
**NINTH FIVE YEAR PLAN
REPORT OF THE WORKING GROUP**

***Requirements for
Supportive & Diagnostic
Service***

At



***Primary, Secondary and
Tertiary Care.***

SUBMITTED TO PLANNING COMMISSION

362,10954

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FOREWORD

Since independence the Health Care Delivery Infrastructure/ Services are being formulated and implemented in the successive five year plans on the recommendations made by Bhore Committee, Mudaliar Committee, Chaddha Committee, Madhok Committee, Shrivastava Committee, Kartar Singh Committee and several other committees. The National Health Policy was approved in Parliament in 1983 and provided directions for the development of health care delivery system in the country.

There has been major expansion of the health care delivery institutions at various levels yet there has been growing public dissatisfaction with the qualitative aspects of services being provided at these centres. The need for providing supportive and diagnostic services at all levels specially at the primary and secondary level institutions is an accepted fact. As a part of an exercise for the preparation of the Ninth Five Year Plan in the Health and Family Welfare sector the Working Group on requirements for supportive and diagnostic services at primary, secondary and tertiary care was constituted by the Planning Commission for the first time vide Order No.2(5)/8/95-FW dated 12th February, 1996.

After detailed deliberations, the Working Group has prepared its report for submission to the steering committee which *inter-alia* deals mainly with laboratory, imaging, dental, ophthalmic and other bio-medical services including staff, equipments, investigations, space etc., recommended at various levels of health services, along with operationalisation of rural health infrastructures. Two separate chapters on medical equipment management and rehabilitation services have been included in the report because of the concern shown by various members as also the priority now required for these two areas for implementation in the Ninth Plan. It is hoped that report will be useful not only during the Ninth Plan but also for decade after the Ninth Plan.

It is my pleasure to put on record deep appreciation to all the Members of the Working Group for their valuable inputs. Dr. Dinesh Paul, Dy. Adviser (Health) and Member-Secretary of the Working Group deserves a special mention for his meritorious contribution in preparing the Report. The assistance offered by Shri K.K. Lamba, SRO(Health), Planning Commission; Dr.(Mrs.) G.Sharma, ADG, DGHS; Shri Sanjay Kapoor, Shri Danvir Singh and staff of NIC work station III of Planning Commission are acknowledged with thanks.



(Narendra Bihari)

Chairman of the Working Group

and

D.G., DGHS

Ministry of Health and Family Welfare

Dated: 20th August, 1996.

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CHAPTER - I

INTRODUCTION

COMPOSITION OF WORKING GROUP

1.1 As a part of an exercise for the preparation of the Ninth Five Year Plan in the Health & Family Welfare sector a Working Group on Requirements for Supportive & Diagnostic Service at Primary, Secondary and Tertiary Care was constituted by the Planning Commission vide order No.2(5)/8/95-H&FW dated 12th February, 1996 with the following terms of reference :-

(i) To develop the norms for clinical and diagnostic services to be provided at primary, secondary and tertiary levels of health care institutions i.e. sub-centre, PHC, CHC, sub divisional hospitals, district hospitals, State level hospitals and medical college hospitals/specialised institutions. The Working Group will also consider the requirement of staff, space, instruments, furnishing and other materials as may be necessary.

(ii) To review the present manpower position and project requirement/training needs for development of these services and efficiently manning and maintaining the equipment at various facilities during the 9th Five Year Plan.

(iii) To project financial/physical requirements for implementation of these programmes during the 9th Five Year Plan.

1.2. The composition of the Group as well as the list of the special invitees is given respectively at Annexure I and II. The Member-Secretary of the Working Group was subsequently appointed vide order No.2(5)/8/95-H&FW dated 19th March, 1996. (Annexure-III)

DELIBERATIONS OF MEETINGS

1.3 . In the first meeting of the Working Group held on 12th April, 1996 under the Chairmanship of Dr. N. Bihari, DG,DGHS, the members were requested to prepare background papers on the areas of their specialisation for discussion in the Working Group's second meeting. Experts in the area of Rehabilitation & Ophthalmology were also requested to prepare background papers and were invited as special invitees in the second meeting.

1.4. The areas identified were :-

- a) The Requirement of Supportive & Investigative Facilities at Primary, Secondary and Tertiary Level of Health Care Delivery System.
- b) The Requirement of Supportive Services at Primary Health Care level.
- c) Microbiological Investigation Facilities at all levels.
- d) Planning of Imaging Facilities in India.
- e) Requirement for Supportive & Diagnostic Services for Rehabilitative Components at Primary, Secondary & Tertiary Level Care.
- f) National Blood Transfusion Programme.
- g) Ophthalmology equipments for Primary Health Centres, District Hospitals, Medical Colleges & Regional Institutes.
- h) Requirement of Neurosurgical Instrumentation at Secondary & Tertiary Health care Centres.
- I) Imaging Equipments & Laboratory Facilities in the State Run Hospitals.
- j) Management of Medical Equipment and Suggested Strategies.

1.5 The main purpose was that the Working Group could review the existing material, discuss with experts in their own areas and prepare a detailed note which could form the basis for meaningful discussion for the purpose of Ninth Five Year Plan.

1.6 In the first meeting held on 12th April, 1996 it was decided that in the context of computerisation of equipment the management of equipments has assumed vital importance which included not only maintenance but also the modalities evolved in the maintenance procedure and should be accorded high priority during Ninth Plan. Evolving a system of management of equipments in all the institutions were agreed by all the members. It was also opined that 80 to 85% of the faults in equipments in the country was simple and could be handled very well if properly trained personnel was appointed in the hospital workshops.

1.7 In the second meeting held on 7th May, 1996, the papers prepared by the experts were discussed. The members were informed that each member while modifying his/her paper should consider and bring out clearly the quantum of the health problem, the appropriate technology for its diagnosis/management and the level at which diagnostic/therapy will be done and the manpower required for such technology. Finally, it was agreed, whatever basic instrumentation were needed at various levels should be provided in a functional state in the country and their maintenance should be given high priority. The Chairman requested all the members that the proposal for submission to Steering Committee should be based on ground realities and keeping in view the availability of financial resources. He further stated that the present requirements may be assessed by all the members in the light of the perspective for next 25 years. After the members had given their views on different aspects the Chairman constituted a sub-group comprising members from the DGHS and the Planning Commission to prepare the report outline.

DRAFT REPORT PREPARATION

1.8 Various members of the sub-group were requested to prepare sections relevant to them of the report outline so that these could be discussed and finalised in the last meeting of the Working Group. However, these sections were prepared by the Member-Secretary of the Working Group and distributed among the members of the sub-group before circulation to the Working Group for the third meeting. The group discussed these portions of write-up, made suggestions and a draft report was prepared for final discussion by the members.

1.9 The draft report was discussed in the Working Group meeting held on 19 July, 1996. The chairman informed that two separate chapters on Medical Equipment Management and Rehabilitative Services respectively have been included in the report because of the concern shown by various members in the first two meetings as also the priority now required for these two areas for implementation in the Ninth Plan. He stated that with in the overall concept of Health For All by 2000 AD, Rehabilitative Services have not been accorded the required priority so far and hence in order to stress the issue, a separate chapter has been included on this aspect.

1.10 Dr. Dinesh Paul, Member-Secretary of Working Group informed that the Sub-Committee has covered only those areas which could be integrated right from the Primary Level to Tertiary Level leaving out the services only provided at the Tertiary/Super-speciality level e.g., Genetics, Virology, Nephrology and various other Super-specialities. He requested the members to indicate if they required any amendments in the report as the final chapter on resource allocation would be formulated only when the minimum essential Supportive & Diagnostic services was agreed to by all.

1.11 The members made suggestions and the chairman informed that these will be incorporated in the final report. On the recommendation of Adviser(Health), it was agreed that keeping in view the ground realities the recommendations may be prioritised and essential minimum requirements for supportive and diagnostic services may be identified in the final document. As the manpower requirement have been clearly identified by this Group for various supportive and diagnostic services, a copy of the report may also be sent to the working Group on Medical & Para-medical Education, so

that both the groups could adopt a unified and consistent approach. Finally the Working Group authorised the Chairman to finalise the report. For this purpose, the Chairman and Dy. Adviser(Health), Planning Commission & convenor held a series of meetings from 22nd July,96 to 19th August,96 in order to finalize the report.

REPORT OF WORKING GROUP

1.12 The report finalised is presented under the following headings :-

- (i) Present scenario of Health services and requirements for supportive and diagnostic services at all levels of Health care.
- (ii) Medical equipment management and maintenance.
- (iii) Requirements for supportive and diagnostic Rehabilitative services at Primary, Secondary and Tertiary care.
- (iv) Laboratory, Imaging, Dental and other biomedical services including staff, equipments, investigations, space recommended at various levels of Health services.
- (v) Resource requirement during ninth plan.

CHAPTER-II

PRESENT SCENARIO OF HEALTH SERVICES AND REQUIREMENTS FOR SUPPORTIVE AND DIAGNOSTIC SERVICES AT ALL LEVELS OF HEALTH CARE

PREAMBLE

2.1 Since independence the health care delivery infrastructure/services are being formulated and implemented in the successive Five Year Plans on the approaches and recommendations made by the Bhore Committee (1946) and the Mudaliar Committee (1961). However after the adoption of National Health Policy, in recent years there has been considerable rethinking on the social, economic, technological and philosophical aspects of the health services structure in the country.

2.2 There has been growing public dissatisfaction with the existing expansion of medical educational institutions and the health services delivery structure and distribution. The mushroom growth of institutions for specialities and super-specialities both in private and Government sectors in practice, cater mostly to the urban areas and to the affluent classes. This calls for a balanced distribution of such services. Most of our medical graduates after spending lot of money in private medical colleges rush to seek higher qualifications both in India and abroad and, thereafter, look for lucrative and comfortable jobs.

2.3 However, even the specialist services which are developing so fast are imbalanced. There are shortages in essential branches like Radiology, Oncology, Radiotherapy, Endocrinology, Community Medicine, Anaesthesiology, Pathology, Microbiology, Nephrology, etc. The concept of health in all its dimensions, with adequate emphasis on the preventive, promotive and rehabilitative aspects, is still to be made evenly operational.

LEVELS OF HEALTH CARE :-

2.4 Health services in our country are usually organised and delivered at three levels, each level supported by a higher level to which the patient is referred. This three tier pattern is as follow :

A) Primary Health Care :

2.5 This is the essential health care provided at the first level of contact of the individual or the family within the National Health System. Most of prevailing health complaints and problems can be satisfactorily solved at this level. In the Indian context, the primary health care is provided by the specialists at CHC (upto a limited level), Medical Officers at PHC, Multipurpose Health workers, Anganwadi Workers, Village Health Guides and Trained Dais (Birth Attendants). These workers form a part of the Community Health Centre, Primary Health Centres and Sub-centres network as also the Integrated Child Development Services (ICDS) system, which is closely linked to the health care delivery system.

B) Secondary Health Care:

2.6 At this level, more complex problems are dealt with. Facilities for specialists in Medicine, Surgery, Gynae & Obst., Paediatrics, Ophthalmology, Radiology, Orthopaedics, ENT etc. are available to deal with the complex health problems referred from the primary level. The care comprises of essentially curative services and is provided by the District Hospitals and Sub-Divisional Hospitals. This level serves as the second referral level in the health care delivery system.

C) Tertiary Health Care:

2.7 This level offers super-specialist care with sophisticated investigations and therapeutic procedures. Tertiary Health Care is provided by the State/Regional/Central level institutions. In addition to highly specialised healthcare, these institutions provide planning and managerial skills and teaching for specialised staff. The tertiary level supports and complements the performance/functions at the primary and secondary levels, and is available at Medical College Hospitals, Regional or Institutes of excellence viz. AIIMS/PGI/NIMHANS etc.

2.8 It is observed that though the primary and secondary health care facilities are easily accessible, patients reach the Out Patient Deptt. (OPD's) of the tertiary level

hospitals directly without being referred from either the primary or secondary level hospitals. This leads to more number of the patients seen at tertiary level than are expected to be managed at this level as per concept of three-tier referral system. This leads to not only reduction in quality care of serious patients but also under utilization of facilities created at primary and secondary level institutions.

PRIMARY HEALTH CARE

2.9 Realising the need to develop a comprehensive health policy and to create a model of health care services keeping in view the objectives of Health For All by 2000 AD, a National Health Policy was adopted by the Government of India in 1983. The existing health care delivery system was recommended to be restructured so as to integrate the promotive, preventive and curative aspects at all levels of primary health care. However, some variations were also recommended subject to the local topography the density of population, transport system etc. The following norms for the Primary Health Care infrastructure have been accepted till date.

STAFFING PATTERN

A. STAFF FOR SUB-CENTRE	No. of Posts
1. Health Worker (Female)/ANM	1
2. Health Worker (Male)	1
3. Voluntary Worker (paid @ Rs. 50/- p.m. as honorarium)	1

	3

B. STAFF FOR NEW PRIMARY HEALTH CENTRE*	
1. Medical Officer	1
2. Pharmacist	1
3. Nurse Mid--wife (Staff Nurse)	1
4. Health Worker (Female)/ ANM	1
5. Health Educator	1
6. Health Assistant (Male)	1
7. Health Assistant (Female)/LHV	1
8. U.D.C.	1
9. L.D.C.	1
10. Lab. Technician	1
11. Driver (subject to availability of vehicle)	1
12. Class IV	4

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* for every 30,000 population in the plains and 20,000 population in tribal and hilly areas

C STAFF FOR COMMUNITY HEALTH CENTRE

1. Medical Officer	4
	(either qualified or specially trained to work as Surgeon, Obstetrician, Physician and Paediatrician. One of the existing Medical Officers similarly should be either qualified or specially trained in Public Health).
2. Nurse Mid-wives	7
3. Dresser	1
4. Pharmacist/Compounder	1
5. Lab Technician	1
6. Radiographer	2
7. Ward Boys	2
8. Dhobi	1
9. Sweepers	3
10. Mali	1
11. Chowkidar	1
12. Aya	1
13. Peon	1

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NATIONAL INSTITUTION WORKER POPULATION NORMS

1. At least one trained dai - for each village.
2. One trained Village Health Guide - for each Village/ 1000 population.
3. One Sub-Centre - for every 5000 population in plain area & for 3000 population in tribal, and hilly areas.
4. One Primary Health Centre (PHC) - for every 30,000 population in plain area & 20,000 population in hilly, and tribal areas.

5. One Community Health Centre (CHC) - for every 80,000 to 1.20 lakh population, serving as a referral institution for four Primary Health Centres.
6. Sub-Centres Covered by a PHC - 6 Sub-Centres
7. PHCs covered by a CHC - 4 PHCs
8. Population covered by a Health Worker(Male & Female) - i) 5000 in Plain area
ii)3000 in tribal and hilly areas.
9. Population covered by a Health Asstt. (Male & Female) - 30,000 in Plain area
20,000 in tribal and hilly areas.
10. One Health Asstt. (Male/Female) - 6 health Workers (Male/Female)
Provides supportive supervision to 6 Health workers (Male/Female).

TABLE 2.1

MNP Targets and Achievements

Programme	No. as 8th on Plan 1.4.92	1992-93 Tar. Actual get Ach.	1993-94 Tar. Ach.	1994-95 Tar. Ach.	Likely No. as on 1.4.95	Target 1995-1996		
1. Sub- Centres	131605	17030 4066 147	18	43	-	-	131795	-
2. Primary Health Centres	20716	4450 759 335	640	421	780	296	21763	601
3. Community Health Centres	2189	1269 259 84	164	80	157	66	2419	206

Table 2.2
Health Manpower in Primary health care

Category	No. in Position As on 31.3.92	% Vacant	No. in Position As on 31.09.95	% Vacant
i. Surgeons	652	29.4	726	55.4
ii. Obst & Gynaecologists	355	63.1	549	51.6
iii. Physicians	399	23.6	609	44.6
iv. Paediatricians	274	45.2	467	43.0
v. Doctors at PHCs	22013	14.3	26583	16.2
vi. Block Extension Educators	5125	7.3	5016	10.7
vii. Health Assistant (Male)	9726	7.6	15933	12.9
viii. Health Workers (Male)	64008	12.0	61995	12.3
ix. Health Assist- nts (Female) / LHV	21233	12.0	19083	12.0
x. Health Workers (Female) / ANMs	121765	7.9	133576	5.0
xi. Pharmacists	16287	12.6	19984	7.2
xii. Lab Technicians	8875	12.7	10147	19.9
xiii. Nurse Mid- wives	12479	16.9	12080	25.8
xiv. Radiographers	565	24.2	1268	20.9

TABLE 2.3
EXPANSION OF HEALTH SERVICES

Sl. Item	1951	1971	1992
1. Medical Colleges	28	98	146
2. Hospitals	2694	3862	13692
3. Dispensaries	6515	12180	27403
4. Community Health Centre	0	0	2193
5. Primary Health Centre	725	5112	20719
6. Sub-Centres	-	28489	131454
7. Hospital beds (all types)	117178	348655	810548

2.10 It can be seen from the tables 2.1, 2.2 & 2.3 that a vast network of infrastructure has been built up during the last 40 years and as such it would not be advisable to make any drastic departure and suggest a new set up. However, it would be possible to revamp infrastructure already established to suit the future needs by filling up vacant posts and by providing diagnostic and supportive services. It is felt that the following minimum basic facilities should be made available in every village to provide.

- (i) First-aid during emergencies including accidents.
- (ii) Treatment of minor ailments.
- (iii) Preventive measures against communicable and non-communicable diseases.
- (iv) Health Education about Environmental Sanitation and Personal Hygiene; and Nutrition Education.
- (v) Education and motivation about family welfare programme.
- (vi) Distribution of Contraceptives.
- (vii) Ante-natal, Natal and post-natal services.
- (viii) Any other local health needs.
- (ix) Infant and child care.

2.11 The primary level care thus includes 1st contact between Health care system and individual. It involves population aspects and administration and consists of preventive, promotive and curative aspects as well as referral. Reproductive and Child Health components are included at all stages. It is felt that monitoring, reporting, surveillance and health education should be integrated at this level. Under the Social Safety Net Scheme assisted by the World Bank, Primary Health Centres (30,000 population) in the 90 weak districts of the country are being strengthened by providing the following safe maternity facilities :

- (i) A fully operational Operation Theater.
- (ii) A Labour Room.
- (iii) An observation ward having six beds and attached toilet facilities.
- (iv) Two Staff quarters, one for LHV and one for ANM.
- (v) One generator to ensure continuous electric supply.
- (vi) Provision of running water supply to O.T. and observation ward.
- (vii) One ambulance per block if not already available

COMMUNITY HEALTH CENTRE

2.12 This includes all facilities existing at the PHC and :

- (i) M T P services.
- (ii) OPD/indoor facilities with thirty beds.
- (iv) Ambulance services.
- (v) Emergency & casualty services.
- (vi) Diagnostic facilities : Clinical Pathology Laboratory, Radiology.

SUGGESTION FOR IMPROVING QUALITATIVE ASPECTS:

2.13 It is generally held that the doctors are not trained to handle the administrative responsibilities as at this level he has to work as a team leader of the paramedical and medical staff. In order to provide clinical and managerial skills the doctor should be given pre-placement training as provided to organised services like IAS, IES, ISS, IRS etc. Initially, the first posting of the doctor should be in the rural/tribal area for three/two years respectively and thereafter he should be given posting near the city or urban dispensary or in the sub-divisional hospital. The doctor should also be given periodical reorientation training for :

- Record keeping
- Supervision of paramedical staff
- Ailment handling
- Familiarity with National Health Programmes
- Development of managerial, public relation and communication skills
- Guidelines for referral and transportation of patients

2.14 As the present number of sub-centre and primary health infrastructure is adequate, it is felt that one PHC for 20,000 population in rural areas and 10,000 population in tribal, hilly and difficult areas may be targeted for establishment by 2010 AD. A beginning on experimental basis may be planned from 2001 AD onwards. However the coverage of one sub-centre and CHC may remain the same.

2.15 The following steps are required for improvement of all health infrastructure till 2000 A.D.

Sub-Centres

- (i) Planned Govt. buildings alongwith residential accommodation for the multipurpose workers (female as well as male).
- (ii) All Sub-centres be provided with electricity and water facilities with provision of aseptic room for delivery and ante- natal check-up.
- (iii) A cycle/moped should be provided to ANMs for easy mobility.
- (iv) Adequate equipments for aseptic delivery and ante-natal check-up.
- (v) Maintenance of building by Zila Parishad to be made mandatory.
- (vi) Enhanced financial assistance for medicines from Rs.2000/- to Rs. 5000/-per ann um.

Primary Health Centres

- (i) Planned Govt. building alongwith residential quarters for all the staff.

(ii) Pipeline water supply, electricity, telephone, generators and water pump as a stand by for uninterrupted services.

(iii) Good approachable roads to be laid.

(iv) Ambulance/Jeeps for immediate mobility, supervision and field visits etc.

(v) Compound walls for the PHCs and staff quarters for security of patients and staff.

Family Welfare & M.C.H.

(vi) Equipments and kits for comprehensive Family Welfare Services including the Reproductive Child Health Services.

(vii) A computer to keep data for Health & Family Welfare activities.

2.16 All the Primary Health Centres may be strengthened by providing following facilities :-

(i) A fully operational Operation Theater

(ii) A Labour Room

(iii) An observation ward having six beds and attached toilet facilities.

(iv) Two Staff quarters, one for LHV and one for ANM

(v) One generator to ensure continuous electric supply.

(vi) Provision of running water supply to O.T. and Observation ward

(vii) One ambulance per block if not already available

(viii) Promotion of Information, Education and Communication on all National Programmes

Community Health Centres

(i) A well planned Govt. building alongwith staff quarters.

(ii) Running water supply, electricity with electric/diesel generator, water pump and over-head water tank to be provided.

(iii) Telephone facility in the CHC with a residential telephone for Medical Officer Incharge.

(iv) Good approachable roads.

(v) An ambulance for referral system and two jeeps for mobility of staff, inspections and field visits etc.

(vi) Boundary wall to be provided.

Additional Staff for Sub-centres

The following staff is recommended for two sub-centres.

- 2 Male multipurpose workers and three ANMs

(Additional) Staff at PHC :

Doctor*	1	* Preference may be given to female doctor where maternity beds are provided and it may be also from ISM&H, if popular in that area)
Pharmacist	1	
Nursing Orderly	2	
Dresser	1	
Lab Asstt	1	
ANM	1	
Class III and IVth Staff	3	
Mechanic	1	
Part time Dhobi.	1	

(Additional) Staff at CHC

Anaesthetist	1
Pharmacists	2
Cook	1
Cook Attendant (Masalchi)	1

Lab. Attendant	1
Lab. Assistant	1
Fitter cum Mechanic	1
X-ray Attendant	1
Dhobi	1

RECOMMENDATION ABOUT PRIMARY LEVEL SERVICES AT ALL

THREE LEVELS

- * First place of contact with Paramedical staff/doctor (at SC/PHC).
- * All emergencies (minor) to be attended and to identify Medical and surgical (general surgery & its allied specialities. Medicine & its allied specialities etc.) emergencies to be referred to next level (at PHC/CHC).
- * Place for follow up after having been treated at higher level hospitals like follow up after caesarean or hystrectomy or drainage procedure etc., Asthma or cardiac failure etc. (atPHC/CHC).
- * Registration of Medicolegal cases (at PHC/CHC).

MINIMUM SERVICES TO BE PROVIDED AT CHC

Medicine (including Paediatrics)

- i) Facilities for immunization, Health Education & management of Routine Nutritional disorders.
- ii) Uncomplicated communicable diseases.
- iii) Gastro-intestinal infections & infestations
- iv) Minor respiratory disorders
- v) Day care observation for a short stay
- vi) Facilities for Routine urine, blood, stool & sputum etc .
- vii) Well baby clinics
- viii) New born care - breast feeding, infant feeding, growth monitoring, immunization etc.

Surgery

- i) First aid facilities
- ii) To be able to handle minor traumas (Lacerations, sprains minor fractures) to minor infections - abscesses etc.
- iii) Minor operative procedures - like operations for Hydrocoele, sebaceous cyst, lymph node biopsy, suturing of lacerations, putting tube for tension pneumothorax, catheterisation, circumcision, Cardio Pulmonary Resuscitation etc.
- iv) Family planning procedure - vasectomy
- v) Treatment for common surgical problems, conjunctivitis, otitis externa, epistaxis etc.

Gynae and Obstetrics

- i) Antenatal, natal, Perinatal & Post natal care
- ii) Uncomplicated pregnancies
- iii) To identify complicated pregnancies and also complication arising during delivery and refer to appropriate Hospital.
- iv) Common gynaecological problems vaginal-infections etc.
- v) Family planning services like education, placement of IUCD, tubectomy
- vi) Care and education of adolescence
- vii) MTP first trimester

Primary Health Care in Urban Areas

2.17 With increasing urban population especially migrant labourers living in poor and unhygienic conditions settling near major cities and towns as Urban Slums, a need for primary health care for this vulnerable and underprivileged population has been felt. In order to provide health care to these Urban Slum population dispensaries and hospitals are being established by the State Govts under States' Plan. The slum population of the urban areas are also looked after by mobile health care system. There is no permanent infrastructure so far developed for these unprivileged segments of society. One Dispensary/ Urban Health Centre for 20,000 population may be established for taking care of their health needs. The facilities and services may be provided as per the recommendation for one PHC. The States may be allowed to utilise funds under MNP in this regard.

Revision of Financial Norms

2.18 The norms for construction of various rural health infrastructure are very old and due to present cost escalation, it is not possible for the State Govts. to adhere to the norms approved by Planning Commission. The norms of construction of various institutions are indicated below.

Sl. No.	Institution	Approved financial norm for construction (Rs.inlakh)
(i)	Sub-Centre	1.00
(ii)	P.H.C.	5-6
(iii)	C.H.C.	15-20

2.19 It is also recommended that State/ Union Territory Govts. may use from MNP funds, any additional amount needed for the rental of Sub-centre upto a maximum of Rs. 1000 per annum per Sub-centre if the existing rental charges of Rs. 1000 per annum per Sub-centre given under the Family Welfare programme is not sufficient. However, during Working Group discussions State Governments had informed that on an average Rs. 2.5 lakh for the construction of Sub-centre(@ Rs 300/Sq feet X 700 Sq feet), Rs. 20-25 lakh for the construction of PHC (@ Rs 300 /Sq feet X 8100 Sq feet) and Rs. 50-75 lakh for the construction of a CHC is required at present. Keeping in view, the present escalation in the prices of various materials, the norms need revision. It is also mentioned that the rental charges given by the Deptt. of Family Welfare is only Rs. 1000 per annum which is inadequate. Therefore, it is suggested that in place of additional amount of Rs. 1000 permitted under MNP, the State Govts., may be permitted to use additional amount of Rs. 3000 for the rental of Sub-centre in addition to the Rs. 1000 per annum Sub-centre provided under the Family Welfare Programme.

2.20 There is also need to revise the estimates of recurring and non-recurring expenditure to be incurred in case of Primary Health Centre and Community Health Centre, as the present ceilings of Rs. 2 lakh and Rs. 7.00 lakh respectively have become outdated. The following table provides the present approved non- recurring and recurring expenditures per unit of the institutions and the minimum revision required:-

Insti- tution	Present		Required		Total	(Rs. in lakhs)
	Recurring Expdr.	Non-Rec. Expdr.	Recurring Expen.	Non-recurring Expen.		
P.H.C.	1.50	0.50	2.00	5.00	2.00	7.00
C.H.C.	2.00	5.00	7.00	7.00	18.00	25.00

SECONDARY LEVEL CARE

2.21 In the past there has been a piece-meal approach in the development of the District Level Health Organisation which took care of the needs of the various programmes. Nevertheless, there is a uniform set up at district level irrespective of the size of the district or the number of Primary Health Centres thereunder. It is felt that District Health Organisation needs to be organised on the basis of the population covered by it and the staffing pattern rationalised to provide greater supervision and technical guidance. The following criteria are suggested for consideration :-

- (a) The District Level Health Organisation may be according to the size of the district, i.e., number of PHCs being the criterion.
- (b) The technical staff may be engaged more in technical supervision than in the administrative work.
- (c) The field level supervision from district level is strengthened.
- (d) Other technical staff beside the doctor is given greater responsibility.
- (e) Mass Media, education and motivation activities for FW and MCH and Health education activities are strengthened.
- (f) The job responsibilities of each district level functionaries are clearly redefined.
- (g) The existing district level staff is better utilised and streamlined, without appreciably increasing financial liability either for the Central or State Governments.
- (h) Only referral cases from dispensaries/CHC/PHC should be entertained.
- (i) Emergency cases directly can also to be seen

(j) **Departments to be established at sub divisional level.**

Medicine, Surgery, Paediatrics, Gynaecology, Ophthalmology, ENT, Orthopedic, Anaesthesia, Rehabilitation, Skin and VD and Dental, 2 OPDs Supportive, Physiotherapy, Radiology, Pharmacy, Pathology, Biochemistry, Blood Bank, Health Education and Microbiology.

(k) **The requirement of following manpower in each hospital**

Physician, Surgeon, Gynaecologists, Ophthalmologists, ENT specialist, Pediatrician, Orthopedician, Skin Specialist, Medical Officers, Dental Surgeons, Rehabilitation & Physical Medicine specialist, Anaesthesiologist, Pathologist, Radiologist and Staff for supportive services.

NO. OF BEDS : Subdivision - 100

District - 250-500

The number of manpower required will depend on number of beds.

TRAINING NEEDS :

2.22 Every specialist/GDMO posted at these hospitals should undergo training at training centre established for this purpose in following aspects :

- (a) Public health
- (b) Management//Admn.
- (c) Communication skills

2.23 The additional department/services to be established at district level

- (a) Psychiatry
- (b) Neurology to be seen by Medical Specialist.
- (c) Routine surgical procedures including endoscopy.
- (d) Specialities like eye, ENT, Orthopedics, (Pediatric Surgery, Burns and plastic to be looked after by Surgeon), Dentistry.
- (e) Trauma centre including rehabilitation
- (f) Emergency surgical procedures

Gynaecology and Obstetric

- (a) Facilities for management of high risk pregnancies
- (b) Complications during labour
- (c) Emergency Obstetrical care
- (g) Uncomplicated oncological work related to all specialities

(h) Ancillary facilities like :

Anesthesia
Bloodbank
Radiology - Routine and Interventional
Pathology and microbiology
Biochemistry
Haematology
Endoscopy

Related to specialities like :

Metabolic lab
Respiratory lab
Echo cardiography - Intensive care unit (to be looked after by Medicine Specialist)
Audiometry + others ENT investigative procedures.
Slit lamp, optometry, Tonometry
EEG, EMG etc.

TERTIARY LEVEL CARE

2.24 Tertiary level hospitals require staff etc. as per the recommendations of the Medical Council of India (MCI) on the establishment of medical colleges and according to the available super-speciality. - Only referred cases from secondary/primary health care level to be seen at this level.

Recommended superspecialities : cardiology, Gastroenterology, Neurology, Nephrology/Urology, Endocrinology, Psychiatry, Nuclear Medicine, Oncology, Burns & Plastic Surgery, CTV Surgery, Neurosurgery, GI Surgery, Pediatric Surgery, Neonatology, Gerontology, Trauma Centre, Respiratory Medicine, Clinical Immunology, Clinical Epidemiology.

Manpower required will be super-specialists in the above mentioned disciplines.

No. of beds : 500 and above

No of manpower required will depend on bed strength.

Training needs :

2.25 The super-specialists to be kept updated in their speciality by:.

- (a) Periodic refresher and advanced courses in respective disciplines in India and abroad.
- (b) Managerial and administrative skills . .
- (c) Communication skills.

For Teaching hospitals, Recommended super specialities:

- (i) Hepatobiliary, Pancreatic, complicated gastro-intestinal Medicine and surgery.
- (ii) Oncology unit including Head & Neck & Haemato-oncology
- (iii) Transplantation unit and dialysis facilities
- (iv) Cosmetic & Re-constructive including Maxillofacial surgery.
- (v) Sub-specialities of ophthalmology & ENT like Retinal unit/ cornea unit, Myopia unit/ cornea transplant unit.
- (vi) Ancillary like - Those available at secondary level and
 - (a) Interventional Radiology and Endoscopy
 - (b) Electron Microscopy
 - (c) Molecular Biology - Immuno-histochemistry and others
 - (d) Electrophysiology
 - (e) MRI/PET
 - (f) Research facilities
 - (g) Blood bank with availability of blood fractional components etc.

- (h) Urology and other complicated studies related to speciality
- (i) Neonatology unit
- (j) Bio- Medical Engineering

Disposal of Hospital Waste

2.26 The Working Group accepted the recommendations regarding Hospital Waste Management as given in the Report of the High Power Committee on Urban Solid Waste Management. The High Power Committee was set up by the Planning Commission under the Chairmanship of Prof. J.S.Bajaj, Member, Planning Commission.

National Blood Transfusion Programme

2.27 Keeping in view the extremely deplorable state of Blood Transfusion Services in the country and the exploitation by the commercial blood banks and professional blood donors it is of paramount importance to revamp the entire Blood programme during the Ninth five year plan. This has become all the more necessary in view of increasing danger of AIDS, hepatitis and other transmissible infections. Immediate implementation of the recommendations of the Expert Committee on Blood Transfusion as per the directives of the Hon. Supreme Court should not be delayed any longer for the safety of recipients of Blood or Blood products.

2.28 We have to be cognizant of the fact that for a population of over 900 million and a bed strength of over half a million hardly 2.5 million units of blood are being procured annually against a modest requirement of 6 million units. Thus leaving a gap of 3.5 million units resulting in suffering of innumerable patients and opportunities for exploitation by the traders of blood.

2.29 The problem has assumed dangerous proportion and require immediate remedial measures, among the numerous steps to be initiated in this direction the following require immediate implementation by the central and state health authorities.

(i) Establishment of 16 Regional blood Centres to augment requirements of blood and blood components at the following metropolis:-

Delhi, Lucknow, Patna, Calcutta, Gauhati, Cuttack, Nagpur, Jaipur, Bhopal, Ahmedabad, Bombay, Hyderabad, Bangalore, Trivandrum, Madras, Chandigarh.

(ii) Manpower development - Starting postgraduate training course, M.D. Transfusion Medicine, at the following 11 leading Medical Institutions in the country:-
Bombay, Bangalore, Calcutta, Chandigarh, Delhi, Lucknow, Jaipur, Hyderabad, Trivandrum, Madras, Poona.

(iii) Training courses for paramedical technologists at all the leading Medical Institutions.

(iv) Revamping of the existing blood centres in order to achieve the objective of standardisation, quality control and fulfilling licensing requirements.

(v) Launching a powerful drive for voluntary donor motivation and involvement of all the governmental and non govt. agencies like Red Cross and Blood Bank Societies.

2.30 It is estimated that the above programme will help in training over 150 postgraduate specialists (MD Transfusion Medicine) and over 1000 paramedical technologists during the course of plan period. Short term courses for the medical as well as para medical workers will also be necessary to raise the standard of those who are already working in this field. Computerisation of all the centres would be necessary for achieving standardisation and evaluation of the progress all over the country.

Contract of certain Hospital Services (Non Medical)

2.31 The Working Group while considering the supportive services such as laundry, kitchen, security, ambulance & mortuary van, pharmacy including chemist shop, cleanliness etc. observed that there has been deterioration in these services which are becoming more demanding. The Working Group suggested that these fell under the non- medical category of services and may be provided on contract basis to the private agencies for running more efficiently and at a cheaper cost.

Mortuary Services

2.32 Mortuary services may be provided from sub divisional hospitals upward for storage of dead bodies. However, the need of mortuary services at Community Health Centres may be assessed by States depending upon topography, density and communication problem.

hilly area, difficult terrain, transport bottlenecks etc. The category of such facilities to be made available may depend on the demand for such facilities. A mortuary van at each 100 or more bedded hospitals at subdivisional level and above is essential.

Communication Facilities

2.33 The Working Group suggested that all the institutions at different levels should be linked with telecommunication and other modern facilities such as FAX, telex, etc. for the better management of serious cases so that the Doctors could take the advice of the specialists and super specialists at higher levels as also to provide intimation in advance for receiving such patients.

Ambulance Facility

2.34 Ambulance facilities equipped with emergency management facilities and wireless at each level are also essential so that the patients can be referred to appropriate level without any loss of time. The patients may pay at subsidised rates and poor patients or those who are unconscious or in a serious condition without attendants may be provided ambulance facilities free of cost. Paging facilities may be introduced for calling the doctors and supportive staff at subdivisional hospital level upwards.

Charges

2.35 Because of the increasing incidence of non-communicable diseases and better diagnostic facilities, the funds provided by the Government to various medical institutions are limited and inadequate. Therefore, a system of user charges may be levied on patients for OPD, diagnostic, indoor and treatment purposes. The charges for these should be less than the existing private/charitable clinics and it may be ensured that it may not be a big financial burden on the people. The Head of these institutions or an officer delegated by him should be given the powers to exempt poor people from payment of charges and these should not be more than 20% of the total attendance at each facilities. The aged patients i.e., above the age of 60, pregnant and nursing women, children less than 5 years of age should also be exempted from payment of charges. The money collected from the patients should be used exclusively for the development of the same institution.

Developing Joint Sector Approach

2.36 In view of the increasing demand of tertiary level care hospitals the Working Group strongly felt that for the development of Tertiary level care hospitals efforts be made to develop public private partnership through joint sector approach. The State/Central Government should consider provision of subsidised land, water, equipments exemption from custom duty, electricity etc. in order to lend full support to joint sector ventures.

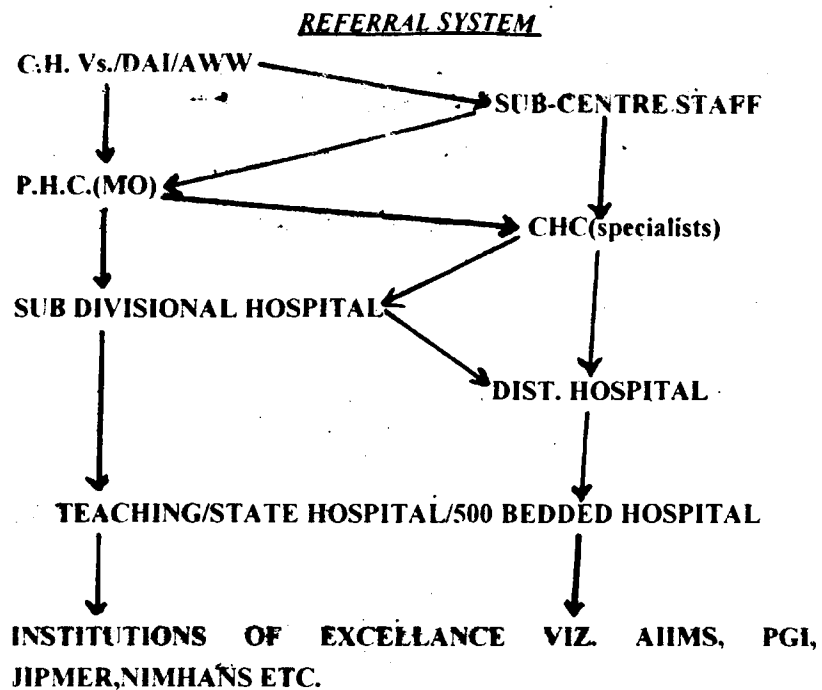
Health Management and Information System (HMIS)

2.37 For the effective implementation of National Health Programme and for efficient monitoring and evaluation of the achievements in conformity with the goals laid down it is essential that the Health Management Information System (HMIS) should be developed as an information support to Health For All strategy. Under the HMIS information will flow on all the health care delivery services provided by the various institutions at all levels on a regular basis at a scheduled time. The data generated through the HMIS with regard to the communicable and non-communicable diseases may be used for effective surveillance, health forecasting, epidemic control as also planning process.

Referral System

2.38 To ensure that the health workers at the periphery enjoys the confidence of the community, it is essential that the support of higher level advise presently missing to large extent may be provided to set pattern of referral system.

2.39 In order to have the best utilisation of limited facilities available in the country, it is better that we should declare certain institutions exclusively for referral services. This will ensure that their facilities and expertise are available only to those who really need them and are not wasted on providing services to those, who can get required services at lower level. The referral should not be automatic to the next higher level, instead the referring institution should be free to refer the cases to the institutions which in their opinion have the necessary facilities for providing competent services, required by the case. An illustrative referral chart is indicated below:-



CONCLUSIONS

2.40 To achieve an effective referral system in the health care services it is imperative that a proper infra-structure for the same is available at all levels namely primary/dispensary level, secondary (100 to 500 bedded hospital/other hospitals) level and tertiary level (super speciality hospitals) hospitals with a bed strength of more than 500. Ideally, there should be 30 PHCs/50 dispensaries in each districts catering for 10 Lakh population roughly. Each dispensary/ health centre will refer the cases to the appropriate secondary level hospital of the district and no patient should be entertained by the secondary level hospital without a referral card of the dispensary/health centre located in the district. Patients will be referred by the secondary level hospitals to the tertiary care hospitals on a zonal basis for which necessary exercise are required to be done.

2.41 To make this system workable the following points may be noted for implementation:

- (i) All patients have to furnish a referral health card from health centre/dispensary for seeking care at secondary level hospital. Part of the referral card may be returned back to the dispensary/health centre with comments of the treating unit of the hospital. The follow up of such patients to be undertaken at CHC/PHC level, with periodic check-up at the referral centre if so desired.

(ii) Full information should be displayed in each dispensary/health centre regarding the nearest secondary level hospital.

(iii) There should be direct hotline telephone connection between CHC/each dispensary and the secondary level hospital.

(iv) A fully equipped ambulance network should be available for quick transport of the patients, co-ordinated at the hospital level.

(v) It is essential to develop a system of keeping proper medical records at all levels.

(vi) There should not be any referral outside the accepted zone of tertiary level care.

(vii) No referred cases will be refused admission if required, Maternity/ante-natal cases who are provided care at dispensary level/secondary level hospital must be entertained by the tertiary hospital.

(viii) Private practitioners/clinics will be equated with PHC/CHC/dispensary and the secondary level hospitals for them will be the nursing homes/district hospital. Nursing homes may send patients to the tertiary hospitals with complete case records or photocopy of the same.

2.42 Needless to say, to make a proper referral system viable we have to strengthen and effectively operationalise all the existing 100-500 bedded hospitals in the first instance and work for development of more secondary level hospitals according to the norms of national population coverage.

CHAPTER - III

MEDICAL EQUIPMENT MANAGEMENT AND MAINTENANCE

- 3.1 During the last quarter of the century, biomedical equipment have made substantial contribution to health care throughout the world. Many life saving surgical procedures and devices for alleviating the suffering of the sick would not have been possible without the development and skilful application of medical equipment. Today, most of the hospital departments require a variety of electrical, electronic or mechanical instruments for their very existence.
- 3.2 With the rapid advancements in technology, the capital cost of medical equipment is rapidly rising. In spite of its high cost, medical equipment is widely mismanaged resource used in health care facilities whether under the Central or State Govt. administration. In general, there is a severe shortage of adequately trained, experienced technical personnel in the health care technical services. Frequently, this inadequacy of technical staff and practical inexperience of the other staff, together with their lack of knowledge contribute directly to the breakdown and reduction in the operating life of this expensive and vital resource.
- 3.3 The sophistication level and pattern of distribution of medical equipment in hospitals in India have become quite complicated. While the total number of hospitals may be highly inadequate and most of them poorly equipped, there are health facilities in the country which have the latest equipment in their possession. Further, since the medical equipment is also intended for use by non-technical persons(Technicians, Para medicals etc.), efforts are made by the designers to simplify their operation. This often requires high technology in a place of equipment which may apparantly look simple. This puts greater demand on technical back-up facilities for maintaining the equipment.

3.4 Although it is difficult to generalize percentage-wise the share of equipment out of total health care budget, it is generally estimated that about 60% goes for salaries, 10% for medicines and expandables and 30% for the equipment. Further, nearly 5%-10% of the total health budget goes for high technology medical-engineering items like imaging systems, clinical laboratory, analyzers, linear accelerators, etc. The hospitals contain equipment of considerable diversity and maintenance of all items in the country is essential where resources are scarce; the need for replacement of equipment after it completes its life in health care delivery is also inevitable. Various studies have indicated that about 40%-60% biomedical equipment are non-operational due to inadequate maintenance service.

3.5 The major problem related to management & maintenance of biomedical equipment in the health facilities is related to personnel policy. Personnel problems in relation to repair and maintenance activity can be classified as systems, planning, production and management problems.

Systems : Absence of a national policy on manpower requirements for biomedical equipment management as an integral part of health-manpower development strategy.

Planning : Inadequate planning regarding total requirements of personnel for management, repair and maintenance of biomedical equipment.

Production : Training of biomedical equipment technicians/ engineers has now received some attention. Reluctance on the part of engineers to enter biomedical equipment repair and maintenance field in view of more attractive avenues for employment sectors such as telecommunications, computers etc.

Management : Insufficient opportunities for career advancement for engineers in the hospitals and lack of continuing education in newer technologies.

3.6 Problems of equipment management and maintenance are complex and need expert handling. The only way to improve this situation is to have a national commitment and establish a separate unit in the Ministry of Health, headed preferably by a competent technologist. The unit to be designated as Medical Equipment

Management Department (MEMD) may work as an apex body for the whole country. This unit can advise the State Govts. on setting up such facilities at state level. The Electro-Medical Maintenance Centres of Department of Electronics may be suitably strengthened and integrated in the system to provide comprehensive approach for repair & maintenance of electronic and non-electronic instruments. In principle, the system is to be so designed that even the smallest health facility has access to it.

3.7 The responsibilities of MEMD would involve :

- (i) Ensuring that the funds allocated for purchase, installation and maintenance, are spent to the best advantage and
- (ii) Establishing and supervising the various services required for the effective, safe and efficient use of the equipment over a reasonable life time.

3.8 To meet its objectives, equipment management needs to be accorded high priority. The nature of use of medical equipment places particularly onerous demands on performance. The main problems arise from :

- (i) Improper equipment selection and procurement policies resulting in the introduction of inappropriate or inferior quality equipment.
- (ii) Inadequacies in maintenance and repair arrangements, and
- (iii) Insufficient training of equipment users.

3.9 To overcome these problems, it is necessary to establish a good equipment management and maintenance system to achieve.

- (i) Reduction of breakdowns or down time;
- (ii) Prolonged life of the equipment;
- (iii) Improved quality of health care delivery services, and
- (iv) Assured safety to users and patients.

3.10 Professional management of the system will ensure that there is no procurement of obsolete systems which may later prove to be uneconomical, involving huge operational costs. Other shortcomings such as inadequate radiation protection, lack of temperature and humidity controlled environment, electrical leakage, explosion hazards due to gases etc. will also be avoided.

3.11 The Medical Equipment Management Unit (MEMU) may be headed at the State Directorate of Health by a sufficiently senior person who will have functional autonomy and specifically allocated budget for procurement and maintenance. A Committee, with experts drawn from hospitals, industry and academic institutes can be formed to review from time to time the facilities, equipment procurement process, quality and efficiency of the Unit.

3.12 The Unit will be responsible for maintaining the equipment in all the Government hospitals in the State. It will be organised as a three tier system with Head Quarters and Central Workshops in the capital, Hospital based Maintenance Units at District level and Mobile Maintenance Units. The Mobile Unit will be under the control of the District level Maintenance Unit and will be responsible for maintaining the equipment in all the hospitals in the district. The District level maintenance unit will depend upon support on the State Head Quarter level Management Unit (MEMU).

3.13 The functions of the technical services of the Equipment Maintenance Unit at the District hospital level would be effectively used in

- a. Studying the equipment needs;
- b. Selection of equipment based on technical evaluation;
- c. Preparation of sites and basic utilities;
- d. Installation, commissioning and acceptance;
- e. Preventive maintenance, wherever required;
- f. Training of users; and
- g. Maintaining records for administration and management purposes.

3.14 At the stage of setting up of the Unit, an inventory may be taken of all medical equipment and instrumentation throughout the system. The list thus obtained will become the basis to determine the requirements of services.

3.15 It is not possible to provide absolute guidelines about location and size of repair and maintenance facilities because local conditions will dictate variation in general.

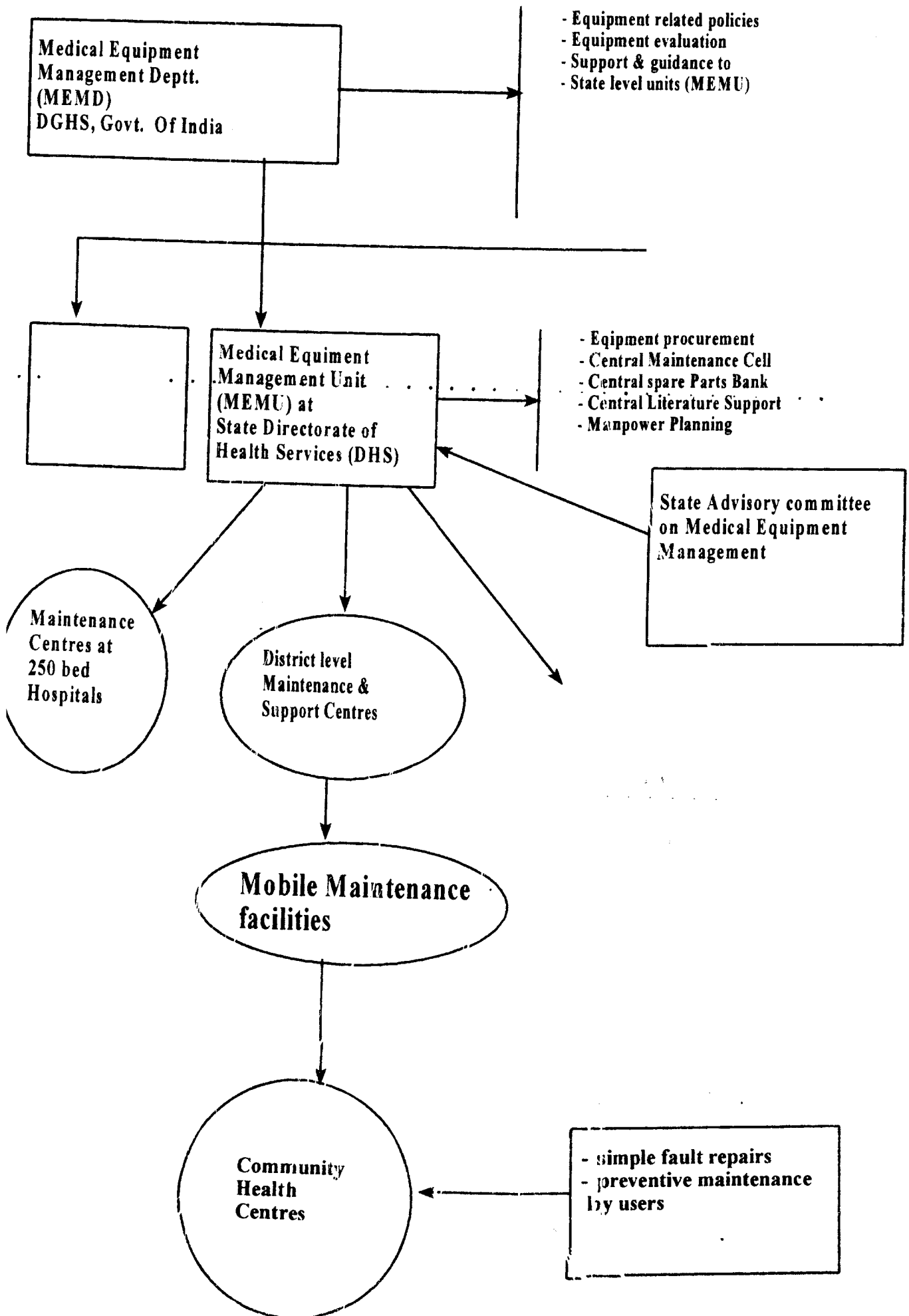
(i) There should be a repair and maintenance facility at the state level which should serve as top facility in terms of qualified and competent staff, specialised test equipment and workshop facilities, a store house of general purpose and special spare parts, technical information centre for medical equipment with up-to-date library and documentation facilities, etc.,

(ii) Regional repair and maintenance centres covering a radius of 100 km, and

(iii) All health facilities with 250 beds or more may have in house maintenance department for most commonly used equipment. These facilities can serve similar facilities within the same city or outside the city.

3.16 The repair and maintenance facility should not be at a distance of more than 50 km from any health centre. If distances are longer, there is likely to be operational difficulties.

SUGGESTED MEDICAL EQUIPMENT MANAGEMENT SYSTEM



CHAPTER - IV

REQUIREMENT FOR SUPPORTIVE & DIAGNOSTIC REHABILITATIVE SERVICES AT PRIMARY, SECONDARY AND TERTIARY CARE

COMPONENTS OF REHABILITATIVE HEALTH CARE SERVICES

4.1 For the development of comprehensive health care services the following components of rehabilitative care are not only important but essential and has to be included during the Ninth Plan.

- (i) Disability diagnosis and disability classification services.
- (ii) Supportive, investigative services for disability diagnosis.
- (iii) Supportive rehabilitative medicine & surgery services for disability management.
- (iv) Supportive rehabilitative aids & appliances services for functional restoration.
- (v) Supportive linkages services for education, social & vocational needs of disabled person at all the levels.

CLASSIFICATION OF CONSUMERS OF SUCH SERVICES

4.2 People with disabilities are either born with impairment or acquired it in life. They may have:-

- (i) Disability of movement.
 - (ii) Disability of vision.
 - (iii) Disability of speech & hearing.
 - (iv) Disability of learning.
 - (v) Disability due to behavioral problems.
 - (vi) Disability due to fits and other neuromuscular diseases.
 - (vii) Multiple disabilities.
- Etc.

PREVALENCE

4.3 The 46th & 47th round of National Sample Survey was conducted during the second half of 1991, reflects following all India figures:-

- (i) Prevalence of physically disabled persons - 16.15 million (1.9%)
- (ii) Rural/urban ratio - 3:1
- (iii) Only 0.1% increase in disability rate percentage in 10 years (comparison with NSSO report 1981)
- (iv) There is no coverage of mild disability in NSSO report as the same is difficult to detect. Estimated number of mild disability is about 27 million. Thus the total disability amounts to about 5% of the total population i.e. 43-45 million.

HEALTH CARE NEEDS OF DISABLED POPULATION

4.4 After prolonged field trial in the community, following main twenty expressed health care needs of persons with disability are short listed:-

- (i) Feeds himself or herself
- (ii) Keeps himself or herself clean
- (iii) Uses of toilet
- (iv) Dress and undress
- (v) Understands simple instructions
- (vi) Expresses needs
- (vii) Understands movements and signs for communication
- (viii) Uses movements and signs for communication which others understand
- (ix) Lip reads
- (x) Speak
- (xi) Sit
- (xii) Stand
- (xiii) Moves inside the home
- (xiv) Moves around the village
- (xv) Walks atleast ten steps
- (xvi) Cure for aches and pains in the back or the joints
- (xvii) Breast feeds and grows like other babies
- (xviii) Plays like other children of the same age
- (xix) Joins in family activities
- (xx) Does household activities

PRESENT GOVT. ACTIVITIES FOR THESE NEEDS

4.5 To plan, execute and monitor the modalities for satisfying these needs is a gigantic task. Govt. of India, Ministry of Health & F.W. realised at the 4th and 5th meeting of Central Council of Health declared that the health care needs of handicapped persons should be taken care of in the existing model of health delivery system. Subsequently during the 6th Plan "NATIONAL SCHEME OF MEDICAL REHABILITATION" was launched with objective of :

- (i) Restrengthening the existing tertiary level rehabilitation service.
- (ii) Training the manpower for rehabilitation service.
- (iii) Starting rural rehabilitation programme.
- (iv) Developing a model complex for service cum teaching and training.

4.6 The scheme continued in 6th and 7th Plan but was suspended in the 8th Plan without taking any decision in the Meeting of CCH&FW. However, medical rehabilitation project was started in September, 1995 with a target of covering 5 districts in 5 different states of the country. It is high time that the national scheme of medical rehabilitation project should be united, intensified and gradually developed into a "National Programme of Medical Rehabilitation" under MOH&FW.

PROPOSED STRATEGY FOR IX PLAN

4.7 The realistic strategy for the 9th Five Year Plan is to selectively develop vertical structure from sub-centre to the district level as Pilot projects and thereafter integrate it in the existing primary health care system. Since the needs of persons with disability are multi- sectoral, therefore, the strategy should be Inter-Sectoral having close linkages with education, welfare, labour and rural development.

THE MINIMUM ESSENTIAL TARGET FOR 9TH FIVE YEAR PLAN

4.8 The following minimum essential targets are suggested for implementation during Ninth Plan.:

- (i) To develop Department of Physical Medicine & Rehabilitation (PMR) in 25 Medical Colleges and teaching institutions. Those Medical Colleges where there is some nucleus of Physical Medicine & Rehabilitation in form of artificial limbs and appliances workshop, physiotherapy etc. should be preferred.
- (ii) To start teaching & training programme in PMR.
- (iii) Each Physical Medicine & Rehabilitation Department to adopt one district in their state for developing physical medicine and rehabilitation service.
- (iv) To train Community Rehabilitation Worker and Multi Rehabilitation Worker in existing training schools/HFWTC.
- (v) To empower Panchayat Swasthya Sewa Sansthan for implementing Community Based Rehabilitation Programme.

IDEAL REQUIREMENT

A. MANPOWER

	S.C	PHC	CHC	Dist.	Med. Coll.
Community Rehab. Worker	1	3	-	-	-
Multi-Rehab. Worker	-	1	2	3	-
Multi-Rehab. Supervisor	-	-	1	1	-
Master Trainer	-	-	-	1	-
Therapist	-	-	-	2	3
Prosthetic Orthotic with Diploma	-	-	-	2	3
Prosthetic Orthotic Engineer	-	-	-	-	1
Phy. Medicine & Rehab. Doctor	-	-	1	2	3

B: EQUIPMENTS & OTHERS

	S.C.	PHC	CHC	Dist.	Medl. Coll
1. Heat Treatment	-	+	+	+	+
2. Exercise	-	+	+	+	+
3. PO Tools	-	+	+	+	+
4. Repair & Kit	+	+	+	+	+
5. Aids & Appliance	-	+	+	+	+
6. Electro-diagnostic equipments	-	-	-	+	+
7. Audiometry Equip.	-	-	-	+	+
8. Therapy equipment	-	-	+	+	+
9. Beds	-	-	-	+	+
10. O.T. Table	-	-	-	+	+
11. O.T. Light	-	-	-	+	+
12. O.T. Instrument	-	-	-	+	+
13. R&D Equipment	-	-	-	+	+
14. Teaching Aids & equipments	-	+	+	+	+
15. Manual/Proforma	+	+	+	+	+

MINIMUM OPERATIONAL REQUIREMENTS

A: MANPOWER

	District	Medl. Coll.	
Community Rehab. Worker	-	-	
Multi-Rehab. Worker	3	-	
Multi-Rehab. Supervisor	1	+	(both needs
Master Trainer	1	+	in service trg.)
Therapist	2	3	
Prosthetic & Orthotic Engineer	-	1	
Physical Medicine & Rehab. Doctor	2	3	

B: EQUIPMENTS

1. SUB-CENTRE:-

Repair Kit	1
Sets of proforma (1, 2, 3, 4)	10
Copy of CBR manual (in local language)	1

2. PRIMARY HEALTH CENTRE:-

Wax Bath	1
Hot pack	1
Exercise Table	1
Repair Kit	1
Appliances	Stick, crutch, wheelchair, walker, splints of POP
Posters	10
Charts	10
Public address system	1
Proforma	30 sets
CBR manual	2 sets

3. COMMUNITY HEALTH CENTRE:-

Wax bath	2
Hot pack	2
Electrical stimulator	1
Static Cycle	1
Medicinal ball	1
Prosthetic kit for lower limb	5
Prosthetic kit for upper limb	5
Caliper for lower limb	5
Spinal Braces	5
SACH Foot	10
Overhead Projector	1
Proforma (1,2,3,4)	30 sets
CBR manual	2 sets

4. DISTRICT HOSPITAL:- (In addition to CHC equipments)

Shortwave diathermy	1
Ultrasonic Traction (cervical lumbar)	1 (Each)
Beds	5
O.T. Table	1
O.T. Light	1
Projector (Slide)	1
CBR manuals	4 sets

5. MEDICAL COLLEGES:-

All equipments of	
Audiometry	1
Beds	30
O.T. Table	2

Manuals	5 sets
Proforma	100 sets

MINIMUM SPACE REQUIREMENT

- | | |
|--------------------|--|
| 1. Sub-Centre | 9 x 9 ft. room for growth stimulation |
| 2. PHC | 12 x 14 ft. room for aids and appliances
12 x 20 ft. room for assessment, counselling, training & intervention
12 x 14 ft. room for minor surgical procedures under local anaesthesia |
| 3. CHC | 12 x 16 ft. room for assessment
12 x 18 ft. room for procedures
12 x 12 ft. room for counselling
12 x 20 ft. room for intervention
12 x 20 ft. room for training
20 x 24 ft. room for aids & appliances
18 x 24 ft. room for O.T.
12 x 12 ft. for staff room
Standard size 15 bedded hall. |
| 4. Medical College | Full fledged Department of Physical Medicine & Rehabilitation as per the norms of Medical Council of India |

EXPECTED ACHIEVEMENT BY THE END OF IX PLAN

1. 50% numerical increase in rehabilitative health care delivery and subsequent health status amongst persons with disability
2. 100% coverage of one district adopted by each Medical College.
3. 100% coverage of city of each Medical College where PMR Department is opened.
4. 100 PMR Specialist production.
5. 400 MRW production.
6. 100 MRS production.
7. 5000 Aids & Appliances.
8. Increased main streaming of persons with disability due to improved health care service and empowerment.

BUDGET REQUIREMENT PER UNIT/YEAR (In lakh)

	Med.Coll.	Dist.	CHC	PHC/SC	Total
Revenue*	20.00	12.00	6.00	3.00	41.00
Capital**	14.00	01.00	0.50	-	15.50
Total	34.00	13.00	6.50	3.00	56.50

* Cover salaries, equipment, maintenance, material & supply, aids and appliances, miscellaneous

** Construction new or addition & alteration

CHAPTER V

LABORATORY, IMAGING, DENTAL, OPHTHALMIC AND OTHER BIOMEDICAL SERVICES INCLUDING STAFF, EQUIPMENTS, INVESTIGATIONS, SPACE-RECOMMENDED AT VARIOUS LEVELS OF HEALTH SERVICES

5.1 Staff Pattern for Laboratory Recommended

	CHC	Sub-Divisional	District Hospital
Pathologist	-	1	3 Pathologist Microbiologist Biochemist
Blood Transfusion Officer (Pathologist)	-	1	2
Senior Lab Technician	1	1	4
Lab Technician	1	3	8
Lab Assistant	1	2	6
Clerk cum Steno	1	1	2

5.2 Staff Pattern Recommended for Radiology

	CHC	Sub-Divisional	District Hospital
Radiologist	-	2	3
Radiographer	1	2	5
Dark Room Assistant	-	1	2
Staff Nurse	-	1	2
Record Keeper/Clerk	-	-	1

5.3 Staff Pattern Recommended for Oral and Dental Health

	CHC	Sub-Divisional	District Hospital
Dental Hygienist	1	1	2
Dental Surgeon	-	1	2
Dental Attendant	-	1	2
Dental Mechanic	-	-	1
Staff Nurse	-	-	2
Dental Radiographer	-	-	1

Hospital Dental Clinics

Pedodontic Specialist	1
Prosthodontic Specialist	1
Periodontic Specialist	1
Oral Surgeon	1
Dental Hygienist	2
Operative and Endodontic Specialist	1
Dental Mechanic	2
Staff Nurses	4
Dental Attendants	5
Dental Radiographer	1

5.4 Various Investigation To Be Carried Out

<u>Sub Centre</u>	Stick test for Hb%, Urine albumin and sugar
<u>Primary Health Centre</u>	Routine Haematology Routine Urine & Stool MP examination AFB (sputum) Blood Sugar
<u>Community Health Centre</u>	Routine Haematology BT, CT Routine Urine and Stool Urine Test for bile pigments Semen Examination Urine for Pregnancy Test & VDRL Sputum examination Biochemical Tests: Sugar, Urea, Creatinine, Cholesterol & Bilirubin Blood parasite, blood grouping & Rh typing
<u>Sub-Divisional Hospital</u>	All the above tests Comp Serology - ASO, CRP, VDRL, HBsAg, RA Factor, WIDAL etc. Biochem - Calcium, Phosphorus, Uric Acid Haemogram Complete Spot test for AIDS
<u>District Hospital</u>	All the above tests Serology - Toxoplasma, Coomb's test, etc. Coagulation studies Biochemistry - Lipid profile, Liver & Renal function test, CPK, CPK-MB, Electrolytes, etc. Culture and Sensitivity Histopathology including FNAC Cytology eg. PAP Smear

5.5 The tertiary care level hospitals should have laboratory facilities consisting of Haematology, Parasitology, Immunology, Bacteriology, Histopathology, Bio-chemistry and Blood transfusion facilities. DNA testing facility should be available at apex institutions only. The facilities that are required to be available in such hospitals are enumerated section-wise as under:

A. Haematology

- (i) Peripheral blood examination such as TLC, DLC, Haemoglobin, ESR, PCV, Platelet count, Reticulocyte count.
- (ii) Normal and abnormal Haemopoiesis.
- (iii) To identify the type of anaemia such as iron deficiency anaemia, Megaloblastic Anaemia, Haemolytic Anaemia etc.
- (iv) To identify Haemoglobinopathies such as sickle cell anaemia, Thalassemia.
- (v) To identify the cell distribution and abnormalities in various diseases through Bone marrow smears like leukaemia and Myelodysplastic syndromes.
- (vi) To identify the Cytochemistry of A.M.L., A.L.L., C.M.L. and C.L.L., besides Myelodysplastic Syndrome.
- (vii) To identify Haemorrhagic Disorders.

B. Urine Analysis: C.S.F. and other body fluids and stool examination

5.6 The laboratory should be equipped to investigate all kinds of urine examination besides evaluation of Renal function test. The facilities should also be available for bacteriological serological and chemical examination of Gastric juice, Gastric function, Histamine, F.T.M., Pericardial, Pleural, Amniotic and Synovial Fluid and sputum examination etc. Facilities should be there to examine Protozoa, Helminthic Ova through stool examination.

C. Parasitology

5.7 Facilities should be available for the examination of Nematodes and Cestodes such as Filaria, Dracunculus Medinensis, Taenia Saginata and Solium, Echinococcus Granulosus, H. Nana besides malaria parasite and leishmania.

D. Immunology

5.8 The laboratory should be equipped to investigate Immunoglobulins, HLA, Immunological reactions, Immuno- Electrophoresis, HBs Ag detection, Agglutination tests, Elisa test.

E. Bacteriology

5.9 Laboratory facilities should be there to identify the bacteria through culture media, various common Bio- chemical methods and special facilities should be there to identify Syphilis, Tetanus, Tuberculosis etc.and Antibiotic sensitivity test.

F. Histopathology & Cytopathology

5.10 The facilities should be there to perform the aspiration cytology and Papanicolaou method for cytologic smears and special techniques and procedures for tissue processing.

G. Bio-Chemistry

5.11 The laboratory facilities should be available to investigate, total blood proteins, Albumin, Globulin, Blood Urea, Serum Uric Acid, common serum enzyme studies. serum transaminase estimation, serum phosphatase estimation, serum amylase estimation, serum lipase estimation, serum bilirubin estimation, serum protein estimation, estimation of blood sugar, estimation of serum cholesterol, lipid profiles, Thyroid profiles, determination of sodium and potassium, serum chloride estimation.

H. Blood Transfusion Service

5.12 Facilities should be available to undertake the compatibility test, coombs test anti coagulant test. Blood grouping, Rh typing and HLA typing etc. Facilities should also be there in the Blood bank to identify various contaminants like Australia antigen, Malaria, Syphilis, AIDS etc.

5.13 Laboratory Equipment Recommended

A.Primary Health Centre

1. Microscope
2. Haemoglobinometer set
3. Haemocytometer set
4. Wintrobe tube with stand for
6 tubes for ESR estimation
5. Stop Watch
6. Test Tubes
7. Glass Slides
8. Cover Slips
9. Centrifuge Machine
10. Pipettes
11. Urine Collection Jar
12. Glass Syringes and needles
13. Portable steam sterilizer
14. Kerosene stove
15. Glucometer

(Furnishing and other Hospital Equipments recommended for PHC/CHC are given in Annexure-IV)

B. Equipments For	Community * Health Centre	Sub-Divisional* Hospital	District* Hospital
Microscope			
Binoc	1	1+1	4+1
Mono	2	3	4+1
Chem. Balance			
Calorimeter			
Centrifuge Haematocrit			
Microtome			
Oven (Wax Embedding)	As		
Tissue Processor	Proposed by respective Institution		
Timer Stop Watch			
Alarm Clock			
Simple Balance			
Flame Photometer			
Spectro Photometer			
Also Electrophoresis			
P h. Meter			
Micro Pipette (set of 3)	1	2	3
Water Bath	1	2	4
Hot Air Oven	1	1	2
Incubators	1	1	2
Distillation Still (Steel)	-	1	2
Centrifuge	2	4	6
Hot Plates	-	1	2
Rotor/Shaker	-	1	2
Counting Chamber	2	4	6
Semi Auto Analyzer	-	1	1
Auto Analyzer	-	-	1
Elisa Reader	-	1	1
Autoclaves	-	1	2
LPG Gas with Burners (Portable)	1	2	4
Disposable			
- Syringes, Needles, Lancets, Aprons(To be made mandatory for all' laboratory personnel at all levels)			

* Training and Refresher Courses * Library * Maintenance Contract
* Computerization of Records and Reports*/Arrangement for Transportation of
Samples* Collection of Reports ** Dictaphones, Fax Machines, Type Writers(For SD
& Dist. Hosp)

5.14 Some specific instruments for CHC level and above

1. Haemoglobinometer complete set.
2. Haemocytometer complete set.
3. Albuminometer (Esbach's with stopper, Steel & case).
4. Electric Calorimeter for Biochemical tests.
5. Spectrophotometer.
6. Photocalorimeter
7. Autochemical analyser (at Distt. Level only).
8. Co-agulometer.
9. Auto blood Analyser with printer (At Distt. Level Only)
10. Elisa reader with accessories and Elisa autowash (At Distt. Level Only)
11. Electrophoresis apparatus with power back.
12. Test tubes for pathological work.
13. Wintrobe tubes with stand for 6 tubes for ESR estimation.
14. Pipettes for haemocytometers - Total R.B.C. and Leucocyte count.
15. Pipettes for haemoglobinometers and for bio-chemical works.
16. Pipettes serological
17. Cover Slip (25mm x 25mm x 0.12mm)(25mm x 25mm x 0.4mm)
18. Culture tube 10 ml. capacity with screw cap.
19. Glass beakers - 50 ml, 250 ml, 100 ml, 500 ml, 1 litres.
20. Glass Volumetric flasks.
21. Glass slides (7.5 cm x 2.5 cm x 1 mm).
22. Centrifuge glass tubes.

23. Inclined Binocular microscope with mirror.
24. Research microscope with built in illumination system Eye piece achromatic objectives 5x10x40 x 100 Abbe condensor.
25. Syringes all glass with all needles of all sizes.
26. Centrifuge AC/DC 200w angle head for 8 tubes with 8 buckets.
27. Laboratory electric ovens to maintain 20° - 200°C temperature.
28. Steriliser steam vertical type.
29. Steriliser steam portable type.
30. Spirit Lamp.
31. Stop Watch.
32. Wire gauze.
33. Sink Unit with side board for washing.
34. Wash basin with liquid soap dispenser and towel rail.
35. McIntosh Anaerobic Jar
36. Electric incubators to maintain temperature at 37°C (30°C - 100°C range)
37. Autoclave (steam, large size) Electric.
38. Electric stainless steel serological waterbath to warm at 37°C.
39. Electric Operated Electronic balance with digital display (single pan).
40. Blood Bank refrigerators for storage of bloods (At Sub-divisional Level).
41. Automatic Red Blood Cell washer.
42. Rh. view box
43. Hand lease
44. Shaker

Tertiary Level

5.15 All instruments provided at District Hospital and as proposed by Tertiary Level

Hospital for establishment of full fledged department of

Haematology	Bacteriology
Histopathology	Microbiology
Biochemistry	Parasitology
Blood Transfusion Services	Immunology

5.16 **Recommendations for Radiological Equipments & Facilities**

Community Health Centre

General Radiography
Basic Radiology System (BRS)
200 MA X-ray Plant
Ultrasound
X-ray viewing box
Developing Tanks (X-ray)
Safelight X-ray Dark Room
Cassettes X-ray
Intensifying Screen
Lead Apron
Lead Protection Screen
Chest Stand X-ray

Sub-Divisional Level

General Radiography
Contrast Studies
Ultra Sound exam
Ultra Sonography
BRS
Portable 20 MA for plain X-ray
300 MA X-ray Plant with two tubes
and Fluroscopy
Ultrasound: Portable, trans abd omlinal,
Linear with 64 grey scale and limited
parameters

District Level Hospital

General Radiography
Contrast Studies
BRS
1000 MA X-ray Plant with image intensifier
and TV Monitor
60 MA X-ray Plant
Ultrasound with vaginal probe
CT Scan

Tertiary Level Hospitals

- Mammography unit
- 2CT scanners
- One mobile I.I.T.V. with Digital Systems
- 2 Ultrasound machines
- 1 Colour Doppler
- Angio & Interventional set up
- 2000 MA with I.I.T.V.
- 1500 MA unit with two work stations
- MRI/PET (FOR APEX INSTITUTIONS)

SUPPORTIVE MEASURES :

MOBILE IMAGING FACILITY

5.17 Mobile facility with a 200 ma machine and a mid or even low level ultrasound. This can provide long awaited imaging services to outlying areas and places where the imaging facilities are not possible.

PACS:

5.18 Non-availability of trained radiologist is making it imperative introduction in India of PACs services and Tele radiography for outlying areas. These services can cater for large areas with minimal trained manpower.

RECOMMENDATION FOR EYE CARE

5.19 **Staffing Pattern for Eye Care**

Community Health Centre - Refractionist/PMOA 1
Existing Medical Officer
(may be given training in Ophthalmology)

Subdivisional Hospital - Refractionist/PMOA 1
Ophthalmologist 1
Staff Nurse 1
Driver 1
Class IV 1

District Hospital - Refractionist/PMOA 2
Ophthalmologist 2
Staff Nurse 2
Driver 1
Class IV 2

(Note : Mobile Eye Care Service may be continued during Ninth Plan)

5.20 **LIST OF EQUIPMENTS FOR CHC**

1. Trial Lens set and frames for children and adults
2. Retinoscope (Mirror)
3. Snellen charts and near vision
4. Tonometer (Schiotz) with manual
5. Dust-tight Ophthalmoscope with battery handle
6. Torch
7. Corneal loupes (uniocular)
8. Binomags
9. Lidretractors (Desmarre)
10. Foreign Body Spud and Needles
11. Lacrimal Cannula and Punctum dilator
12. Bag for carrying equipments.

5.21 **LIST OF EQUIPMENTS FOR SECONDARY LEVEL**

1. Trial Lens Set and frames for children and adults
2. Retinoscopic mirror
3. Snellen charts and near vision charts
4. Tonometer (Schiotz) with manual
5. Dust-tight ophthalmoscope with battern handle
6. Torch
7. Corneal loupes (uniocular)
8. Binomags
9. Lidretractors (Desmarre))
10. Foreign Body Spud and Needles
11. Lacrimal cannula and punctum dilator
12. Lacrimal probe set
13. Slit lamps
14. Gonioscopes
15. Rotatomg test drums
16. Prism bar
17. Ambu emergency kit with oxygen cylinder
18. Power Generator
19. Operating theatre equipments : tables, lights, sterilizers/ autoclaves/surgical trays etc.
20. Cryo-unit using CO² or NO² gas the minimum temperature needed is -40₀C
21. Bag for carrying equipments
22. Surgical set for cataract and glaucoma including microsurgical set for ECCE/IOL
23. Instruments for DCR and squint
24. Instruments for entropion and other lid operations

5.22 LIST OF EQUIPMENTS FOR TERTIARY LEVEL

1. Ophthalmoscopes (Battery operated)
2. Retinoscope Streak (Battery operated)
3. Indirect Ophthalmoscopes
4. Keratometer
5. Lensometer (Focimeter)
6. Tonometer (Goldman)
7. Synoptophores
8. Perimeter Automatic
9. Trial Sets
10. V.A. Drums
11. Binomags
12. Slit Lamps
13. Gonioscopes
14. Operating Microscopes
15. Fundus Camera for Fluorescein Angiography
16. Cryo unit (powered by gases like NO² or CO² (minimum temperature - 40°C and does not contain any reheating capability)
17. Yag Laser
18. Ultrasound - A Scan
19. Irrigation Aspiration Cannula for ECCE
20. Anterior Vitrectomy Unit
21. Extraocular Surgery Set
22. Cataract Glaucoma Operation Set including microsurgical set for ECCE/IOL implantation.
23. Detachment and squint set
24. Keratoplasty Operation Set
25. Ophthalmoplasty and Orbital Surgery Set
26. Refrigerators (Godrej)
27. Audio Visual Equipments

5.23 LIST OF ADDITIONAL EQUIPMENTS FOR APEX INSTITUTES OF OPHTHALMOLOGY

All above equipments plus

1. Microscope (Binocular)
2. Electrophoresis equipment Polyacrylamide-paper electrophoresis
3. Deep Freezer - 70
4. Incubator (37 C)
5. Incubator (25 C)
6. Autoclaves
7. Rotary Microtomes
8. Tripple Headed Microscopes

Services and Equipments for Oral Health

Types of Services at CHC:

5.24 Oral Health Education, Dental Prophylaxis

Types of Services at Subdivisional Hospitals

5.25 Tooth extractions and Tooth restorations with conventional filling materials, Dental Prophylaxis, Oral health education.

Type of services at District Hospital

5.26 Extractions of embedded roots, decayed teeth, RCT of anterior teeth, Apicoectomy, Gingivectomy, Curettage of deep Peridontal sockets, Frenectomy, simple Fracture of Jaws without displacement, Partial and Full Dentures, Oral health education.

Types of services at large Hospitals

5.27 Removal of impacted and embedded teeth, treatment of fracture of Jaws, removal of Dental Cysts and benign tumours of Jaws, Dislocation of TM joint, restoration of teeth with composite material, crown and bridge work fixed dentures, flap operations, Gingivoplasty, Alveoloplasty, treatment of Malocclusion, root canal treatment of posterior teeth, treatment of Trigeminal Neuralgia.

5.28 Types of Equipment Required for Dental Clinics

A. Subdivisional Hospital

Equipment	Nos
Dental Chair	1
Dental Unit	1
Dental X-Ray	1
Autoclave	1
Instrument Sterilizer	1
Ultra Sonic Scaler	1
Air Rotor	1
Glass Bead Sterilizer	1

B. District Hospital Dental Clinic

Equipment	Nos
Chair Mounted Dental Unit	2
Dental Unit	1
Dental Chair	1
Ultra Sonic Scaler	1
Air Rotor	1
Dental X-ray	1
Glass Bead Sterilizer	1
Dental Autoclave	1
Instrument Sterilizer	
Lab Equipment	1Kit

C. Large Hospital Dental Clinic

Equipment	Nos
Chair Mounted Dental Units	5
Dental Units	2
Dental Chairs	2
Panoramic Dental X-ray with Cephalostat	1
Dental X-ray Monitoring System	1
Dental Laser (Low Lever Laser)	1
Dental Prosthetic Laboratory	1
Mobile Dental Clinic Van	1
Dental Autoclave	2
Instrument Sterilizer	2
Glass Bead Sterilizer	2

5.29 OTHER ESSENTIAL EQUIPMENTS REQUIRED FOR PROVIDING MATERNAL AND CHILD HEALTH

AT C.H.C. LEVEL

1. Sphygomanometer for mothers
2. Urine analysis kit (sugar and protein)
3. Hemoglobin kit
4. Scale for maternal height
5. Weighing machines for mother and baby
6. Disposable sterile delivery kit
7. Oral mucus extractor (mucus trap)
8. Resuscitation bag and masks
9. Transport box(thermocool)
10. Resuscitation table/trolley with radiant warmer
11. Foot-operated suction machine
12. Lamp (200 W) stand for use as warmer
13. Infant laryngoscope
14. Endotracheal tube
15. Suction catheter
16. Scalp vein needle (gauge 24, 26)
17. Small Volume IV infusion set
18. Gavage feeding tube
19. Oxygen head box
20. Perspex heat shield
21. Low reading thermometer
22. Otoscope
23. Ophthalmoscope
24. Stethoscope
25. Eye Chart
26. Tonometer
27. Battery EKG
28. Refrigerator 300 Ltrs.
29. Generator 50 KVA
30. Hot Water System (Solar Unit)

AT SUBDIVISIONAL/DISTRICT LEVEL

ALL EQUIPMENTS PROVIDED AT CHC LEVEL AND IN ADDITION THE FOLLOWING

1. Sturdy, sleek baby cot
2. Autoclavable feeding bottles and nipples
3. Low cost disposable napkins
4. Incubator (servo/non-servoe)
5. Open care system (servo/non-servo)
6. Compact resuscitation trolley fitted with overhead warmer, and systems for suction, oxygen delivery and assisted ventilation.
7. Telethermometer
8. Phototherapy unit
9. Apnea/heart rate monitor
10. BP monitor (non-invasive)
11. Compact multi-chamel vital sign monitor
12. Oxygen analyser
13. Infusion pump
14. Provision to administer CPAP
15. Transport incubator
16. Weighing scale (sensitivity 5 g or less)
17. Icterometer
18. Disposable items: umbilical catheters, nasal CPAP cannulae, 26 gauge intravenous catheters, nasogastric tubes, suction, catheters, endotracheal tubes, urine collection bags, umbilical clips, eye patients, etc.
19. Breast Pump
20. Pulse-Oximeter
21. Air-oxygen blender
22. Infantometer
23. Airway pressure gauge
24. Refractometer (urine specific gravity)
25. Transcutaneous/capillary blood bilirubinometer
26. Microcentrifuge
27. C-reactive protein kit
28. Blood gas analyser

Recommendations For Space

5.30 In order to avoid over-crowding, congestion, mechanical accidents as also preventing air-borne infections and free space for movement, the circulation areas such as corridors, entrance hall and stair cases in the hospital buildings should not be less than 1/3rd of the total floor area of the building. The height of all the rooms in the hospital should not be less than ten feet measured at any point from the surfaces of the floor to the lowest point of the ceiling. The minimum head-room such as under the fans and light etc. shall be eight feet measured vertical under fan or light.

5.31 In order to have free flow of air, light, the design of the building shall ensure sufficient openings for admission of air and light and control of noise due to walking, movement of trolleys and banging of doors. The door should be openable on both sides in the operation theater, labour room, injection room, kitchen, while inside at other places.

5.32 Arrangements should also be made to supply potable water 24 hrs per day to meet all the requirements (including laundry) except fire fighting. Storage capacity for two days requirements should also be made on the basis of average consumption per day. Round the clock water-supply should be made available at all places within the hospital. Standby generators should be provided to power requirements for essential and critical areas such as operation theater, labour room, intensive care unit, laboratory and radiology department. However, emergency portable lights unit should also be provided in wards, verandas, reception etc. in case of power failure. The hospital building should be provided with all fire fighting equipments.

5.33 The following Table provides space recommendations for various rooms, wards etc., for the hospital.

RECOMMENDATIONS FOR SPACE

	CHC - 30 Beds		Sub-District Hosp. : 100 Beds		Hospitals with 250 Beds	
	Rooms	Area Sq. feet	Rooms	Area Sq. feet	Rooms	Area Sq. feet
O.P.D.						
1. Entrance Hall (with counters for enquiry, cash & records)	1	30 x 10	1	30 x 20	1	50 x 20
2. OPD Medicine Record Room	1	15 x 10	1	20 x 15	1	30 x 15
3. Lavatories	2	20 x 10	2	20 x 15	4	20 x 15
4. Consultation Rooms: Medical	1	20 x 10	2	20 x 10	4	20 x 10
5. ECG Room			1	10 x 10	2	15 x 10
6. Consultation Rooms: Surgical	1	20 x 10	2	20 x 15	4	20 x 10
7. Treatment & Dressing/ Minor Surgery	1	10 x 10	1	10 x 10	1	15 x 10
8. Consultation Rooms: Gynae. & Obst.	1	20 x 10	2	20 x 10	4	20 x 10
9. Endoscopy Room with Toilets	-			-	1	20 x 10
10. Consultation Rooms: Dental	1	20 x 10	2	20 x 15	3	20 x 10
11. Dental Hygienist	-			-	1	15 x 10
12. Dental Workshop	-		1	20 x 10	1	20 x 10
13. Consultation Room: Paediatric	1	20 x 10	2	20 x 10	4	20 x 10
14. Treatment & Dispensing	-			-	1	15 x 10
15. Immunization	1	15 x 10	1	15 x 10	1	20 x 10
16. Consultation & Examination Eye Clinic	1	10 x 10	2	20 x 10	4	30 x 10

RECOMMENDATIONS FOR SPACE

	CHC - 30 Beds		Sub-District Hosp. : 100 Beds		Hospitals with 250 Beds	
	Rooms	Area Sq. feet	Rooms	Area Sq. feet	Rooms	Area Sq. feet
17. Consultation & Examination: ENT	-		2	20 x 10	3	20 x 10
18. Audiometric Room (sound proof)	-		1	15 x 10	1	15 x 10
19. Consultation Rooms: Orthopaedic Clinic	-		2	20 x 10	3	20 x 10
20. Consultation Rooms: Skin & STD	-		1	20 x 10	2	20 x 10
21. Treatment Room	-		1	20 x 10	2	20 x 10
22. Consultation Rooms: Psychiatry	-		-		1	20 x 10
23. Social Worker	-		1	10 x 10	1	10 x 10
24. Waiting Rooms	2	15 x 10	3	20 x 10	4	30 x 10
25. Central Injection Room	1	10 x 10	1	10 x 10	1	15 x 10
26. Physiotherapy: Hall & Treatment	1	10 x 15	1	10 x 15	1	30 x 20
27. Pathology: Reception, sample collection, waiting area	1	15 x 10	1	30 x 10	1	30 x 15
28. Specimen disposal & Sluice room	1	10 x 10	1	15 x 10	1	15 x 10
29. Laboratory & Autoclave room	1	15 x 10	1	15 x 10	2	20 x 10
30. Pharmacy	1	20 x 10	1	20 x 10	2	20 x 10
31. Pharmacy Store	1	15 x 10	1	30 x 10	2	30 x 15

RECOMMENDATIONS FOR SPACE

	CHC - 30 Beds		Sub-District Hosp. : 100 Beds		Hospitals with 250 Beds	
	Rooms	Area Sq. feet	Rooms	Area Sq. feet	Rooms	Area Sq. feet
Radiology/Radiotherapy						
1. Radiology Reception counter	1	10 x 10	1	10 x 10	1	15 x 10
2. Radiography	1	20 x 10	1	20 x 10	2	20 x 10
3. Film developing&processing	1	10 x 10	1	10 x 10	1	10 x 10
4. Contrast study	-		1	10 x 10	1	10 x 10
5. Store	1	10 x 10	1	10 x 10	1	10 x 10
6. Radiologist Room	-		1	10 x 10	2	10 x 10
7. Technician's Room	1	10 x 10	1	10 x 10	1	10 x 10
8. Trolley Bay	-		1	5 x 10	1	5 x 10
9. Switch Room	-		1	5 x 10	1	5 x 10
10. Janitor's Room	-		1	5 x 10	1	5 x 10
11. Radiotherapy: Cobalt therapy	-				1	40 x 20
12. Radiotherapist's Room	-				1	15 x 10
13. Physicist room with lab	-				1	20 x 15
14. Mould Room	-				1	15 x 10
15. Simulator Room	-				1	30 x 15
16. Treatment Planning System	-				1	10 x 10
17. CT Scan	-				1	20 x 20
18. Ultra Sound Room	-		1	10 x 10	2	10 x 10
19. Pathologists Room	-		1	10 x 10	2	10 x 10
20. Radiologist room	-		2	10 x 10	3	10 x 10

RECOMMENDATIONS FOR SPACE

	CHC - 30 Beds		Sub-District Hosp. : 100 Beds		Hospitals with 250 Beds	
	Rooms	Area Sq. feet	Rooms	Area Sq. feet	Rooms	Area Sq. feet
Labour/OT						
1. Preparation Room with toilet	1	15 x 10	1	15 x 10	2	15 x 10
2. Labour Room: clean	1	25 x 10	1	30 x 10	2	30 x 20
3. Labour Room: septic	-		1	15 x 10	1	20 x 10
4. Labour Room: Eclampsia	-		1	15 x 10	1	15 x 10
5. Baby reception & Resuscitation Area	1	10 x 10	1	10 x 10	2	10 x 10
6. OT major	1	30 x 20	2	40 x 20	3	40 x 20
7. OT minor	1	30 x 10	1	30 x 10	2	30 x 10
8. Changing room with toilet Doctors (M & F)	2	15 x 10	2	15 x 10	2	15 x 10
9. Changing Room with toilet Other Staff (M & F)	2	15 x 10	2	15 x 10	2	15 x 10
10. Sterilization	1	10 x 10	1	10 x 10	2	10 x 10
11. Gas cylinder storage	1	10 x 10	1	10 x 10	1	10 x 10
12. Scrub area	1	10 x 10	1	10 x 10	2	10 x 10
13. Recovery room	1	15 x 10	1	25 x 10	2	30 x 10
14. ICU (2/5 beds)	-		1	30 x 20	1	40 x 20
15. Nursing station	-		1	10 x 10	1	10 x 10
16. Sluice room	-		-	-	1	10 x 10
Wards						
1. Duty Doctor's Room	1	20 x 10	2	20 x 10	4	20 x 10
2. Nurses Station	2	20 x 10	4	20 x 10	8	20 x 10
3. Wards (each with 12 beds and toilet block)	2	70 x 20	8	70 x 20	20	70 x 20
4. Special Ward	2	15 x 10	4	15 x 10	10	15 x 10
5. Treatment Room	4	10 x 10	8	10 x 10	20	10 x 10
6. Ward Store	4	10 x 10	8	10 x 10	20	10 x 10

RECOMMENDATIONS FOR SPACE

	CHC - 30 Beds		Sub-District Hosp. : 100 Beds		Hospitals with 250 Beds	
	Rooms	Area Sq. feet	Rooms	Area Sq. feet	Rooms	Area Sq. feet
Administration	2			20 x 10		
1. Medical Superintendent	-		1	20 x 10	1	20 x 10
2. Nursing Superintendent	-		1	10 x 10	1	10 x 10
3. Administrative Officer	-		1	10 x 10	1	10 x 10
4. Staff	-		2	30 x 20	2	40 x 20
Hospital Services						
Central Sterilization						
1. Washing & cleaning	1	20 x 15	1	20 x 15	2	20 x 15
2. Autoclave	1	15 x 10	1	20 x 10	1	30 x 10
3. Sterile Store	1	15 x 10	1	20 x 10	1	30 x 10
Dietary Service						
1. Cooking Area	1	30 x 10	1	40 x 10	1	40 x 15
2. Store	1	10 x 10	1	10 x 10	1	10 x 10
3. Service Area	1	20 x 10	1	20 x 20	1	40 x 20
Laundry						
1. Dirty clothes receiving	1	10 x 10	1	15 x 10	1	25 x 10
2. Clean clothes storage area	1	10 x 10	1	15 x 10	1	25 x 10
3. General Area	1	20 x 10	1	20 x 20	1	30 x 20
Mortuary						
1. Walk in cooler	-		1	15 x 10	1	15 x 10
2. Post Mortem Area	1	15 x 10	1	20 x 10	1	20 x 15
3. Doctors Office	-		1	20 x 10	1	20 x 10
CASUALTY						
1. Examination & Treatment cubicles	2	10 x 10	4	10 x 10	8	10 x 10
2. X-ray Room with Dark Room	-		1	30 x 10	2	30 x 20
3. Operation Theatre	-		1	30 x 10	2	30 x 20

RECOMMENDATIONS FOR SPACE

	CHC - 30 Beds		Sub-District Hosp. : 100 Beds		Hospitals with 250 Beds	
	Rooms	Area Sq. feet	Rooms	Area Sq. feet	Rooms	Area Sq. feet
4. Instrument Sterilization	-		1	10 x 10	1	10 x 10
5. Scrub up	-		1	10 x 10	1	10 x 10
6. Dirty Wash	-		1	10 x 10	1	10 x 10
7. Resusciation Room	-		1	30 x 20	2	30 x 20
8. Nursing Station with store	-		1	10 x 10	2	10 x 10
9. Nurses Retiring Room	1	10 x 10	1	10 x 10	2	15 x 10
10. Duty Doctors Room	1	10 x 10	1	10 x 10	2	15 x 10
Garages for Ambulances	2		6		8	
General Store (Medical/ Surgical & Misc.)	2		4		6	
Generator Room	1		3		5	
Parking Area (As per requirement)						
Serai for Attendants	1		1		2	
Private rooms for patients	2		5		10	
Canteen	1		1		2	
Medicines Shops	1		1		2	
Maintenance Room for Plumber, Electrician & Carpenter	-		1		2	
Cloak Room	1		1		2	
Library	-		1		1	
Seminar Rooms	-		1		2	
Record rooms	1		2		4	
Maintenance room (Medical equipments - Hospital workshop)	1		1		2	

5.34 ORGANIZATION OF MEDICAL TECHNOLOGY MAINTENANCE SERVICES

Services	Type of Institutions			
	Primary Health Centre	Community Health Centre /Sub Div. Hospital	Urban Hospital	Large Medical Centre
Number of beds	none	30/ 100	250-500	500-1000
Purchase evaluation				x
Incoming inspection			x	x
In-house maintenance and repair service			x	x
Safety inspection			x	x
Emergency repair		x	x	x
Instrument calibration	x	x	x	x
Preventive maintenance	x	x	x	x
Equipment user instruction	x	x	x	x

CHAPTER -VI

RESOURCES REQUIREMENT DURING NINTH PLAN

1. BLOOD TRANSFUSION PROGRAMME

While emphasising the relevance of all the recommendations for early implementation as given in Chapter-II, it may be stated that the shortage of blood, manpower development and promotion of voluntary programme deserve immediate consideration. Thus budgetary requirements in respect of these centres and other institutions which require augmentation is given below:

A.REGIONAL CENTRES (16) @ Rs.16 Crores -256 Crore

1. Delhi 2. Bhopal 3. Lucknow 4. Ahmedabad 5. Patna 6. Bombay
7. Calcutta 8. Hyderabad 9. Guwahati 10. Bangalore 11. Cuttack
12. Trivandrum 13. Nagpur 14. Madras 15. Jaipur 16. Chandigarh

B.MANPOWER DEVELOPMENT (11) @ Rs.5 Crores -55 Crore

1. Chandigarh 2. Bombay 3. Delhi 4. Hyderabad 5. Lucknow
6. Bangalore 7. Calcutta 8. Trivandrum 9. Jaipur 10. Madras 11. Poona

C.DEVELOPMENT OF VOL. PROGRAMME (1) @ Rs.10 Crore - 10 Crore

D.MEDICAL COLLEGES WITH OVER 1000 BEDS (30) @ R's.1 Crore - 30 Crore

E.MEDICAL COLLEGES WITH OVER 500 BEDS (60) @ Rs.50 Lakhs - 30 Crore

F.DISTT. HOSPITALS OVER 100 BEDS (100) @ Rs.20 Lakhs - 20 Crore

TOTAL

Rs. 401 Crore

(Rupees Four hundred and one Crore only)

2. IMAGING EQUIPMENTS

A. Community health centre

<i>Equipment</i>	<i>Cost</i> (Rs in Lakhs)
Basic radiology systems	4
Ultrasound	5
Maintenance corpus	2
Others	1

Total	12

Equipments @ Rs.12 lakhs x 5000 = Rs.600.00 crore

B. Sub-Divisional Hospitals :

Equipment @ Rs.20 lakhs x 200 =Rs. 40.00 crore

Recurring Assistance @ Rs.1.50 lakh per annum x 200 = Rs. 7.50 crore

No. Of Sub-divisional hospitals to be upgraded during the Ninth Plan = 200

C. District Hospital:

<i>Equipment</i>	<i>Cost (Rs.in lakhs)</i>
1000 ma machine	35
CT Scan	90
Ultrasound	8
Additional basic Radiology systems	5
Maintenance corpus	5
Others	7

	150

Equipment @ Rs.150 lakhs x 150 = Rs.225.00 crore

Recurring assistance @ Rs.3.50 lakhs per annum x 150 = Rs. 131.25 crore

No. Of District Hospitals to be upgraded during the Ninth Plan = 150

**D. Tertiary level hospital (1000 beds)
and Medical College**

<i>Equipment</i>	<i>Cost (Rs.in lakhs)</i>
2 CT Scan	250
One mobile I.I.T.V. with Digital systems	100
2 Ultrasound Machines	20
1 Colour Doppler	50
1 Angio and Interventional Set up	200
2000 MA with I.I.T.V.	70
1500 MA unit with two Work stations	10
Corpus for maintenance	100
Others	50
Total	850

Equipments @ Rs.850 lakhs x 30

= Rs. 255 crore

No. Of Medical colleges to be upgraded during Ninth Plan = 30

Grand Total

=Rs.1258.75 Crore

3. OPHTHALMIC CARE

A. PHC/CHC

Equipments @ Rs.20,000 x 5000CHC = Rs.10.00 crore
Recurring assistance @ Rs.48,000/= per annum x 5000CHC = Rs.60.00 crore

B. District Mobile Unit :

Equipments @ Rs.1.75 lakhs x 150 = Rs.26.25 crore
Recurring assistance @ Rs.3.5 lakhs per annum x 150 = Rs.131.25 crore
No. of District Mobile Units to be created during Ninth Plan = 150

C. District Hospitals :

Equipments @ Rs.2 lakhs x 80 = Rs. 1.60 crore
Recurring assistance @ Rs.1.44 lakh per annum x 80 = Rs. 2.88 crore
No. of District Hospital to be upgraded during Ninth Plan = 80

D. Equipment for Medical Colleges :

Equipments @ Rs.20 lakhs x 30 = Rs. 6.00 crore
No. of Medical Colleges to be upgraded during Ninth Plan = 30

E. Regional Institutes of Ophthalmology :

Equipments @ Rs.50 lakhs x 3 = Rs. 1.50 crore
Recurring assistance @ Rs.5.76 lakhs per annum x 3 = Rs. 0.86 crore
No. of Regional Institute of Ophthalmology to be assisted during Ninth Plan = 3

Grand Total = **Rs.240.34 crore.**

4. LABORATORY SERVICES

Estimation of Recurring Cost for various tests

Sub Centre - Population, 5000

<i>Type of Tests</i>	<i>Annual Demand</i>	<i>Cost per Test</i>	<i>Total Cost (Rs)</i>
Hb% Urine alb. sugar	300	10	3000

Primary Health Centre - Population 30,000

Urine bile pigments	65	7	455
Urine gravindex	75	50	3750
Stool examination for occult blood	50	15	750
Haemoglobin	1500	8	12,000

Community Health Centre Pop. - 100,000

Blood glucose	15000	10	150,000
Blood creatinine	5000	20	100,000
Blood urea	5000	15	75,000
Liver function tests			
Bilirubin	250	20	5,000
SGPT, Alk. Phos.	150	40	6,000
Cholesterol	5000	20	100,000
Lipid profile	2000	75	150,000
Serum electrolytes	100	60	6,000
Spot test for HBSAg	1000	60	60,000

Estimation of Cost of Equipments

EQUIPMENT	COST PER UNITS (Rs in Thousand)
1. Microscope	6
2. Haemoglobinometer set	1
3. Glucometer	8
4. Microscope Binoc	20
5. Chem. Balance	12
6. Calorimeter	25
7. Centrifuge Haematocrit	8
8. Microtome	20
9. Oven (Wax Embedding)	8
10. Tissue Processor	120
11. Timer Stop Watch	1
12. Alarm Clock	4
13. Simple Balance	12
14. Flame Photometer	30
15. Spectro Photometer	60
16. Electrophoresis	100
17. P h. Meter	15
18. Micro Pipettee (set of 3)	4
19. Water Bath	3
20. Hot Air Oven	8
21. incubators	350
22. Distillation Still (Steel)	30
23. Centrifuge	10
24. Hot Plates	4
25. Rotor/Shaker	8
26. Counting Chamber	1
27. Semi Auto Analyzer	1500
28. Auto Analyzer	500
29. Autoclaves	50

A. Sub Centres

Recurring cost @ Rs.3000/- per annum x 134490 = Rs. 403.47crore

B. Primary Health Centres

Equipments @ Rs.17000/ per annum x 22455 = Rs. 381.74 crore

Recurring cost @ Rs.50000/ per annum x 22455 = Rs. 2706.86 crore

C. Community Health Centres

Equipments @ 5 lakhs x 5607 = Rs. 280.35 crore

Recurring cost @ 15 lakhs per annum x 5607 = Rs. 2102.60 crore

D. Sub Divisional Hospitals

Equipments @ 15 lakhs x 450 = Rs. 67.50 crore

Recurring cost @ 30 lakhs per annum x 450 = Rs. 337.50 crore

No. of Sub Divisional Hospital Laboratory to be upgraded during the Ninth Plan =450

E. District Hospitals

Equipments @ 50 lakhs x 450 = Rs. 225.00 crore

Recurring cost @ 50 lakhs per annum x 450 = Rs. 562.00 crore

No. of District Hospital Laboratory to be upgraded during the Ninth Plan = 450

F. Large Hospitals

Equipments @ 1 crore x 50 = Rs. 50.00 crore

No. of Large Hospital Laboratory to be upgraded during the Ninth Plan =50

Grand Total = Rs. 7117.52 crore

5. DENTAL CARE

Sl No.	Equipment	Unit Cost Price (Rs. Lakhs)
1.	Dental X-Ray	1.50
2.	Dental unit	0.30
3.	Dental Chair	0.30
4.	Dental Lab (Both motor Lathe)	0.60
5.	Dental kit	0.10

A. Dental Mobile Units

Equipments @ Rs.1.75 lakhs x 150 = Rs. 26.25 crore
Recurring assistance @ Rs.3.5 lakhs per annum x 150 = Rs. 131.25 crore
No. of Dental Mobile Units to be upgraded during the Ninth Plan = 150

B. Sub-Divisional Hospitals:

Equipments @ Rs.2 lakhs x 200 = Rs. 4.00 crore
Recurring assistance @ Rs.0.50 lakhs per annum x 200 = Rs. 2.50 crore
No. of Sub Divisional Hospital to be upgraded during the Ninth Plan = 80

C. District Hospital:

Equipments @ Rs5 lakhs x 450 = Rs. 22.50 crore
Recurring assistance @ Rs5 lakhs per annum x 450 = Rs. 56.75 crore
No. of District Hospitalss to be upgraded during the Ninth Plan = 450

D. Large Hospital:

Equipments @ Rs.50 lakhs x 50 = Rs. 25.00 crore
Recurring assistance @ Rs.6.00 lakhs per annum x 50 = Rs. 71.50 crore
No. of Large Hospitals to be upgraded during the Ninth Plan = 50

Grand Total = Rs.275.75 crore.

6. RURAL & URBAN PRIMARY HEALTH CARE INFRASTRUCTURE

	No. REQUIRED 1991 (CENSUS)	NO IN POSITION PROPOSED	ADDITIONAL UNITS	RECURRING AND NONRECURRING EXPENDITURE	SALARY (ADDITIONAL STAFF)	EQUIPMENT & FURNISHING (ONE TIME)	TOTAL COST (Rs in Lakh)
Sub-centre	134105	132285	1820	33526.3 (@ Rs. 25,000)	50289.4 (@Rs. 30000)	6705.25 (@ Rs 5000)	90520.95
PHCs	22346	21802	544	14688 (@ Rs. 27 lakh)	268709 (@ Rs. 16.5 lakh)	37988.2 (@ Rs., 1.70 lakh)	321385.2
CHCs	5591	2401	3190	169070 (@ Rs. 53 lakh)	75478.5 (@ Rs. 13.5 lakh)	223640 (@ Rs. 40 lakh)	468188.5
TOTAL				217284.3	394476.9	268333.45	880094.65

FOR THE DEVELOPMENT OF URBAN HEALTH CENTRES 1/4TH OF THE COST
OF PHC'S IS RECOMMENDED (Rs. in lakh)

80346.3

GRAND TOTAL (in Lakh)

960441

Annexure-I

No.2(5)/8/95-H&FW
Government of India
Planning Commission
(Health & Family Welfare Division)

Yojana Bhavan,
Parliament Street,
New Delhi - 110 001.
Dated 12th Feb. 1996.

ORDER

Subject: Constitution of the Working Group on Requirements for Supportive & Diagnostic Service at Primary, Secondary and Tertiary Care.

In the context of the formulation of Ninth Five Year Plan (1997-2002) it has been decided to set up a Working Group on Requirements for Supportive & Diagnostic Service at Primary, Secondary and Tertiary Care.

I. The composition of the Working Group will be as follows:-

1. Dr. A.K. Mukherjee, Chairman*
Director General,
Directorate General of Health Services,
Nirman Bhavan, New Delhi.
2. Adviser(Health), Member
Planning Commission,
Yojana Bhavan, New Delhi.
3. Dr. R.S. Khandpur, Do
Director,
Centre for Electronic Design and Technology,
Chandigarh.
4. Dr. Vijaya Kumar, Do
Biomedical Engineering Division,
Sree Chitra Tirunal Institute for Medical
Sciences & Technology,
Trivandrum - 696 011.

- | | |
|--|--------------------|
| 5. Director Health Services,
Govt. of Karnataka, Bangalore. | Member |
| 6. Director Health Services,
Govt. of West Bengal, Calcutta. | Do |
| 7. Secretary, Health,
Govt. of Tamil Nadu, Madas. | Do |
| 8. Dr. K.B. Sharma(Microbiology),
B-7, Swasthya Vihar, New Delhi. | Do |
| 9. Dr. J.G. Jolly (Blood Banking),
Sector-10A, Chandigarh. | Do |
| 10. Dr. M.S. Bamji (Biochemistry),
Emeritus Scientist,
National Institute of Nutrition, Hyderabad. | Do |
| 11. Dr. M.S. Joshi,
(Radiology & imaging technology),
President, Indian Radiology and Imaging Society,
Hon. Prof. of Radiology, LTM Medical College,
809, Harjivanndas Estate, 1st Floor,
Dr. Ambedkar Road, Dadar, Bombay. | Do |
| 12. Dr. Sudars'nan Kumar Agarwal,
(Radio-diagnosis & imaging technology),
Treasurer National Academy of Medical Sciences,
10.B, Kasturba Gandhi Marg, New Delhi. | Do |
| 13. DDG (Planning)
Bureau of Planning, DGHS,
Ministry of Health & Family Welfare,
Nirman Bhavan, New Delhi. | Member-Secretary** |

* Dr. N.Bihari, DG,DGHS acted as Chairman of the W.G. in his capacity as DG,DGHS.

** Dr. Dinesh Paul was appointed as Member-Secretary of W.G. vide Planning Commission's order No.2(5)/8/95-H&FW dated 19th March 96.

TERMS OF REFERENCE

1. To develop the norms for clinical and diagnostic services to be provided at primary, secondary and tertiary levels of health care institutions i.e. sub-centre, PHC, CHC, sub divisional hospitals, district hospitals, State level hospitals and medical college hospitals/specialised institutions. The Working Group will also consider the requirement of staff, space instruments, furnishing and other materials as may be necessary.

2. To review the present manpower position and project requirement/training needs for development of these services and efficiently manning and maintaining the equipment at various facilities during the 9th Five Year Plan.

3. To project financial/physical requirements for implementation of these programmes during the 9th Five Year Plan.

III. The expenditure of the members on TA/DA in connection with the meeting of the Working Group will be borne by the Parent-department/Ministry/Organisation. The expenditure, if any, in respect of non-official members will be borne by Department of Health, Ministry of Health & Family Welfare as per the rules and regulations of TA/DA applicable to Grade-I officers of Govt. of India.

IV. The group may submit its report by 30th April, 1996.

(Gurjot Kaur)
Director (Administration)

Copy forwarded to the Chairman and the Members of the Working Group, Secretary Health, Secretary Family Welfare, Secretary ISM&H.

Copy also forwarded to :

1. PS to Deputy Chairman, Planning Commission.
2. PS to Minister of State for Planning & Programme Implementation.
3. PSs to all the Members of the Planning Commission.
4. PPS to Member-Secretary, Planning Commission.
5. PS to Special Secretary, Planning Commission.
6. All Advisers/Heads of the Divisions, Planning Commission.
7. Pay and Accounts Officer, Planning Commission.
8. Under Secretary (Admn. I, II, III, IV & V).
9. Information Officer, Planning Commission.
10. Library, Planning Commission.

(Gurjot Kaur)
Director (Administration)

LIST OF SPECIAL INVITEES

1. Dr. K.B. Logani,
DDG(M), DGHS, Nirman Bhavan,
New Delhi.
2. Dr. R.S. Gulati,
DDG(RHS), DGHS, Nirman Bhavan,
New Delhi.
3. Dr. (Mrs.) R. Jose,
DDG(Ophthalmology),
Nirman Bhavan, New Delhi
4. Dr. R.K. Srivastava,
Consultant & Head (Rehabilitation Department),
Safdarjang Hospital, New Delhi.
5. Dr. (Mrs.) G. Sharma,
ADG (Planning), DGHS, Nirman Bhavan,
New Delhi.
6. Shri K.K. Lamba,
Senior Research Officer (Health), Planning Commission.

Annexure-III

No.2(5)/8/95-H&FW
Government of India
Planning Commission
(Health & Family Welfare Division)

Yojana Bhavan,
Parliament Street,
New Delhi- 110001.
Dated the 19th March, 1996.

ORDER

Subject: Constitution of the Working Group on Requirements for Supportive & Diagnostic Service at Primary, Secondary and Tertiary Care.

In continuation of the Planning Commission's O.M. of even number dated 12th February, 1996 on the subject mentioned above, it has been decided that Dr. Dinesh Paul, Deputy Adviser (Health), Planning Commission will act as a Member-Secretary of the aforesaid Committee in place of DDG (Planning), Bureau of Planning, DGHS, Ministry of Health & Family Welfare.

The terms of reference of the Committee indicated in the Planning Commission's O.M. of even number dated 12th February, 1996 remain unchanged.

(Gurjot Kaur)
Director (Administration)

Copy forwarded to the Chairman and the Member of the Working Group, Secretary Health, Family Welfare & ISM&H.

Copy also forwarded to:

1. PS to Deputy Chairman, Planning Commission.
2. PS to Minister of State for Planning & Programme Implementation.
3. PS to all the Members of the Planning Commission.
4. PPS to Member-Secretary, Planning Commission.
5. PS to Special Secretary, Planning Commission.
6. All Advisers/Heads of the Division, Planning Commission.
7. Pay and Accounts Officer, Planning Commission.
8. Under Secretary (Admn. I, II, III, IV & V)
9. Information Officer, Planning Commission.
10. Library, Planning Commission.

(Gurjot Kaur)
Director (Administration)

Annexure - IV

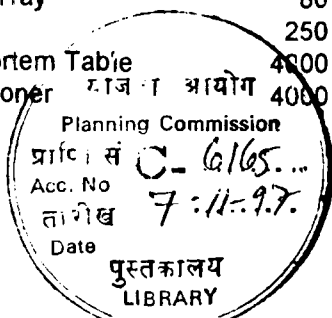
Furnishing and other Hospital Equipments

S.No.	Furnishing	Cost per unit Rs.	Nos.	PHC Cost (Rs.)	Nos.	CHC Cost (Rs.)
1.	Examination Table	1400	1	1400	5	7000
2.	Labour Table	7000	1	7000	3	21000
3.	Foot Step	600	1	600	5	3000
4.	Bed Side Screen	500	1	500	10	5000
5.	Revolving Stool	250	1	250	6	1500
6.	Arm Rest	200	4	800	20	4000
7.	Saline Stand	850	4	3400	10	8500
8.	Wheel Chair	1500	0	0	2	3000
9.	Emergency Trolley	5500	1	5500	1	5500
10.	Stretcher on Trolley	2900	1	2900	2	5800
11.	Oxygen Cylinder Trolley	300	1	300	3	900
12.	Height Measuring Stand	600	1	600	1	600
13.	Fowler's Bed	10000	0	0	2	20000
14.	Iron Cot	2000	6	12000	40	80000
15.	Baby Cot	2500	2	5000	4	10000
16.	Bed side Locker	2500	6	15000	40	100000
17.	Dressing Trolley	1650	1	1650	2	3300
18.	Mayo's Trolley	900	1	900	1	900
19.	Instrument Cabinet	7000	1	7000	3	21000
20.	Instrument Trolley	3000	1	3000	3	9000
21.	Linen Trolley	2000	1	2000	2	4000
22.	Kick Bucket	550	2	1100	4	2200
23.	Attendant Stool	500	6	3000	40	20000
24.	Traction System	500	0	0	1	500
25.	Wash Basin	400	4	1600	10	4000
26.	Instrument Tray	500	2	1000	4	2000
	Chair (PVC)	1250	8	10000	20	25000
28.	Table (PVC)	3000	5	15000	10	30000
29.	Steel Cupboard	4500	2	9000	6	27000
30.	Swab Rack (OT)	800	1	800	1	800
31.	Mattress	2500	6	15000	40	100000
32.	Pillow	100	6	600	40	4000
33.	Berich	2500	4	10000	10	25000
34.	Cheatele Forceps	500	4	2000	10	5000
35.	Patella Hammer	100	1	100	2	200
36.	Tongue Depressor	30	2	60	6	180
37.	Oxygen Mask	130	1	130	2	260
38.	Terch Light	50	6	300	6	300
39.	Medicine Cabinet	4000	2	8000	3	12000
40.	Side Rail	300	4	1200	8	2400
41.	Bucket (Galv.)	120	2	240	4	480
42.	Bed pan & Urinal	150	4	600	10	1500
43.	Bowl	100	6	600	24	2400
44.	Kidney Tray	80	4	320	8	640
45.	Rack	250	3	750	6	1500
46.	Post Mortem Table	4000	0	0	1	4000
47.	Blood Doner	4000	0	0	1	4000

Total

151200

589,150



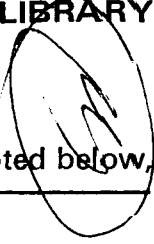
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