise the status and standard of health. As such, the community itself becomes a major resource in developing effective and efficient health service in the country. For this a massive effort towards community mobilization for health will have to be mounted. Community awareness, community sensitisation, and community action, constitute the essential pre-requisites for well planned programme of action aimed at mobilisation of community resources.

3.1.8.5 *Health Education as an Intervention Strategy.*—The major health problems of India are related to communicable diseases, nutrition and poor environmental sanitation. To overcome these problems, a behavioural change would be needed in the people at large. Behavioural change can only be brought out by process of education—health education. As has been stated earlier, health education is one of the most important and essential elements of primary health care. The success of any health care programme to a large extent will depend on the informed involvement and participation of the community which in itself depends on effective community mobilisation.

## 3.2 Health Manpower Planning for Primary and Intermediate Health Care.

3.2.1 There has been an increasing awareness »of the fact that the three components of manpower development process, namely planning, production, and management, should constitute sub-systems, which should not only integrate with each other, but should also have a functional linkage with the total health system development.

3.2.2 The basic health services infrastructure in term of facilities few provision of primary secondary and tertiary care in the post independence era was established as an integral part of infrastructure related to socio-economic development, namely Community Development Programme. The health services infrastructure thus established has undergone process of expansion, consolidation and modifications dictated by the launching of National Health and Family Welfare Programmes. The health manpower required to man the health services facilities as well as meet the specific needs of programmes has also undergone a similar process of expansion, modifications and consolidations. Newer categories of health manpower emerged with the launching of National Health Programmes of vertical nature. On the other hand expansion as well as diversification of medical care facilities and services i.e. the addition of specialities and super-specialities has also led to emergence of newer categories of health manpower. The resultant effect of these developments has been enormous increase in number of categories of health manpower. The Working Group on Medical Education, Training and Manpower Planning amongst seven other groups set up by the Planning Commission for the formulation of 7th Five Year Plan found as many as 109 categories of health manpower. On the other hand the change from unipurpose to multipurpose health workers strategy since 5th five year plan was meant to reduce the number of categories of health workers.

3.2.3 The growth and development of health services and manpower over the Five Year Plan period reveals that—(a) health services and health manpower have been developing in isolated manner and without any proper linkage in temporal and spatial dimensions, (b) the process of health manpower development has not been as rational as it should have been, due probably to less concern for appropriate manpower as compared to concern for physical, technical and technological facilities, (c) there has not been a proper balancing between planning Production and management dimension of health manpower development process and (d) there has been far less a concern, almost amounting to negligence, for the planning of allied health professionals\* compared to that of medical manpower, focal bias in the entire process of health system planning and health manpower development.

3.2.4. On the last dimension, in so far as medical doctors are concerned, health organisations have been quite alive to the need for having estimations of current requirements. Such estimates are published by the central bureau of health intelligence. Research Organisations like

institute of Applied Manpower Research, National Institute of Health and Family Welfare and Indian Institute of Management at Bangalore etc. have also been interested and have conducted a number of studies in this dimension. However estimations of allied health professionals (para-medical and auxiliary manpower), except to some extent in relation to nurses, have not been made either by service or research organisations.

3.2.5. In the task of making estimations for the existing and projected health manpower needs, there are a number of problems such as (a) highly inadequate information system in health, (b) lack or laxity in registration systems including inadequate functioning of various professional councils which could provide estimates of current stock, (c) inadequate information on training infrastructure and outputs from educational and training institutions which could provide valid estimates of supply, (d) lack of information on migration, death rates and attrition on other grounds etc. and (e) methodological problems related to estimation of manpower requirements.

3.2.5.1. In fact, there is no universally accepted method of assessing the future requirements of health professionals and para-professionals. The techniques of health manpower forecasting are yet at the stage of infancy. Nonetheless, three methods are available for estimating the projections:

- (a) *Normative approach.*—This is the most common method for projecting requirements of doctors and nurses. However, norms for other categories of health professionals have not yet been worked out by using this method.
- (b) *Medical Service User approach.*— This approach takes into consideration the willingness and capacity of the people to pay for medical services. Demand in economic sense is related to price and would generally, be limited by the financial resources of the family. Determining the expenditure to be incurred for medical services then becomes a matter for allocating limited family income among alternative uses. There is a relationship between family income and expenditure on health services. On the basis of the household data on common expenditure, the prospective planning division of the Planning Commission has worked out the income elasticity of household expenditure on medical services to be 2.3. This means that if per capita income goes up by 1 per cent, the households are inclined to increase their expenditure on health services by 2.3 per cent.



(c) *Component or programmatic approach.*—Projecting the demand for health professionals on the basis of component approach requires a clear outline of the development of integrated and comprehensive medical health services in the country over a period of 15-20 years. If comprehensive medical and public health services are provided by the State, it is simple to determine the requirement of health professionals by a component approach i.e. on the basis of norms and patterns of staffing laid down for different types of medical and public health services—in rural and urban localities of different sizes. There are limitations to developing this approach as comprehensive medical and public health service programmes have not yet been worked out. While estimating health manpower for programmatic approach, in addition to government run public and medical health services, the demands and projections for private sector should also be considered.

3.2.6 One of the major tasks before the Committee was related to estimation of paramedical and auxiliary manpower at the primary and intermediate level of care, in the existing infrastructure for health care consisting of Sub-centre, Primary Health Centre, Community Health Centre, District hospital, teaching hospital attached to medical colleges, specialised hospitals and apex Postgraduate institution like A.I.I.M.S. etc., it is extremely difficult to identify the cut of point between secondary and intermediate level of care, which indeed may be, and is often, in the nature of a continuum. Fully operational community health centres, once developed and well organised, perhaps provide equal level of secondary care as is available from present district hospital. Taking into consideration the totality of circumstances, the Committee came to the conclusion that for the purpose of the task assigned to the Committee, the Community Health Centres may be deemed to be the cut off point and hence the estimation of manpower may be limited to the level of Community Health Centres,

3.2.7 Estimations of health manpower requirements with respect of para-medical and auxiliary personnel upto intermediate level of care, in the present context, Community Health Centres, based upon normative approach has been earlier made, and forms the basis of pattern as indicated below:

I. Community Health Centre	1 per 1,00,000 Population-
Ophthalmic Assistant	1
Nurses/Midwife	7
Pharmacist	2
Lab. Technician	2

	X-ray Technician/Radiographer	1
	Dresser	1
II.	Primary Health Centre	1 per 30,000 in plains. 1 per 20,000 in difficult areas.
	Community Health Officer	1
	Health Educator	1
	Pharmacist	1
	Lab. Technician	1
	Nurse midwife	1
	Health Worker (F)	1
III.	Sub Centre	1 per 5,000 in plains. 1 per 3,000 in difficult areas.
	Health Worker (M)	1
	Health Worker (F)	1
IV.	Village level Health Guide	1 per 1,000 Population.
	Traditional Birth Attendant	1 per 1, CC0 Population.

3.2.8. From the point of view of sheer numbers and their importance in relation to National Health Programmes, the following categories are of crucial importance for providing health care at the Primary Health Centre and the Community Health Centre:

- (i) Village Health Guides,
- (ii) Trained Dais,
- (iii) Health Worker, Female (ANM),
- (iv) Health Worker, Male,
- (v) Health Assistants, Female (LHV),
- (vi) Health Assistants, Male,
- (vii) Pharmacists,
- (viii) Laboratory Technicians (for clinical, public health, and food and drug laboratories),
- (ix) Community Health Officers,
- (x) Radiographers; X-Ray Technicians,
- (xi) Nurses (of different grades, categories and skills),
- (xii) Block Extension Educator,
- (xiii) Ophthalmic Assistant,
- (xiv) General Duty Medical Officer,
- (xv) Dentists,
- (xvi) Dental Hygienist.

In addition, for National Programmes in Tuberculosis and Leprosy, trained workers and technicians of identified categories, would be required

3.2.9 While the estimations for predefined categories of health manpower have been done upto Community Health Centre level, due recognition is accorded to the role and place of nurses in the context of comprehensive health care, and as such, the estimation for nurses have been made for the entire country based on normative approach (Annexure 7).

3.3 Viewed in the perspective described, the gate of affairs with regard to current stock, supply and future requirements in respect of Para-medical and auxiliary manpower is far *from* satisfactory. There is no bench mark survey giving the current stock. The available figures for current stock are only in respect of few categories. These figures are mainly derived from health services statistics and have *the* same limitations as any service statistics should have. All the same, the figures of current stock in respect of categories of para-medical manpower at primary and intermediate level of care, i.e. upto community health centre *can be* seen at column 3 of the Table 1.

3.3.1 The attrition on account of retirement and death etc. may be assumed to be around 15 per cent in case of nurses (on account of higher level of migration) and 10% in case of other categories annually. Thus, the stock after application of these rates by 1991 and 2000 A.D. can be seen at column 4 and 5 in the Table 1.

3.3.2. The information on supply i.e. turn out (with known limitations) from training institutions in respect of some of the categories as available from statistics available vide publication "Para-Medical Training in India, 1985" published by Central Bureau of health intelligence, Directorate General of Health Services in Ministry of Health and Family Welfare, Govt. of India can be seen at column 6 in Table 1.

3.3.3 Assuming that all the out turn joins the organised health services, the additional manpower available by 1991 and 2000 A.D. category-wise can be seen at column 7 and 8 the Table 1.

3.3.4 Adding the numbers available in 1991 and 2000 A.D. from amongst the present stock to the out turn, the total stock available by 1991 and 2000 A.D can be seen at column 9 and 10 the Table 1.

3.4.1 The Committee would also wish to eiterate that health service statistics need to be improved in quality, functioning of registering bodies for health professionals needs to be hended and health manpower studies need to mounted.

3.4.2. The existing situation is unlikely to improve significantly, until and unless definitive mechanisms in terms of creation of organisational structures responsible, for health manpower development are brought into existence, in order to function optimally, such mechanism(s) must:

- (i) form integral part of Health Planning Bureaus/Cells at Central and State-levels which are grossly inadequate at present, and interact with similar organisations at District level which presently arc non-existent;
- (ii) have equal concerns for *all* categories of health manpower and should not be heavily biased in favour of medical manpower as is the situation at present; and
- (iii) have appropriate relationship with research organisation(s) and Councils related to various categories of health manpower or to a central coordinating mechanism.

### 3.5. Practitioners of Indigenous System of Medicine and Homeopathy.

3.5.1. India has the maximum number of manpower in indigenuous systems of medicine and nomocopamy. The services rendered by the practitioners of these systems over the centuries have received due recognition. A significant portion of the country's medical care needs in the rural areas is presently met through the agencies of these practitioners. Despite the fact that India has a large number of practitioners in ISM&H, of whom a significant proportion are institutionally qualified and certified, this potential manpower resource is yet to be effectively drawn and optimally utilised for delivery of health care in the country.

3.5.2 *Indian Systems of Medicine for Strengthening the National Health Care System.*—The National Health Policy as passed by the Parliament assigns to the Indian Systems of Medicine and Homoeopathy an important role in the delivery of Primary Health Care and envisages its integration with *the* Modern System of Medicine m the preventive and promotive aspects of health care. In view of this and also the simplicity and comparative cost-effectiveness of the delivery of health care under these systems, these will be developed and utilised to the maximum possible extent during the 7th Five Year Plan and the period thereafter. It is necessary to identify clearly the priority areas concerning these systems and ensure provision of requisite resources so that these systems can play the targeted role assigned to them.

3.5-3 At present, there are 100 Colleges in Ayurveda, 17 in Unani, one in Siddha and over 100 in Homoeopathy. Annual admission capacity is 375Q in Ayurveda, 595 in Unani, 75 in Siddha and over 8000 in Homoeopathy. About half of the Ayurveda Colleges are under Government and the remaining ones managed by private bodies. About half of the Unani Colleges are under Government and the remaining are private institutions. The only Siddha College is run by the Government of Tamil Nadu. Twenty Homoeopathy Colleges are under Government and the remaining Homoeopathy Colleges are private ones. All the Ayurvedic, Unani and Siddha Colleges are conducting degree courses. About 30 Homoeopathy Colleges are providing degree education in the Homoeopathy, while rest are conducting diploma courses in Homoeopathy, 95 out of total of 100 Ayurvedic Colleges, 12 out of total of 17 Unani Colleges and one Siddha College are affiliated to the University; 46 Homoeopathy Colleges have been affiliated to Universities. Annexure 8 provides summary of available data regarding education, training and deployment of practitioners of ISM & H.

3.5.4 Compared to the Modern System of Medicine, the number of institutions, namely district/sub-divisional hospitals and State dispensaries are very small under these systems. There are no Primary Health Centres nor Sub-centres belonging to these systems anywhere in the country. The position regarding the number of dispensaries and hospitals under the Indian System of Medicine and Homoeopathy varies considerably from one State to another. As on 1-4-1983, there were 328 Ayurveda Hospitals, 29 Unani Hospitals, 105 Siddha Hospitals (mostly in Tamil Nadu) and 119 Homoeopathy Hospitals in the country. The bed strength of most of these hospitals is small compared to the Hospitals under the Modern System of Medicine. The total, bed strength is Ayurveda-13976; Unani-1405; Siddha-885 and Homoeopathy-3778. As on 1-4-1983, the total number of dispensaries were; Ayurveda-12196; Unani-994; Siddha-241 and Homoeo-pathy-2202. During the Sixth Five, Year Plan, an option was given to the States to provide the third doctor in a PHC from Indian, Systems of Medicine or Homoeopathy. But, in response to this, only a few States have provided the third doctor in some of their PHC from, the ISM and Homoeopathy as indicated

<u>DISCIPLINE</u>	<u>NAME OF STATES</u>
Ayurveda	Gujarat, Andhra Pradesh, Uttar Pradesh, Maharashtra, Orissa and Madya Pradesh.
Unani	Andhra Pradesh and Uttar Pradesh

<u>DISCIPLINE</u>	<u>NAME OF STATES</u>
Homoeopathy	West Bengal and Orissa.
Siddha	Tamil Nadu.

3.5.5 The Committee would wish to recommend the areas where the practitioners of ISM can be utilised. The practitioners of Indian Systems, of Medicine can be gainfully employe in the area of National Health Programmes like 3 the National Malaria Eradication ProgrammetryNational Leprosy Eradication Programme, Blind he ness Control Programme, Family Welfare suu^tnl MCH Programme particularly the programme of universal immunisation and nutrition. To ensure that the ISM Practitioners will be used in judicious manner, it will be extremely essential to strengthen their basic training by incorporating appropriate educational components which will enable, them to support the above National Health programmes. Within the health care system, these practitioners can strengthen the- components of (i) health education, (ii) drug distribution for national control programmes. (iii) motivation for family welfare, and (vi) motivation for immunisation, control of environ ment etc.

### 3.6 Metropolitan Health Services

3.6.1 As per 1981 census, 75% population of India lives in villages and 25% in cities. There is a distinct difference between river the type of health services available in village and in the cities.

Evolving demographic profile as reflected in the Seventh Plan document, shows that urban population in the year 2000 is estimated at nearly 315 million, indicating share of 32% in the total population. This is roughly 549 of the total addition to population in India between 1981 and the year 2000. In the context of past trends, most of the growth is expected to occur through the enlargement of existing towns.

3.6.2 Socio-economically the- urban community can the divided in the rich, middle and poor classes. The groups are fairly distinct. The rich have resources and avail the services of private general practitioners and consultants. Private nursing homes are utilised by them and dependence on cornrnnnny is largely for environmental sanitation, The middle class families go, to The private , general practitioners to a varying extent, depending on the severity of illness and the cost involved for' medical care. Their major problem pertain to the diagnostic and specialist service\* for which they often utilise the public hospital., This group is also conscious of the need to maintain environmental sanitation and often takes active, steps to improve it.

The poor have to depend fully on the public institutions and agencies not only for all aspects of health services, but also for their basic needs such as nutrition, clothing and healthy housing, that is not a priority need and even the limited services that are available to them are not utilised.

6.3 While there has been tremendous extension of the primary health care services in rural areas, the provision of such health care for the under-privileged classes in the urban

areas is grossly inadequate. In contrast, the tertiary medical care is well developed in the urban areas. The curative services are amply provided by the hospitals, speciality hospitals, dispensaries, private practitioners, private nursing homes etc.

3.6.4 Such imbalances are reflected in the following table, which depicts availability of hospital beds in the rural and urban areas as on 1-11-1985.

Hospital	Rural		Urban		Total	
	No.	Beds	No.	Beds	No.	Beds
Government	952	33086	2623	313496	3575	346582
Bodies	115	3293	307	22005	422	25298
Rate and voluntary	876	32531	2461	106635	3337	511046
<b>Total</b>	<b>1943</b>	<b>68910</b>	<b>5391</b>	<b>442136</b>	<b>7334</b>	<b>511046</b>
NSAIES						
Government	8912	22033	2511	4966	11423	26999
Bodies	2124	1840	1069	1679	3193	3519
Rate and voluntary	1146	1322	5464	4065	6610	3387
<b>Total</b>	<b>12182</b>	<b>25195</b>	<b>9044</b>	<b>10710</b>	<b>21226</b>	<b>35905</b>

3.6.5 Taking into consideration the totality of available data and future projections, the committee would wish to recommend :

3.6.5.1 Since approximately one third of the population living in the urban areas by the year 2000, there is an urgent need to expand and strengthen the primary health care in urban areas to provide the preventive and curative services in a comprehensive manner.

3.6.5.2 A major emphasis should be on the creation and establishment of necessary infrastructure including beds to strengthen linkages between already established primary health care system in the rural area and the required linkages and referrals to the Intermediate health care stations.

TABLE 1  
Current stock, Annual output, supply, total stock, projected requirements and gap Regarding health manpower at Primary and intermediate level of care i.e upto level of Community Health Centre

S.No	Category of Manpower	Stock in		Annual output	Supply by		Total Stock		Requirement		Gap		
		1986 IAN	1991		2000	1983	1981	2000	1991	2000	1991	2000	
1	2	3	4	5	6	7	8	9(4 + 7)	10(5+ 8)	11	12	13	14
1.	Community Health Officer												
2.	Block Extension Educator									22,305	26,439	—	—
	Health Educator	4,915	2,902	1,124	35	175	490	3,077	1,614	28,578	33,875	25,501	32,261
3.	Ophthalmic Asstts.	951	505	196	617	3,702	9,255	4,207	9,451	6273	7,436		(-)2,015
4.	Staff Nurses	162,875*	61,428	14,228	8,533	51,198	127,995	112,626	142,223	409,246	664,623	296,620	522,400
5.	Pharmacist	24,449	14,437	5,593	4,063	20,315	56,882	34,752	62,475	34,851	41,511	99	(-)20,964
6.	Lab. Technician	8,336	4,922	1,907	1,558	9,348	23,377	14,270	25,277	34,851	41,511	20,581	16,234
7.	X-Ray Technician Radiographer	INA	—	—	609	4,872	10,353	4,872	10,353	6,273	7,436	1,401	(-)3,117
8.		9,395	5,548	2,149	627	3,135	8,778	8,683	10,927	66,216	78,491	57,533	87,564
9.	Dresser	651	—	—	—	—	—	—	—	6,273	7,436	—	—
10.	Health Asstt. (M)	15,989	9,441	3,658	1,538	7,690	21,532	17,131	25,190	34,155	40,485	17,024	15,295
11.	Health Asstt. (F)	26,105	15,415	5,972	3,095	15,475	43,330	30,890	49,302	34,155	40,435	3,265	(-)8,817
12.	Health Worker (M)	84,122	49,673	19,244	819	4,095	11,466	53,768	30,710	136,620	161,941	82,852	131,231
13.	Health Worker (F)	95,615	56,460	21,874	15,296	76,480	214,144	132,940	236,018	158,925	188,380	25,985	(-)47,638
14.	Health Gnide**	385,572	—	—	—	—	—	—	—	627,337	743,610		—
15.	Traditional Birth** Attendant (TBA)	515,691	--	-						627,337	743,610		—

• Figures pertain to the year 1985.

\*\* Being Voluntary workers, calculations cannot be done in the same manner as is applicable for other workers.

\* Calculations are based on manpower requirement for hospital nursing services.

INA - Information Not Available.

\* The gaps indicated above are only in relation to the need of Primary and Intermediate Health care services. These will become much wider when viewed in the perspective comprehensive health care system including tertiary care services, as also the needs of organized sector and private sector.

\*The requirements indicated above are only in relation to the needs of primary and intermediate health care services. A large number of recognized plus will be absorbed by sector and the private sector.

## CHAPTER IV

### HEALTH MANPOWER PRODUCTION FOR PRIMARY AND INTERMEDIATE HEALTH CARE

1 Field experiences and research findings at macro and micro level have demonstrated that between health and education there is an interactive relationship and effectiveness of sectors can be enhanced considerably by nursing a coordinated and integrated approach. There appears to be a phenomenon of independence as was demonstrated during the organization of primary health care in Jammu Kashmir through Rehbar-i-Sehat Programme.

4.2 The health manpower requirements for primary health care must take cognisance of the fact that individuals, families and the community constitute the most important health man-power resource,

4.2.1 Educational process at all levels must at the incorporation of such learning experience that may lead to a desired change the health behaviour.

4.2.2. Universal education comprises three components adult education, non-formal education, and elementary school education. therefore, imperative that health-related curriculum contents must be incorporated in the timing materials and educational experiences all these three levels.

4.2.3. Adult education programme emphasize three key elements : Literacy, functionality, and awareness. It is being implemented through several programmes, namely, Rural Functional Literacy Project, State Adult Education programme, Adult Education through voluntary Agencies, Involvement of Students and Youth the Adult Education Programme, Nehru yuvak Kendra, Non-formal Education for Women and Girls, and Shrank Vidyapeeths.

4.2.4. During 1984-85 there were 186510 centres of adult education in the country more than 5.53 million adults. Of these 2.89 million were females, and 1.54 and 0.88 million adults belonged to scheduled castes and scheduled tribes respectively. The detailed statistics regarding the coverage of adult education programme in India are shown in Annexure 9.

4.2.5. The five major curricular components adult education programme include:

- (i) Individual and Society—a social, environmental and civic orientation;

- (ii) Employment and Vocational Development;

- (iii) Food production, Distribution and Nutrition;

- (iv) Health and Sanitation; and

- (v) Home and Family Life.

The course on food production distribution and nutrition contains two units which are basically on nutrition and health. The programme on health and sanitation, and home and family life are exclusively related to health with nine units in each course.

4.2.5.1. Health-related contents in the education module on food production, distribution and nutrition include: understanding relation between nutrition and health; gaining knowledge about planning an adequate diet; the basic groups of food; cheap nutritious substitutes available locally; improving the nutrition content of traditional foods and popularising the available foods with good nutrition value. These also emphasize learning about the diets in sickness and special physical conditions; appropriate measures for feeding children, improving nutrition of women and old people in the family.

4.2.5.2. The education module on health and sanitation includes the following nine units :

UNIT I Realising the importance of having a healthy environment, becoming aware of the health hazards in the existing environment and learning to deal with them.

UNIT II Becoming conscious that personal hygiene is a basic requirement for healthful living and learning to maintain personal hygiene.

UNIT III Keeping home and surroundings clean learning proper methods of disposal of waste water, household refuse, human excreta, animal dung and old and discarded articles, etc.

UNIT IV Learning about food hygiene and its relation with health.

UNIT V Learning to take action to get enough pure water for household and personal consumption.

UNIT VI Learning about communicable diseases and their prevention and control; distinguishing diseases which can be treated at home; learning to take advantage of health facilities in the area.

UNIT VII Learning about nutritional deficiency disease and methods to prevent and treat them.

UNIT VIII Developing positive attitude to the treatment of diseases; learning to take care of sick persons in some common diseases like fever, flu, cold, stomach-upset etc.

UNIT IX Understanding causes and prevention of accidents at home and outside; learning-some first-aid and emergency care.

4.2.5.3. The education module for home and family life include the following nine units :

UNIT I Becoming aware of the home and family life situation, both at the Country and local-level; its genesis and roots; its recent developments and deformation.

UNIT II Gaining awareness about inequalities in family; learning about the status of women in the society and the efforts to improve it.

UNIT III Learning about the preparations necessary for marriage and parenthood.

UNIT IV Learning about the 'Why' and 'How' of family planning.

UNIT V Learning about the different modes of living and techniques of appropriate home-management.

UNIT VI Learning about suitable clothing for the family, its provision, upkeep and storage.

UNIT VII Learning about the relationship between the methods of preparation of food and good nutrition, learning proper and hygienic methods of handling, preparing and cooking food.

UNIT VIII Learning about maternity and child-care.

UNIT IX Concerns about conflicting situations in the family and learning how to maintain good family relationship.

4.2.6 Non-formal education is the major thrust area in the educationally backward States and includes a large operational network. The numbers of centres and enrolments in each of the nine educationally backward States as an index of coverage of non-formal education programme are shown in Annexure 10. A total of approximately 3.5 million children are enrolled in the non-formal education programme of these about 1.3 million are girls. All students in the non-formal education belong to the age group 6-14 years. The health-related learning component of non-formal education is similar to, although not identical with the corresponding component of elementary (primary and upper primary) education.

4.2.6. The elementary education is the larger operational network of the education system in the country, comprising of approximately 6 lakhs institutions, and a total enrolment of more than 95 million children in the age specific population.

4.2.7. Incorporation of meaningful learning experiences related to health component in universal education can, therefore, reach quickly and effectively to a large mass of population, constituting a major means of health education to the community. Topics such as human body, nutrition and health, diet and exercise, personal hygiene, environmental sanitation, introduction to structure and function of human body, and communicable diseases are covered at various levels in the primary and upper primary education..

4.2.8. Action strategies need to be evolved to make health education more pervasive, with potential of making a discernible impact on health-related behaviour of individuals, families and communities. The possible areas of intervention include review and restructuring of curriculum so as to build demonstrable action points as key learning experiences.

4.2.9.1. The socially useful productive work (SUPW) experience needs to be redesigned so as to effectively demonstrate interdependence of literacy, social and family welfare, and health.

4.2.9.2. Health component, with well structured pedagogic inputs, needs to be incorporated in the teacher training and educational curriculum.

4.2.9.3, There is a paucity of educational software of health which could be effectively used in the mass media technology. A coordinated effort by several agencies in different sectors along with that of voluntary professional organisations working in health and education, needs to be initiated to meet such, software demands for community health education.

### 4.3 Pre-Vocational Education.

4.3.1 A review of the curricular contents of primary and upper primary (Grade I-VIII) would indicate that health as a component of education has been included at all levels. The curriculum has also been built with a logical sequence of simple, but relevant, concepts like 'our family and cleanliness' in the first to third grades progressively reaching to complex issues like growth, reproduction, heredity, human welfare etc. at VII and VIII grades.' In grade IX science curriculum life processes, human bio-logy, health and nutrition have been included. The Central Board of School Education provides a full programme on Health and Physical Education.

4.3.2. The present practice or methods of implementing the health component leave much desired. The situation is due to lack of *proper orientation skills* and attitudes towards *these themes* among instructors and teachers. It would be necessary to strengthen the health and education component, at all levels specially in grades X and IX. Such strengthening would call for emphasis and change methodology of instruction of these themes with a view to adding demonstrable learning experiment than inclusion of some more Suitably modified, these courses should lay strong foundations for vocational course on health at +2 stage.

#### 4.4 High/Higher Secondary Education: Vocationalisation:

4.4.1. The National Policy of Education of 1968 envisaged -the need of introducing radical changes. One such attempt was to introduce nationalisation of higher secondary education. It was conceived that there would be two equal Streams at the +2 stages, each carrying around 50% of the total students. It was expected that the vocational stream, over a period of time, will become a major outlet for the development of socially relevant skills, thus JK & Ciaung not only a pool with a high employment potential, but also aiming to supply the manpower needed for developmental activities both in the private and the public sector in the country.

4.4.2 The Programme of vocationalisation has been introduced in nine States and four Union Territories since 1976 as a part of educational reforms envisaged under the 10+2 pattern of education. The vocational courses offered in different States can be grouped under 6 major areas : Agriculture, Business and Commerce, Home Science, Health and Para-Medical, Engineering and Technology and Humanities. The total number of Institutions conducting vocational courses at the plus two stage and the enrolment therein are given in Annexure 11.

4.4.3. The document, Challenge of Education : a policy perspective, amply reflects the state of affairs in this area :

It has been stated by many experienced teachers that vocationalisation within the SECONDARY school system has been a casualty at the hands of educational planners who have no insight into either the opportunities of employment or the type of expertise required for vocational employment. Consequently in Planning for training of teachers, preparation of curricula, selection of courses, initiatives have been characterised by a lack of professionalism. Naturally, therefore, adequate financial resources have neither been demanded nor provided for starting viable activities in this field. It is paradoxical that while lack of skilled manpower at

the middle level is generally perceived to be a major obstacle to raising productivity and economic growth, growth of vocationalization has been stunted from the very inception of the programme."

4.4.4. While it is true that the educational planners have no insight into either the opportunities of employment or the type of expertise required for educational employment, it must also be confessed that health sector and more significantly, the educationists in health sciences never saw the tremendous opportunity that vocationalization offered for health manpower development for middle level workers.

4.4.5. Accordingly, in health-related areas, only a modest beginning has been made in the States of Tamil Nadu, Maharashtra, Karnataka, Andhra Pradesh, West Bengal and the Union Territory of Delhi. The list of courses and the States/Union Territories in which they are offered are given below :

4.4.6. TABLE 2

Para-medical Courses : In States/Union Territories

Sr. No	Course Title	Introduced in States/ O.T.s
1.	Pharmacy	Andhra Pradesh, West Bengal.
2.	Ophthalmic Technician Optician and Refractionist.	Tamil Nadu, Delhi, Karnataka.
3.	X-Ray Technician	Karnataka.
4.	Medical Record Technician	Karnataka.
5.	Multipurpose Health Worker (Male)	Karnataka, Maharashtra.
6.	Multipurpose Health Worker (Female)	Maharashtra.
7.	Elementary Laboratory Technology Medical Laboratory Assistant/ Medical Laboratory Technician/ Laboratory Technician.	Tamil Nadu, West Bengal, Pondicherry, Karnataka, Mahara- shtra.
8.	Dental Hygienist	Andhra Pradesh, Tamil Nadu.
9.	Dental Technician, Dental Mechanic.	Andhra Pradesh.
10.	Hospital House-keeping.	Tamil Nadu
11.	Nursing	Tamil Nadu.
12.	Multipurpose Health Education.	West Bengal

4.4.6. The Pharmacist Course offered in Andhra Pradesh is recognised by the Pharmacy Council of India and Institutions offering the Course have been accorded provisional recognition subject to the provision of teachers and



laboratory facilities as per the standards of the Council. The Dental Hygienist and Dental Technician Courses in Andhra Pradesh enroll students in a Junior College, but are attached to the Dental College at Hyderabad where theory and practical classes are held. The College faculty is responsible for instructions in these Courses while other subjects are taught in the College itself. The Course design in respect of these Courses is such that it aims at the development of employable skills while building up sufficient theoretical base for the practical aspects of the vocation.

4.4.6.1. These courses have been recognized by the State Medical Health Services Department and products of these courses are appointed in the scale of Rs. 450-700 p.m. as pharmacist Grade I, Dental Hygienist, Dental Mechanic and Laboratory Assistant.

4.4.7. Karnataka has established a separate Directorate of Vocational Education for organizing and implementing the scheme. This State has constituted a Council of Vocational Education which is the advisory body to the Government on all academic issues concerning proper development of the system. The State Council of Vocational Education conducts examinations and declares results, issues diplomas, prepares scheme of examination and revises syllabi for courses.

4.4.8. Karnataka had introduced six courses in the field of para-medical group. They are laboratory technician, X-ray technician, medical record technician, optician and refractionist, multipurpose basic health worker and psychiatric nursing assistant. At present, only five courses are in operation. The course on psychiatric nursing assistant seems to have been dropped due to very poor enrolment.

4.4.9. In the short time available to the Committee, intensive efforts were made to obtain data on the employability potential of those qualifying health-related vocational courses (H.R.V.C.). Karnataka is one of the few States where employment opportunities for vocational products are found to be satisfactory. In order to facilitate employment the State Government has taken steps to get recognition from the employment sector for these vocational courses. Department of Health in Karnataka has already recognised three of the five para-medical courses introduced so far. These are courses for laboratory Technicians, X-ray technicians and Medical Record Technicians. These posts have been designated as junior laboratory technicians in the scale of pay of Rs. 630 to 1200 and Rs. 675 to 1320. Employment scenario of passed cut students of vocational courses at plus two stage in the year 1985-86 is given below:

TABLE 3

Name of Vocational Course	No. of Student Passed	Among the Students passed Number			
		Employed in Govt, service sation	Employed in private organi	Taken self emp.	Joined Degree Classes
1. Laboratory Technician	91	10	22	02	06
2. X-Ray Technician	137	25	47	07	29
3. Medical Record Technician	69	05	12	02	26
4. Optician and Refractionist	52	01	01		09
5. Multipurpose Basic Health Worker	105	05	23	01	56

The demand for para-medical vocational courses in Karnataka seems to have gained popular acceptance.

4.4.10. Adequate measures have been adopted to safeguard the standard of para-medical courses to suit the requirements of the health sector. Provision has been made for one whole-time teacher with medical qualification for each health-related vocational course, with a number of part-time teachers depending upon the nature, number of courses and number of students enrolled in each course. The students are attached to hospital for practical work and theoretical instructions in respect of the vocational courses are organized by the junior colleges enrolling the students, and health department.

4.4.11. In Tamil Nadu vocationalization has been introduced in 1978-79. During 1984-85, out of 3,31,572 students in standards XI and XII, 61,502 students offered the vocationalization stream in 969 schools. For the implementation of vocationalization programme, a special cell has been set up in the Directorate of Education for giving necessary directions, guidance and information. A high power committee for this purpose has also been set up with advisory function.

4.4.12. On a request from the State education department, health department has instructed the district and institution level heads to provide infrastructure facilities and expertise available with them to the education sector for implementing training programmes of paramedical courses at plus two stages, in schools Permission has also been accorded for holding

classes in the place of normal work of part-time instructor such as dispensaries, medical laboratories and hospitals, and primary health centres. The Head of Departments have been authorised to permit their staff to serve as part-time instructors and to receive remuneration. Even retired personnel with appropriate skills are appointed on short-term basis.

4.4.13. Tamil Nadu has introduced five para-medical courses so far. Following table depicts the enrolment picture along with the number of institution in the year 1985-86 :

TABLE 4

Vocational Courses	No. of	Enrolment Figure		
		Boy	Girls	Total
Dental Hygienist	1		24	24
Hospital Housekeep-	1		13	13
Medical lab. Asst.	9	269	274	543
Nursing	88	96	3259	3355
Ophthalmic Technician	1		2	2
Total	100	365	3572	3937

Nursing course seems to be the most popular amongst para-medical courses in Tamil Nadu. There is a significant increase in enrolment from 1539 in 1982 to 3355 in 1985.

4.4.14. To facilitate vocationalization, decentralised planning system has been adopted by the state. The institutional head has been made the "kingpin" of the scheme. He is given freedom with regard to identification of courses, developing linkages with other departments, planning and implementation of coordination between two or more departments, planning and selection of instructional material, appointment whole-time and part-time teachers, making appropriate adjustments in calendar of academic activities and time table to facilitate instruction process and staggering of instructional hours and days to accommodate the availability pens from the vocational field who part time the academic programmes.

4.4.15. To provide vertical mobility to the got vocational courses, provision is made by allowing them admission in technical and professional institutions. Products of technical are admitted to second year of polytechnic and 10% seats are served for them. Products of nursing course are admitted in the cursing) in second year of the course.

4.4.16 Students enrolling for various voca table 6. In Andhra Pradesh are given in:

TABLE 6

	1981	1982	1983	1984	1985
Pharmacy	117	121	194	201	298
Dental technicians		6	6	11	10
Dental hygienists		2	9	11	13
Lab. technicians		4	7	6	11

4.4.17. Comparable data with respect of health-related vocational courses is not readily available from other States. However, there is information to indicate that in Maharashtra and West Bengal less than 50% of the total instructional time is devoted to vocational theory and practice, as against 70% of such time being made available for this purpose in the States of Karnataka and Tamil -Nadu, further, in Maharashtra, vocational education follows a bifocal model, implying that the students have equal opportunities either to seek employment and pursue a career at the end of +2 stage of vocational course, or to join an education institution for degree programme in any stream.

4.4.18. In-depth review of the available data regarding course construction, curriculum development, learning settings, learning experiences and methods of evaluation indicates that there is considerable variability not only amongst States, but within States in relation to different health-related vocational courses in all these aspects. It is also abundantly clear that the preparatory work made for the implementation of such courses in the country has been woefully inadequate. Furthermore, no significant efforts have been made to involve medical and allied health professionals with educational background in, development and construction of such courses. No efforts have been made to ensure quality control with respect of those courses which are presently being conducted both by the education as also by the health sectors. No major effort has been made to get proper recognition from the health department for such courses so as' 46 ensure employability of those found suitably qualified. This may be partly because of the fact that methods of evaluation appropriate to the task analysis have not been developed.

4.4.19. Recently, efforts have been initiated by the NCERT in the area of curriculum development. The main thrust-has been to develop course curricula on the basis of job requirement and task analysis. The competency based curricula, listing the competencies, under cognitive, psychomotor and affective domains have been developed for a limited number of health and para-medical courses. As per the strategy adopted by NCERT curriculum development is done by the workshop method involving subject experts, employers and teachers.

4.4.20. The report of the National Working Group on Vocationalization of Education (Kulanandaiswamy, 1985) provides the following details of financial inputs for unit of 25 students / para-medical Course :

	Rs.
1. Non-recurring (5 years) :	
(a) Building (30-50 in)	80,000
(b) Equipment	60,000
(c) Library	7,000
Total	1,47,000
2. Recurring/Year :	
(a) Full-time Staff—1 (Rs. 600-1400 scale)	20,000
(b) Part-time Staff— 1 (Rs. 30-50 per lecture)	6,000
(c) Laboratory Assistant - 1 (Rs. 410-700 scale)	9,000
(d) Contingencies.	10,000
(e) Raw materials	10,000
Total	55,000
Per Student/per year	2,200

#### 4.5 Health Manpower Production through Health Sector.

4.5.1. Having identified the categories of health manpower which are needed in large numbers and having considered the potential of the education sector to meet with these requirements through health-related vocational courses at +2 stage, it may be appropriate to briefly review the current status of training and education of these categories by the existing institutions through the health sector.

4.5.1.1. The training of Village Health Guides is being conducted at Primary Health Centres. The objectives of courses of instruction have been defined and training manuals have been prepared.

4.5.1.2. There are 515,691 traditional birth attendants presently working in the country (Table 1). There is a well recognised need to train all the untrained dais in the country to provide better maternal care and natal services. Based on this assumption another 2-3 lakhs dais need to be trained. Such training will also be carried out at the Primary Health Centres and even at the Sub-centres, with active assistance and support by the LHVs and ANMs.

4.5.1.3. The total number of ANMs (now called Female Health Workers) is shown in Table 1. It is estimated that the requirement of ANMs for the 7th Five Year Plan period would approximately 1,30,000 indicating the need for education and training of an additional 50,000. The number of ANM Training Centres in the country as on 1-4-1984, with total admission capacity is shown:

4.5.1.4. The training of Male Health Worker (Multipurpose) is envisaged to be conducted the Regional Family Welfare Training Center by suitably increasing their physical and educational facilities. At the present moment about the 30 Institutions are imparting training to mini workers with a capacity of about 2,000 year. This capacity is grossly inadequate meet the future demands for 1,30,000 centres stipulated to be established during the 7<sup>th</sup> Plan period.

4.5.1.5. The number of Institution at annual admission capacity for other categorical of health manpower already referred to, shown in Table 7.

#### 4.6 Recommendations:

4.6.1. The Committee strongly recommended health-related vocational courses for the following categories of health manpower :

- (i) Auxiliary Nurse Mid-Wife (ANM)  
Multi-Purpose Health Worker, Female
- (ii) Multi-purpose Health Worker, Male.
- (iii) Radiographers/X-Ray technicians.
- (iv) Laboratory technicians (for clinical public health, Food and Drug Laboratory.
- (v) Ophthalmic Assistants/Refractionists.
- (vi) Dental Hygienists.
- (vii) Pharmacists.
- (viii) Hospital House Keepers.
- (ix) Occupational Therapists/Physio-Therapists.
- (x) Sanitary/Health Inspectors.

4.6.2. The Committee is of the considered opinion that an in-depth review of education and training facilities for the above categories of personnel should be undertaken.

At present, the training of these workers is being undertaken in some Higher Secondary Schools, particularly in the States of Karnataka, Andhra Pradesh and Maharashtra as a part of vocationalisation organised by the education department. But in most of the cases and in most of the States, the training of these professionals is being conducted in schools/institutions especially designed for them or in association with existing institutions, mostly medical colleges/institutions, through health department it is, therefore, mandatory that appropriate linkages and coordination must be developed between the health and education departments in every State, with establishment of Coordination Committees at district level.

4.6.3. The Committee recommends that the course of instruction presently being organized by the health department should be reorganized so as to be equated with the 10 + 2 system. To do so, a curricular mix will have to be

Solved wherein language and subject including science, mathematics and humanities etc. shall constitute about 25-30% of the period of instruction, while vocational and practice, including on-the-job training will occupy the remaining 70-75% of the allocated time. While the facilities available in the higher secondary school can be provided for the course of instruction in science, mathematics, humanities and languages, infrastructure available at the schools of training for allied health professionals like ANMs may be used for imparting the vocational component of the health-related courses. The committee recommends that a small sub-committee be appointed to work out a detailed plan action. While the Committee would wish to emphasise maximum utilisation of existing facilities irrespective of the sectoral denomination, provision must also be made for ensuring adequate financial outlays to generate requisite infrastructure both in material and manpower services.

4.6.4 It is recommended that the entry point for all the above courses should be after stage of 10th standard. The + 2 stage of two year can conveniently be broken into 4 parameters in which general educational and vocational courses of instructions can be implemented. In the para-professionals indicated above. The Group recommends that the first year of The 10+2 system that is, the first two semesters should be for a common core curriculum for all type of para-professional workers. During third semesterr, specialised areas should be included in the training of specific categories of personnel whereas the 4th semester should be practical training and work experience in of chosen area of para-professional vocational-lisation.

4.6.5 It is recommended that for these co-ordinated/integrated training courses, the faculty from the disciplines of Biology, Physics and chemistry be drawn from the existing secondary school. These schools can also provide faculty support for instruction in languages and humanities, whereas the instruction in health sciences should be easily imparted by part-time faculty members drawn from the existing district hospitals training schools and institutions, medical colleges etc. Wherever available and even from retired scientists. Transfer of credits on the basis common modules of instruction at 10+2 vocational level needs to be ensured on uniform basis so as to be widely applicable brought out the country.

4.6.6. *In view of the curricular* mix of language and humanities courses as a pan of 10+2 vocational education. the students should able to pursue higher courses of training in medical and other professional colleges and other universities either at the end of +2 stage or *after* 3-5 years of work experience in the chosen vocation. This would provide incentive for joining health-related vocational courses at +2 stage.

4.6.7. It is recommended that the Government may consider award of stipends/scholarships to students pursuing health vocational courses. Such awards should be based on merit-cura-means, and would further add to the incentives for such courses. In order to facilitate employment of those qualifying health-related vocational courses, the

Committee strongly recommends that the State Governments should initiate steps to secure recognition from the employment sector for these courses. Departments of Health, following appropriate assessment, should take a lead in according such recognition.

4.6.8. As the teachers of vocational course are drawn from two distinct categories of discipline i.e. general and medical education, there should be a shared awareness and concern for the educational requirement of the students. The part-time staff of even highly qualified professional people as well as whole time teachers would require appropriate orientation in instructional techniques and evaluation. To keep full-time teachers abreast of the latest practices, periodical refresher training will have to be conducted.

4.6.9. The teachers should be made aware that para-medical vocational education should not only focus attention *to train* the students for acquisition of skills, attitudes, understanding and knowledge relating to specific paramedical vocation, but should also aim *to educate* them in a manner that it should lead to :

- (a) an understanding of the emerging trends in the field of health at the national and international level;
- (b) the comprehension of the social, political and environmental implication of scientific and technological change;
- (c) the establishment of a new relationship between education, working life and the community as a whole; and
- (d) the appreciation of vocational education as a part of system of life-long education adapted to the needs of one's own society.

4.6.10. Most important, the teachers should bear in mind that the vocation should not lead to the cul-de-sac of a mechanical life but should aim for a life of mission as well as of personal growth. A proper appreciation of the vocational course as well as teaching of non-vocational component so as to make it relevant to the chosen vocation, requires that the concerned teachers of general education also need appropriate training aimed at generating awareness of job opportunities and task requirements of the vocation, and of the general outline of the content of vocational component.

4.6.11. For effective educational planning of para-medical vocational courses, there is need for proper assessment of District-wise State-wise, and Nation-wise para-medical vocational manpower requirement. The choice of vocation for manpower production at District level or State level should not, however, be based on need assessment alone, but also on regional employment capabilities of the employing agencies at District and State level, both in the public and private sector, self-employment possibilities, prior recognition of the courses by competent authority, and establishment of proper linkage between technical collaborating and educational institutions. The Committee would wish to endorse the recommendation of the National Working Group on Vocationalisation of Education, regarding establishment of the National/Joint Council for Vocational Education and State Councils of Vocational Education, and would recommend an effective inter-linkage of such councils with the proposed Education Commission of Health Sciences and Regional or State Universities of Health Sciences.

4.6.12. A vocational curriculum, to be need-based, must be developed through proper identification of minimum vocational competencies required in the job market by experts through systematic analysis of manpower supply, demands and projections; tasks and duties demanded in those jobs; and the requisite skills for various tasks/duties to be performed.

4.6.12.1. "Minimum competencies based curriculum" will not only act as a corrective measure by way of helping in the process of revision of curricula already in operation in the States presently implementing vocationalisation but it can also accelerate the process of introduction of such courses in other States which are going to launch the programme by providing readymade material.

4.6.12.2. Guidelines need to be prepared so as to provide necessary information on various aspects of programme implementation; reference materials: selection of teachers; training facilities; learning aids and settings *etc.* These will be of considerable use to curriculum planners, authors of instructional materials, supervisors, teachers, students and employers.

4.6.12.3. The curriculum should be flexible enough to provide local variation for adaptation related to specific needs.

4.6.12.4. If the same team which is responsible for planning the curriculum can develop the guidelines as well as instructional materials (text-cum-practical manuals, supplementary readers, self-learning materials), not only the continuity of educational process is maintained, but much time would be saved in the final dissemination of such materials. A major effort also needs to be initiated to develop instructional materials in regional languages.

4.6.13. There is great variation in between different States, in the pattern of vocational courses and the credits accorded to different components. Consequently, the products supplied by different States differ so far as attainment of skills are concerned. For the establishment of a national standard of health services, it is desirable to ensure the development of a national norm of standards for each vocation.

4.6.14. Maintenance of standards of such a vital segment as allied health professionals is, therefore, very necessary. Proper evaluation measures during, and following the completion of courses of instruction, cannot only ensure standardization of educational process but also of the quality of the product, thus leading to appropriate recognition by public and private sector, and regional and central employing health institutions. Exercise of 'quality' control of the process of education, as also of its product, indirectly helps in the elimination of non-standardized products of unauthorised institutions, thus preventing a backdoor entry into health services, and jeopardising establishment of health service standards in the country.

4.6.14.1. In a vocational area, achievement of goals in the cognitive domain is as important as that in the psychomotor domain, because an allied health professional has to demonstrate a homogenous blend of knowledge, skills and behavioral attitudes. As there is an intimate interaction with suffering human-beings, such a para-professional is expected to serve as a bridge between common man and professional expert; thus, attainments in the affective domain also assume significance. It is, therefore, necessary that evaluation of para-medical personnel, both formative and summative, must be comprehensive so as to test his vocational competencies of knowledge and comprehension, psychomotor skills and attitudes, with balanced assignment of credits.

4.6.14.2. To evaluate the attainment of competencies in these three domains, a comprehensive framework of evaluation with appropriate tools and techniques for each vocation, need to be developed.

4.6.14.3. Evaluation of psychomotor skills and personality traits (attitudes) in general education, and much more so in vocational education, has not attracted as much attention of the evaluators as in the case of written examination which primarily aims at the assessment of cognitive domain. It is, therefore, time that serious thought is given to this vital aspect of evaluation which constitutes the very essence and foundation of health services.

4.6.14.4. To streamline process of evaluation and make it meaningful and effective, a Committee for each health-related vocational course consisting of specialists, professionals, teacher evaluators and evaluation experts should be

*INSTITUTED:* This Committee should specify on:

Development of guidelines, framework, method tools and techniques of evaluation and toting validation refinement and updating of the above.

A 15 I An all encompassing plan should drum up intersectorally for health man production, deployment and sustenance, tier interlinkages are suggested—

(a) *Central level*—The Ministries of Health Education should evolve a strategy of the extent of vocationalisation, draw up essentials of, a core curriculum valid for the whole country, decide employment potential, evolve training of the trainers, preparation of teaching materials, identify course objectives and contents.

(b) *State level*.—The Health and Education departments should jointly follow the guidelines provided by the centre, identify the need of various categories in the state. allocating various categories to 4 2 schools and identifying the collaborating hospitals/institutions, providing training of teachers of the vocational courses and develop local need based instructional materials. They should make budgetary provisions for the educational process and programme content as well as for absorption of successful candidates. Evaluation examining bodies need to be constituted.

C) *Local institutional level* – The school authorities must interact with the hospital/institutional authorities for efficient coordination and conduct of the courses of Instruction with built-in provision of close monitoring and evaluation mechanisms.

TABLE No. 7

Number of Institutions and Admission Capacity/No. Admitted in different Para Medical Courses : 1983

Sl. No.	Description of the course	No. of Institutions	Admission Capacity/No. Admitted
1	2		
1.	Nurses General	324	7750
2.	Aux. Nurse Midwives	339	
3.	Mid wives		6006
4.	Health visitors	276	7539
5.	Dental Hygienist	21	835
6.	Dental Mechanics/Technicians	9	71
7.	B.Sc. (Med. Lab. Technicians)	8	54
8.	Lb. Tech./Lab.Asstt.	13	105
9.	Sanitary/Health/Malaria Ins-pectors.	78	1558
10.	Pharmacists	30	3095
11.	Radiographers	105	4063
12.	X-ray Technicians	36	400
13.	Operational Therapist Asstt.	22	209
14.	Physiotherapist	6	55
15.	Occupational Therapist	7	146
16.	Speech Therapist	5	121
17.	Orthopist	2	13
18.	Optician & Refractionist	2	12
19.	Health Worker (Male)under M.P.W.	26	617
		15	819
20.	Miscellaneous	27	721

Note: Data in respect of SN relates to the period 1-1-1983.

The health manpower which has been planned, and produced accordingly must also be properly utilised (managed) for maximal effectiveness of the health services. Management sub-system provides for mechanisms for the employment, retention, support and development of the health care personnel. While this report aims at providing a «basic strategy and essential outline of a plan of action, details of an action programme need to be further worked out at the national level taking into consideration the health care needs of the country.

### 5.1 Employment

For optimal utilisation of health services, it is imperative that role of each category of health manpower should be classified. This may be done through delineating job descriptions, training and through participative approaches.

5.1.1. *Job descriptions.*—A job description is a statement of the basic purpose of the job, the significant tasks to be carried out, authority vested in the job and the upward, downward and horizontal relationships necessary for the performance of the job. Specification of the (asks and responsibilities of the job should form the basis of both new appointments and promotions. The job description should also provide the yardstick for performance evaluation and also provide the basis of curriculum revision.

Job descriptions may also hinder effective performance in that the workers may feel that they should not do anything other than what is given in their job descriptions. To avoid this pitfall, job descriptions must be seen as guidelines and not as strait-jackets. The Committee recommends that the job descriptions should be standardised for each category of health manpower and these should also be subjected to a regular review with continual evolution of health workers roles. Sample job descriptions are provided in Annexure 12.

5.1.2. *Establishment control* - Establishment control is concerned with the authorisation of health worker posts in different cadres, services and locations. The efficient delivery of health services requires continual adjustments in the distribution and use of resources to cater for changing demands, unexpected problems and opportunities Though the control of these

establishments may be with the central authorities, authority may be delegated to managers and the State level or local level for optimal deployment of the workers.

5.1.3. *Recruitment procedures* - Recruitment procedures include the processes and methods by which vacancies are notified, are advertised, applications are handled screened, interviews are conducted and appointments are made. Recruitment covers both the filling of new posts and replacements for previously established posts which fall. It includes the filling of posts from both internal and external candidates. Information of vacancies and employment opportunities should provided to all relevant training institutions attract a wide field of duly qualified applicant Here also, the strategy should be to decentralise recruitment within the framework of central enunciated guidelines, for proper deployment of the newly recruited personnel. However there should be uniformity in recruitment procedures.

### 5.2 Retention

5.2.1. *Career structure* - Wherever possible career structure for all cadres should provide the opportunity for all workers to gain promotion at least twice in a 30 year working period The Committee recommends a constant reviewed of career structures keeping in line with emerging and evolving health care strategies at operations.

5.2.2 *Promotion procedures* - Each grade within a career structure should have clear recorded job description and a specification qualifications and experience required of the post holder. Promotion in all cases should be based on whether the individual meets requirements, as specified in the job description.

However, promotional opportunities for *mo* of the categories of paraprofessionals in the health fields are limited in India. This war neck situation, especially in the lower categories causes a great deal of frustration. It recognised that the performance of health workers deteriorated with length of service one designation. The Committee recommend that central guidelines be enunciated for a cad planning with promotional avenues both vertical movement and a lateral induct based on seniority and merit

*5.2.3 Living and working conditions* – In - living and working conditions in rural .have led to the spatial distortions. These inadequacies increase the sense of isolation physical and psychological of rural health in the overall planning, attention must to provision of adequate living and conditions for optimal performance satisfaction of the rural health workers.

*5.2.3.1* Another important facet to be considered is the horizontal spatial mobility after of service in one region, so that the employee could look forward to posting in an area, when hi Family is growing up, so that he could discharge his duties towards his children more effectively.

4. Salary structure should be uniform for same category, all over the country in order to remove the spatial distortions between good urban health services, incentives must by way of allowances and better fringe to make the rural service more attractive.

### **Supporting -**

*5.3.1I Supervision*—Besides ensuring an active and efficient performance of duties by it nil, a supervisor should also help and side staff in the performance of their duties, to and remove lacunae in the performance also to train them in such a way that they are more competent in their work. The supervisor should also assess the skills acquired the health worker in the training courses intended by him. Any inadequacies should be reported to the educational institutions for further review of their curricula and teaching abilities.

*5.3.1.1* Assessment should be objective and It should not be in the usual style ACRs, but be totally dependent on job performance. In general, an annual performance report (APR) should replace the present system ACR- The worker should be asked to fill his performance vis-a-vis his job description and the supervisor should Critically evaluate his performance.

The role of supervisor should cover programming and review, assessment and super and development

*5.3.2 Communication and Consultation* - Active communication must exist between the all levels working in the health, programme all workers at all levels must be to feel that they are important and internal part of the health system and that they contributing to its planning, implementation review. An experiment on introducing participative management in family planning Programme, has shown that if the order evolved in problem identification

and its solution and in fixing the programme targets, they will try to achieve these targets.

Good communication downwards of policies, objectives and strategic needs to be combined with listening to and acting upon ideas and problems collated from below. Formal staff consultations are essential for keeping up the momentum of the health programmes.

*5.3.3 Logistic support.*—Especially in the underserved rural areas, it is essential to improve the communications to extract optimum benefit of the health care even in the remotest areas. The transport facility and availability of drugs and supplies are the most important factors for support of the health programmes.

*5.3.4 Continuing education.*—It should aim at updating of existing skills and also for acquisition of new skills and knowledge. Knowledge and skills acquired during basic training may become obsolete and changing patterns of diseases and of the health delivery systems may make new demands on the health workers.

*5.3.4.1* The last decade has seen as immense spurt in continuing education courses in the medical field. With burgeoning of knowledge, it is beyond the reach of a busy professional to keep up with the advances in the field. For the medical practitioners and specialists, a large number of CME programmes have become available.

*5.3.4.2* Similarly, for the paraprofessionals also, there should be a well chalked out programme of continuing education for all categories of health professionals by way of refresher courses and in-service training programmes. The employees should be encouraged to attend these courses. Here again in the planning stages, institutions may be identified and asked to provide projects for such programmes.

*5.3.4.3* New information be provided to the paraprofessionals through journals, newsletters of relevant councils, associations, national/state libraries, and this aspect should also form an integral part of the planning process.

### **5.4 Career Development -**

The essential prerequisite for development of a well considered health paraprofessional team is to develop a proper cadre taking into consideration the community needs, employment opportunities, promotional career prospects and a well defined career structure.

*5.4.1* The important mechanisms of policy planning should be information on present stocks as well as future projections in relation to need based health care delivery systems. It should be a continuous process of review delineating the ever changing stocks and ever evolving



needs. The policy should also ensure that manpower production is in line with the existing needs, with in-built mechanisms for modifications of number and job objectives of each category, appropriate to such needs.

5.4.2 At present, it has been observed that in most of the categories, there is a swan-neck situation in which there are almost no avenues for further career advancement.

5.4.2.1 A cadre review is absolutely essential to provide for chances of vertical mobility. This could be achieved through in-service training programmes of short and long duration, provision of advanced courses, and possibility of going on study leave for higher courses. In the event of direct entry to professional courses not being possible, there should be bridge courses to prepare the employees for competing more effectively for higher courses. It is also seen that even after acquiring additional competencies through more advanced courses of instruction, the paraprofessionals stagnate at one level. This anomaly should be removed through proper cadre planning and cadre review. There should also be a provision of study leave after 3-5 years of service for the health professionals to allow them to pursue advanced courses.

## 5.5 Health Manpower Information System

For an effective support to the health manpower management, information system is vital for managerial efficiency. The health manpower information should encompass all the components of the health manpower management (Figure). The Committee recommends development of national health manpower information system as an important support to the health manpower development strategies.

## 5.6 Summary of recommendations

5.6.1 In the initial stages, the Departments of Health and Education, should prepare a plan of action for health manpower management taking into consideration employment, retention, support and development of health care personnel.

5.6.2 Employment procedures should be fairly uniform all over the country and should be clearly delineated. Job descriptions for all categories be prepared, subject to a regular review with continual evolution of the role of allied health professionals. Guidelines for recruitment should be uniform but it should be decentralised for proper deployment of the health personnel.

5.6.3 A career structure for all category should be drawn up and should be continually reviewed keeping in line with emerging and evolving health care strategies and operations.

5.6.3.1 Central guidelines be enunciated for, a cadre planning with promotional avenues both for vertical movement and a lateral induction" based, on seniority and merit. Salary structure should be the same all over the country. In order to remove the spatial distortions between ' rural and urban health services, incentives must be given by way of allowances, better living and working conditions and other fringe benefits to make the rural service more attractive.

5.6.4.1 Quality of supervision should be optimised and standardised. Clear-cut instructions and guidelines be included in the job descriptions for supervision procedures. In addition to the assessment of skills and performance, the supervisors should also assess the skills acquired during the training courses and any inadequacies be reported to the educational institution for a further review of curriculum and teach in modalities.

5.6.4.2 Effective communications must exist between all categories of staff and they should be simply involved in planning, implementation and management of the health programmes.

5.6.5.1. Career development and cadre review with focus on promotional avenues through vertical and horizontal mobility should be drawn up.

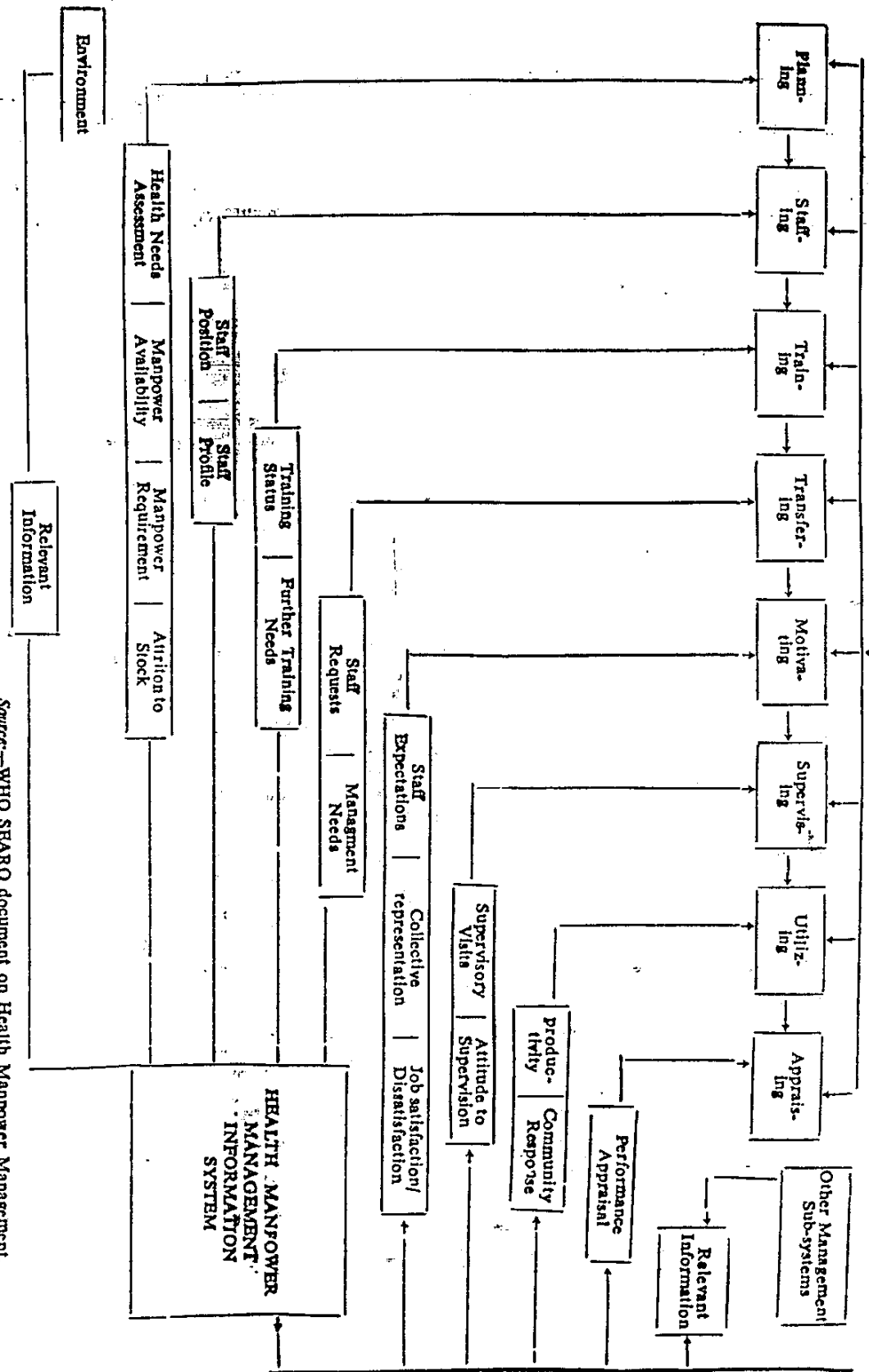
5.6.5.2 On-the-job training of successful candidates for a period of 3-6 months should precede confirmation in the designated job.

5.6.5.3 Continuing education programme should be developed with major emphasis on:

- (a) Refresher courses.
- (b) In-service training.
- (c) Bridge courses for advanced professional education.
- (d) Provision of study leave after 3-5 year of service.
- (e) Dissemination of new information.

5.6.6 Mechanism for a national health manpower information system should be developed as an important support to health manpower development and management.

# HEALTH MANPOWER MANAGEMENT



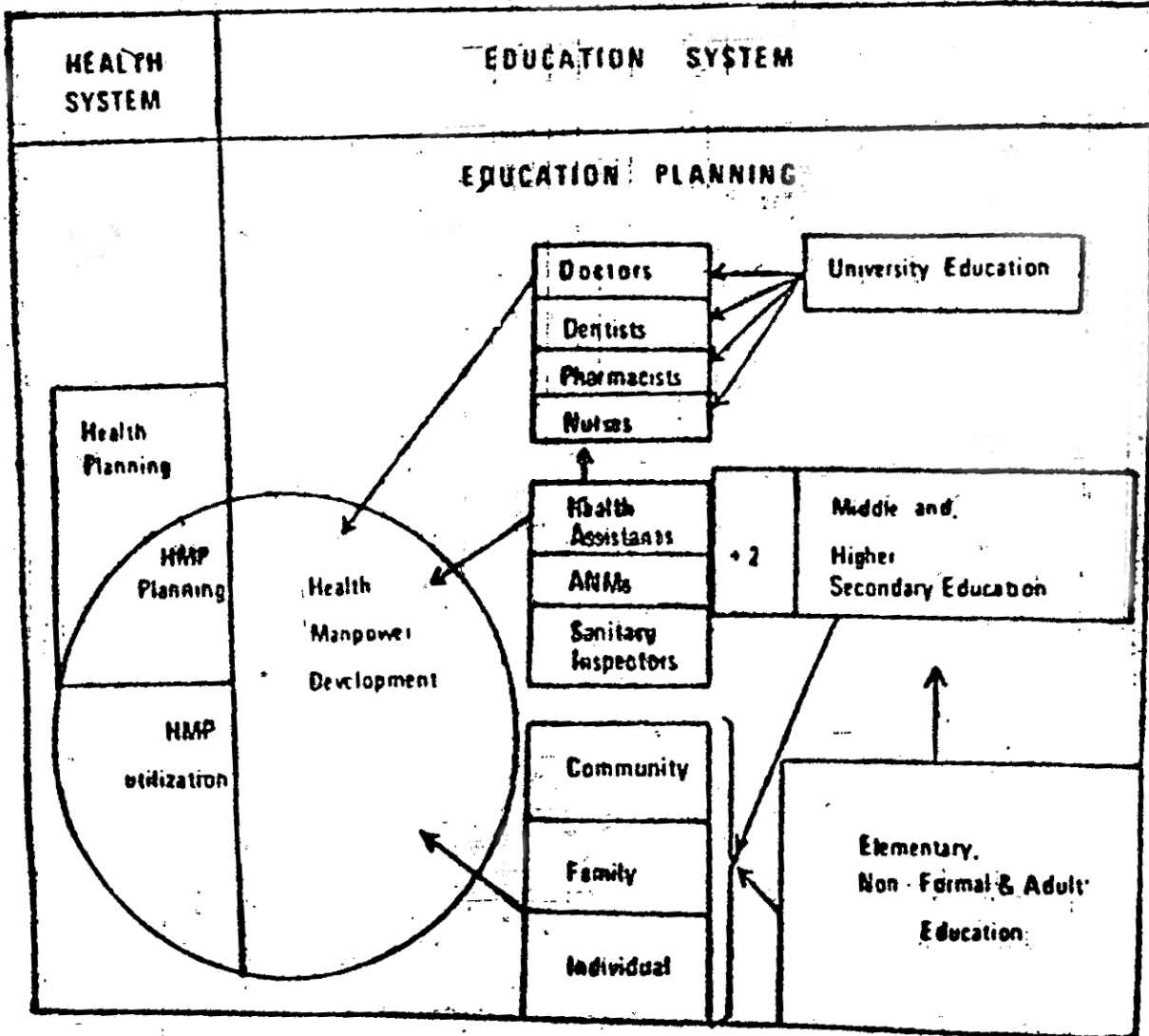
Source:—WHO SEARO document on Health Manpower Management.

## CHAPTER 6

### MECHANISMS FOR IMPLEMENTATION

6.1 It is necessary that for an effective implementation, three components of manpower development process namely planning, production and management should constitute sub-systems, which should not only integrate with each other, but should also have a functional linkage with the health system development. (Figure)

*Educational Inputs for Health Manpower Development*



6.1.1 Essentially the planning sub-system indicates the qualitative and quantitative requirement for manpower.

The production sub-system aims at the training and education of various categories and types of required personnel with a major focus on the requisite numbers.

The management sub-system ensures the appropriate deployment and utilisation of those trained, with an essential focus on the monitoring and evaluation so that appropriate feedback is provided to ensure necessary mid-course corrections and adjustments in relation to social needs and social dynamics which constitute a key factor in the development of an effective health system.

6.1.2 *Health Manpower Surveys – The latest attempt at Health manpower assessment in India is available in the report of Medical Education Review Committee 1983. The Committee has reiterated that while some reliable information is available regarding the health manpower in Govt, institutions health care systems, it is difficult to get a true picture of the paraprofessionals working in private institutions, self employed and those categories who do not have a council, such as Radiographers, Laboratory Technologists, etc.*

The assessments and projections have been made in Table 1.

6.1.3 An attempt has been made to project the paraprofessional manpower needs in relation to the primary and intermediate health care services in the Govt. sector (Annexure 3):

6.1.3.1 There are no definite norms available for professional : population ratio or for paraprofessional : professional : population ratio. The most accepted norm is Doctor : population ratio of 1 : 3000 (Bhore Committee), and a Doctor : Nurse ratio of 1:3. Similarly, with regards to Dentists 1 : 3000 population ratio has been suggested.

6.1.3.2 A National Policy on Education in Health Sciences (NPEHS) must be enunciated. The essential components of NPEHS should be entirely consistent with, and subservient to the stated objectives of the National Health Policy, 1983 and the National Policy on Education, 1986. A major focus of NPEHS should be policy guidelines for health manpower development. Indeed, a commitment to this effect has already been made in the National Health Policy and a reference framework has also been defined. (2.2.5)

#### 6.1.4 *Health Manpower Production*

6.1.4.1 The health manpower production, in order to be in tune with the needs of national health service projections, has to have a basic educational infrastructure, especially in the field of paraprofessional training as there are serious shortages of almost all the categories. The faculties of vocational courses will have to be increased in +2 schools and their inter linkages established with the nearest hospitals/institutions. The educational infrastructure has also to take into Account available cadre of trained teachers continuous production of teachers, upgrading of instructional technology and educational software.

6.1.4.2: Job training facilities will have to be development in relation to the needs of different states and union territories keeping in mind present shortages and future planned projections. Each course of instruction has to be developed in close consultation with the Education and health departments, on the guidelines developed by a national group of experts, and these should provide standards for the whole country.

6.1.4.3 Although health related vocational courses have, been in existence for about a decade, these have not proved popular because of poor linkage between health manpower supply and demand. Furthermore, there is an imperative need of preparing a cadre of teachers of vocational courses, through Teachers Training Centres, at least one in each state. Proper educational technology and software should be developed expeditiously through the help of national institutions like NCERT. Preparation of text-books in English and local languages should be given a top priority. Strengthening of institutions conducting vocational courses and availability of better employment potentials, will attract larger number of candidates.

6.2.1 There is a need for a central organisation in relation to professional education in health related fields. As recommended by the Education Commission, a UGC type of organisation in the field of medical and health education should be constituted. The Committee recommends that such a Commission be called Education Commission for Health Sciences, although alternates such as Health Sciences Commission, or Health Education Commission, or Medical and Health Education Commission may also be considered.

6.2.1.1 The major role of the Commission should be to prescribe standards of education in all branches of health sciences, including medical sciences at all levels, as also for nursing, pharmaceutical and dental sciences and for other categories of paraprofessionals.

6.2.1.2 The prescriptive and monitoring functions of the educational process in the field of health sciences should-be the prime responsibility of the Commission. It should encompass all the Health Sciences Universities in the country, coordinating, monitoring and planning the health manpower production, management and sustenance.

6.2.1.3 It should be primarily responsible for planning the health manpower requirements for the country, taking into consideration the policy of the central and state Governments. The health manpower planning should include both the quantitative requirement of different categories of health related professionals as well as the qualitative categorisation of such professionals in such a way that there should be enough scope of vertical and horizontal mobility within the health care structure. Within this broad policy framework, a large number of functional components Of the proposed Commission can be defined and enunciated as follows :

- (1) To provide realistic projections for national health manpower requirements and to recommend the establishment of mechanism(s) through which such projections could be continuously reviewed in context of evolving socio-epidemic-logical needs and demographic requirements.

To initiate action for the creation of educational institutions and facilities, or strengthening of such facilities in already existing educational institutions, that would facilitate the production of projected health manpower, and to consider the establishment of one or more Universities of Health Sciences.

- (2) To implement desired changes required to be brought about in the curricular contents and training programmes of health personnel and allied health professionals, at various levels of functioning.
- (3) To plan and implement appropriate changes in the educational system that would facilitate the establishment of essential inter-linkages between health functionaries of various grades.
- (4) To establish a continuing review-mechanism for the strengthening of health-related pedagogic and communication technologies, and to recommend the development of such health-related community educational programmes that could effectively and optimally utilise these technologies.
- (5) To develop in-built mechanisms of review, monitoring, and mid-course corrections so as to ensure expeditious implementation of recommendations and decisions.
- (6) To coordinate intersectoral research by interlinking the education and training of suitable manpower with mission oriented research needs.

6.2.1.4 It should also be seriously considered whether the proposed commission should be concerned with education and training in other systems of medicine, including Ayurveda, Unani and Homoeopathy. If such a responsibility is allocated to the Commission, it may provide the nucleus for the development in future of a National System of Medicine related to a unified national policy. The risk of such an approach may be that the essential focus for the commission may not remain as sharp. In addition, it may be subjected to different pressures and pulls which may not always be based on scientific or ethical consideration. The Committee would, therefore, recommend consideration of education and training of practitioners of Homoeopathy and Indian Systems of Medicine by the Commission as a first step towards harnessing this important health manpower resource for attainment of objectives of national health policy.

#### 6.2.1.5 *Professional Councils:*

6.2.1.5.1 There are several professional statutory councils namely the Medical Council of India, the Nursing Council of India, the

Dental Council of India, The Pharmacy Council of India, the Homoeopathy Council and Council for Indian System of Medicine. Each council functions independently and often there is no awareness of a collective responsibility towards the fulfillment of national needs and objectives.

6.2.1.5.2 No conflict is envisaged between the existing professional councils and the proposed Education Commission for Health Sciences. Indeed, the professional councils can constitute advisory panels which may fulfill the role and function of small task forces for the proposed commission.

It is firmly believed that the establishment of the Education Commission for Health Sciences on the lines of UGC will be a major step to initiate efforts towards integration of educational inputs and health requirements, both interdigitising to strengthen and reinforce development of human resources.

6.2.1.5.3 The main role of the existing professional councils should be to deal with matters of registration, as well as regulation and monitoring of professional ethics and professional conduct. However, as these councils are also expected to prescribe standards of professional education, the other functions have not received the attention and consideration that they deserve. It would be most appropriate if the existing professional councils should concentrate on:—

- (a) Recognition or Precognition of degrees or diplomas granted by Universities or Institutions.
- (b) Development of inter linkages and reciprocities with corresponding councils in other countries.
- (c) Registration of qualified professionals and maintenance of an all India register.
- (d) Inspection and certification of standards of examinations and available facilities for education and training.
- (e) Monitoring of professional ethics, and
- (f) Regulation and surveillance of professionals conduct.

6.2.2 *Universities of Health Sciences.*—As there is a strong justification for the creation of an Education Commission for Health Sciences based on a cogent argument that there should be a unitary organisation to prescribe and monitor the standards of training of all constituent health manpower involved in the delivery of health care as a team, for the same reason there should also be a physical environment where all such faculties can interact together to provide model experience for the future functioning of such health care teams. This can be only made possible by the creation of Universities of Health Sciences.

6.2.2.1 At present, the education and training of different health professionals is the responsibility of individual institutions. Besides medical colleges, dental colleges and nursing colleges, there are a variety of other institutions involved in the training of several categories of health manpower including pharmacists, health assistants, ANMs, laboratory technicians, radiographers, physiotherapists, health educators, etc. There is hardly any coordination between the training programmes being conducted in different institutions. Indeed, till today, most of these institutions have not even prepared the educational objectives for the courses of instruction that are being conducted. There is hardly any awareness of educational technology that may be useful in medical and health sciences. It is obvious that the establishment of a University of Health Sciences will create bridges for close interactions between these faculties. More importantly, the educational objectives of the faculties and individual training programmes shall be so coordinated as to make the realisation of ultimate goal, health for the people, not only possible but achievable.

6.2.2.2 It is entirely likely that several new faculties will grow in the University of Health Sciences: faculties such as those of health management, health economics, social and behavioural sciences and nutrition are needed even today. It is only through the cross fertilisation of ideas that additional momentum can be generated to strengthen the delivery of health services. Finally, development of educational programmes for community health as can be used in the mass media system (for example INSAT-1B) can be achieved through a multi-disciplinary activity of several faculties combined together under the University of Health sciences. It is obvious that within the conceptual structure outlined and proposed, the University of Health Sciences shall function as a federal university with provision for affiliation of colleges as well as for the development of independent faculties. It is expected that a acuity of health information systems is also established in the Health Science Universities. Andhra Pradesh has already established a Health Sciences University on 2nd November 1986.

6.2.2.3 The Health Science University is the implementing arm for the policy and guidelines undated by the Education Commission of Health Sciences and will work in close coordination with each other.

6.2.2.4 One University of Health Sciences be established in each state. All the medical colleges, dental colleges, nursing colleges and professional colleges imparting graduate education be affiliated. University of Health Sciences will implement all the policies guidelines enunciated by the Education Commission of Health Sciences for health manpower development. University of Health

Sciences will also coordinate with the slate branches of professional and para-professional councils. However, till such time that a University of Health Sciences can be established in each state and Union Territory, a beginning may be made in the Eighth Plan to establish such universities on a regional basis.

6.2.3 *Health Manpower Cells* – The health manpower planning should be carried out at the central level with the collaboration of Education Ministry, Health Ministry and Education Commission of Health Sciences under the overall purview of the proposed apex body (Central Council of Technical and Higher Education), and in pursuance of National Policy of Education in Health Sciences. It is essential to have cells in the Directorate General of Health Services and State Directorates of Health to monitor the implementation of the policies and guidelines emerging from the central authorities. The Health manpower cells may also interact with the corresponding faculties in the Universities of Health Sciences, as well as with the Education Commission of Health Sciences.

6.3 The plans for health manpower production should be closely monitored and evaluated at least once in two years by the Central authorities. Such an ongoing review shall provide the much needed in-built mechanism for re-organisation at any point of time.

## 6.4 Summary of Recommendations-

6.4.1 A National Policy on Education in Health Sciences (NPEHS) must be enunciated. The essential components of NPEHS should be entirely consistent with, and subservient to the stated objectives of the National Health Policy, 1983 and the National Policy on Education, 1986. A major focus of NPEHS should be policy guidelines for health manpower development. Indeed, a commitment to this effect has already been made in the National Health Policy and a reference framework has also been defined. (2.2.5)

6.4.2 A realistic health manpower survey should be carried out.

6.4.3 In order to launch an effective vocationalisation, the educational infrastructure should also take into account availability of teachers training courses, continuous production of teachers, upgrading of instructional technology and educational software. National institutes such as NCERT may be requested to develop educational technology and software's including text-books for each course in English as well as in local languages.

6.4.4 Education Commission for Health Sciences should be established as a central organisation in the field of professional education in health related fields. It should be constituted on the lines of UGC.

6.4.4.1 The operational framework of the Commission should include:—

- (1) To provide realistic projections for national health manpower requirements and to recommend the establishment of mechanism(s) through which such projections could be continuously reviewed in context of evolving socio-epidemiological needs and demographic requirements.
- (2) To initiate action for the, creation of educational institutions and facilities, or strengthening of such facilities in already existing educational institutions, that would facilitate the production of projected health manpower, and to consider the establishment of one or more Universities of Health Sciences.
- (3) To implement desired changes required to be brought about in the curricular contents and training programmes of health personnel and "allied" health professionals, at various levels of functioning.
- (4) To plan and implement appropriate changes in the educational system that would facilitate the establishment of essential interlinkages between health functionaries of various grades.
- (5) To establish a continuing review mechanism for the strengthening of health-related pedagogic and communication technologies, and to recommend the development of such health-related community educational programmes that could effectively and optimally utilize these technologies.
- (6) To develop in-built mechanisms of review, monitoring and mid-course corrections so as to ensure expeditious implementation of recommendations and decisions.
- (7) To coordinate intersectoral research by interlinking the education and training of suitable manpower with mission oriented research needs.

6.4.4.2 Education Commission for Health Sciences should liaise with all existing professional councils and recommend, if necessary

establishment of councils for other categories of health professionals, in case such councils are considered essential as a support mechanism for the Commission.

6.4.4.2.1 The professional councils should concentrate on :—

- (a) Recognition or derecognition of degrees or diplomas" granted by Universities or Institutions.
- (b) Development of interlinkages and reciprocities with corresponding councils in other countries.
- (c) Registration of qualified professionals and maintenance of an all India register.
- (d) Inspection and certification of standards of examinations and available facilities for education and training.
- (e) Monitoring of professional ethics, and
- (f) Regulation and surveillance of professionals conduct.

6.4.5 Health Sciences Universities be established in each State and in groups of Union Territories as the implementing arm of E.C.H.S. for production, evaluation and sustenance of health manpower policy. However, till such time that a University of Health Sciences can be established in each state and Union Territory a beginning may be made in the Eighth Plan to establish such Universities on a regional basis.

6.4.5.1 Health Sciences Universities (HSU) should affiliate all medical and related colleges and award degrees in these fields.

6.4.5.2 Cognisant of the fact that the scope of medical and health education has evolved considerably in the recent years, newer faculties should develop such as health management, health economics, social and behavioural sciences, educational reprographics and health information systems.

6.4.6 To coordinate the implementation of health manpower policy at the centre and the states, Health Manpower Cells may be created at the centre and in the states.