



GOVERNMENT OF GUJARAT

**REPORT
OF THE
GUJARAT COMMITTEE
ON
HEALTH
ADMINISTRATION**

1975

5-2318-N7t

L:5.2318.N7t
L6
170668

[Price: Rs. 4-30 Ps.



GOVERNMENT OF GUJARAT

REPORT
OF THE
GUJARAT COMMITTEE
ON
HEALTH
ADMINISTRATION
1975

[Price: Rs. 4-30 Ps.]



Dhananjay Library



GIPE-PUNE

Camp :

New Delhi

29th October, 1975.

F n

Lt. Gen. S. N. Chatterjee (Retd.),
Chairman,
Gujarat Committee on Health Administration.

T

The Minister of Health and Family Planning,
Government of Gujarat,
Gandhinagar.

Madam,

I have great pleasure in forwarding herewith the unanimous report of the Committee on Health Administration, constituted under G. R. No. MCG. 2574/686/N dated 30-1-1975.

Yours faithfully,

(Sd.) S. N. CHATTERJEE.

TABLE OF CONTENTS

	Page No.
1. Introduction.	1
2. The Land and the People.	3
3. Health Services—A Review.	
A. Evolution of Health Services in India - Landmarks.	9
B. Health Services in Gujarat - In Retrospect.	10
4. Health Services Organisation in Gujarat - An Overview.	18
5. Future Pattern of Health Care - A Broad Approach.	24
6. Envisaged Organisation of Health Services - State Level.	32
7. Envisaged Pattern of Organisation of Peripheral Services.	39
8. Medical College Hospitals and Health Care.	52
9. Specialised Hospitals and Services.	62
10. Medical Cadres - Personnel Management.	68
11. Nursing Services.	78
12. Para - Medical Services...	81
13. Out Patient Department.	84
14. Laboratory and Radiological Services.	87
15. Accident and Emergency Services...	89
16. Ancillary Services.	92
17. Medical Education and Research.	
A. Undergraduate Medical Education.	99
B. Postgraduate Medical Education.	101
C. Medical Research.	105
18. Materials Management.	107
19. Health Statistics and Data Processing.	113
20. Acknowledgements.	116

APPENDICES

I.	The Government Resolution appointing the Committee...	..	..	119
II.	The Committee's Questionnaire. ..	..	..	121
III.	List of Institutions visited by the Committee. ..	..	..	123
IV.	Summary of the recommendations of the Health Survey and Development Committee.			124
V.	Summary of the recommendations of the Health Survey and Planning Committee.			125
VI.	Summary of the recommendations of the Study Group on Hospitals. ..			126
VII.	Summary of the recommendations of the Committee on Multipurpose Workers under Health and Family Planning Programmes. ..	..	..	133
VIII.	Summary of the recommendations of the Group on Medical Education and Support Manpower. ..	..	..	135
IX.	Summary of Recommendations. ..	..	..	137

1. INTRODUCTION

The Government of Gujarat constituted a Committee to go into the question of a complete overhaul of the Hospital Administration in the State, as also the restructuring of the State Directorate of Health Services, under the chairmanship of Lt. Gen. S. N. Chatterjee (Retd.) with the following others, as members;

Dr. P. N. Wahi

Dr. M. J. Bhatt

Shri V. Krishnamurthy

Shri Krishnamurthy was designated as the Member-Secretary of the Committee.

1.1 *Terms of Reference.*—The terms of reference of the Committee were as under :

(i) To study the existing structure and functioning of hospital administration and hospital services in the Teaching and Non-Teaching Hospitals in the State and to suggest ways and means of streamlining the same so that the hospitals in the State can render effective and efficient service in the cause of the public;

(ii) To examine the present set up of the Directorate of Health Services — both Medical and Public Health wings and to indicate suitable steps for reorganisation and rationalisation of its structure and working, in order to ensure its effective and dynamic functioning, at the helm of Health and Medical Services in the State;

(iii) To prescribe suitable principles for recruitment, training and placement of personnel with a view to ensure optimum utilisation of available manpower resources;

(iv) To suggest ways and means of making the medical services in the State need-based and rural oriented, especially with reference to the minimum needs programme of the State;

(v) To advise the Government on the question of priorities to be adopted in regard to the creation and extension of hospital services (Diagnostic and Therapeutic) especially in specialised fields such as T.B., Cancer, Diabetes, Heart Diseases, Ophthalmic Services, etc.;

(vi) To advise Government on the scope and methods for integration of medical research on

health problems of special interest to the State with creation/expansion of field services to ensure perfect complementarity;

(vii) To advise the Government on the structure and organisation of para-medical services in the hospitals so that they are able to fulfil on their appointed role in the scheme of providing medical relief;

(viii) To review the current procedures of purchase of medicines, equipments, instruments and supplies for the hospitals and dispensaries as also for the maintenance of vital equipment and instruments, with a view to suggest improvements in the same to ensure better management of hospital inventories, consistent with considerations of efficiency and economy;

(ix) To examine the scope for the application of electronic data processing in hospital administration and allied spheres.

The Government Resolution appointing the Committee and laying down its terms of reference is placed at Appendix I.

1.2 *Procedure and Methods.*—In order to provide the necessary background information to the Committee, the Health Department of the Gujarat Government had addressed all other State Governments, seeking information on the organisation, institutions and working arrangements of the health delivery system in their states and other matters germane to the Committee's enquiry. Regrettably, the response from most of the State Governments was not heartening and in spite of repeated attempts, the information sought for, did not become available to the Committee, till the time of the finalisation of the report. Only the State Governments of Madhya Pradesh, Haryana and Bihar and the Directorate of Health Services of Maharashtra had furnished the information solicited from them.

The Committee met for the first time on the 17th February, 1975 at the Gujarat Bhavan, New Delhi. Later meetings of the Committee at Delhi, were held at the same venue. As a preliminary step towards the understanding of the existing structure of health services in the State, the Committee prepared a questionnaire for eliciting information from the State Directorate of Health Services. On the basis of the information received, the Committee prepared another

questionnaire — (Appendix II) — for wider circulation, to invite the views and opinions of medical educationists, administrators and others connected with the processes of health administration, on the various issues falling within the ambit of the Committee's enquiry. The questionnaire was printed and distributed to all the medical colleges, district health officials, professional associations, prominent public men, senior government officials and others, interested in the sphere of medical and public health services. In response to the questionnaire the Committee received well over 200 detailed replies.

In order to understand the existing organisational arrangements that sustain the health services complex of the Government of Maharashtra, whose experiences are of special relevance to the State of Gujarat, the Member-Secretary visited Bombay and had detailed discussions with the Director of Health Services and the Director of Medical Education and Research of the Government of Maharashtra. He also had occasion to visit the Jaslok Hospital and had very informative discussion with Dr. S. J. Mehta, the Medical Director. The Chairman during private visits to Calcutta and Lucknow had the benefit of informal exchange of views with several leading medical administrators and specialists at these centres. With this background, the Committee toured the State on 3 different occasions and visited several medical institutions and interviewed the delegates of 35 different organisations and about 200 individuals in all. The Committee visited all the medical colleges and covered 13 out of the total of 19 districts of the State, during the tours.

A list of the institutions run by the Government, local bodies and private organisations, visited by the Committee is appended. (Appendix III).

During its first visit, the Committee had the privilege of calling on H. E. the Governor and discussing with him the scope of the Committee's work. The Committee also met both the Advisers to the Governor Shri H. C. Sarin and Shri K. T. Satarawala, the Chief Secretary and the Health Secretary. The Committee later held discussions at greater length with the officers of the Directorate of Health Services on the present administrative frame of the health care programme and its future expansion. The discussions have been of great benefit to the Committee in formulating its recommendations.

At Delhi, the members of the Committee had the opportunity of meeting Dr. J. B. Srivastava, Director-General Health Services, and of visiting the National Institute of Health Administration and Education, the Indian Standards Institute, the All India Institute of Medical Sciences, the Safdarjung Hospital and Well-

ington Hospital. The Committee also had at its disposal reports of various Committees appointed by the Government of India and some other State Governments, as well as a number of excellent documents published by the WHO, pertinent to the frame of reference.

1.3 *The Committee's Approach.*—At the outset, the Committee would like to spell out its broad approach to the various issues that fall within the purview of its enquiry. The State of Gujarat does possess a functional network of health services supported by a high degree of voluntary effort, both in the urban and rural areas. The process of decentralisation of authority under Panchayat Raj has generated a fresh awareness among the people, especially in the non-urban regions of the need for preventive, promotional and curative services and brought the inadequacies of the prevalent arrangements, into sharp focus. In such a situation, the priorities in any programme of reorganisation, diversification or expansion of health services, have to be clearly set. A crucial question is 'Is the need for providing basic health care to the large masses of people more pressing, than that of providing sophisticated diagnostic and therapeutic services at the urban centres?' The answer is clearly in the affirmative. In fact, this is but one of the several issues where priorities have to be consciously determined and adhered to, in the larger interests of the State.

The Committee has emphasised the need for building an efficient and effective health delivery system oriented primarily towards the needs of the rural population. The involvement of the higher medical institutions in this scheme is of vital importance and strengthening of these institutions has thus to be dovetailed to this basic objective. Improving the standards of service, adding to the facilities presently available and securing the services of qualified personnel in the medical institutions are means to the same end. In relation to the task that lies ahead and the leeway that has yet to be made by the State, in providing comprehensive health care to the rural populace, the costs are likely to be high, but, the costs of a programme of providing basic health services to the large rural mass are bound to be high. The Committee has not attempted any estimate of the cost of implementing its recommendations, only because the changes that it has envisaged are pervasive, built largely around the existing institutional framework, and are not specifically bound to any time schedule. A phased programme is definitely indicated but one should guard against a slovenly pace.

2. THE LAND AND THE PEOPLE

2.1 *Physical Features*.—The State of Gujarat came into being on the 1st May 1960 consequent on the bifurcation of the composite State of Bombay.

Situated on the west coast of India, Gujarat is bounded by the State of Maharashtra to its south, Madhya Pradesh to the east and south-east and Rajasthan to the north-east. To the north-west is Pakistan and to the west is the Arabian Sea.

Gujarat can be considered to be divided into two district physiographical regions : (i) the Gujarat main land and (ii) Peninsular Gujarat. The former region can further be sub-divided into the north, central and south Gujarat plains and the eastern hilly areas. Peninsular Gujarat can be sub-divided into Saurashtra and Kutch.

Mainland Gujarat consists of the areas which formed part of the former Bombay State before the reorganisation of States in 1956. The peninsular region includes the former Part B State of Saurashtra, the Part C State of Kutch and the Amreli District of the erstwhile Baroda State.

2.2 *Rivers and Mountains* :

RIVERS : There are two series of rivers : (i) those rising from the eastern and north-eastern hills and (ii) those from the central uplands of Peninsular Gujarat most of these come under the influence of tides and get swollen during the monsoon and dry up in summer. The important rivers are (i) Tapi (ii) Narmada (iii) Kim (iv) Dhadhar (v) Mahi (vi) Sabarmati (vii) Rupen (viii) Sarasvati and (ix) Banas.

The main drainage of the mainland Gujarat region is westerly and south-westerly, towards the Gulf of Cambay. The drainage pattern of peninsular Gujarat is clearly radial and all the rivers rise in the Central Highland and flow into the Gulf of Cambay, the Arabian Sea and the Rann of Kutch.

MOUNTAINS : In the northern part of the Gujarat Mainland the hills consist of outliers of the Aravalli ranges. In the eastern and south eastern parts, the hills are outliers of the Satpura, Sahayadri and Vindhya ranges.

In Peninsular Gujarat, the high land can be roughly divided into the north-eastern and southern series. The north-eastern series from the plateau of barren hills indented with several streams. The south eastern series physically differs from the northern series as they comprise mountains having high peaks. The

important mountains in this series are Girnar and Shetrunjaya.

2.3. *Soils*.—The soils of Gujarat can be broadly classified into five main groups (i) shallow residual soil (ii) medium black soil (iii) deep black soil (iv) sandy loam (gorat or goradu) and (v) coastal alluvium.

The soils of Mainland Gujarat are predominately sandy in the northern most districts, whereas goradu, besar, black and bhatha soils are found in the Charutar tract of land in the Central Gujarat plains. Black soils are found generally in the southern parts of the State.

In Peninsular Gujarat the soils in the plains are of the medium black variety whereas in the hilly parts the soils are shallow and gravelly, poor in clay content and of low fertility. On the other hand along the coast the soils are poor in organic matter and nitrogen.

2.4. *Climate*.—The climate of the State is on the whole equable, moist in the southern districts and dry in the northern areas. The Arabian Sea and the Gulf of Cambay washing the western coast reduce the temperature and render the climate generally pleasant and healthy. The presence of forest covered mountains and hills on the eastern border also helps to reduce the intensity of the climate.

The average annual rainfall in the different areas of the State varies from 13" to 60" (33 to 152 centimeters). On the basis of the average annual rainfall the State can be divided into four zones viz :

(i) South Gujarat including Bulsar, Dangs, Surat, Baroda, Broach, Panchmahals and Sabarkantha districts with rainfall between 30" to 60" (76 to 152 centimeters). In some parts of Dangs the rainfall is around 75" (190 centimeters);

(ii) North Gujarat including Kaira, Ahmedabad, Gandhinagar, Mehsana and Banaskantha districts with rainfall between 20" and 40" (51 and 102 centimetres);

(iii) Saurashtra comprising the six districts of Junagadh, Amreli, Bhavnagar, Rajkot, Jamnagar and Surendranagar, the south central highlands of the peninsula and the Gulf of Cambay regions, generally have a rainfall of 25" (63 centimetres); parts of Jamnagar and Junagadh districts however receive generally less than 25" (63 centimetres) of rainfall;

(iv) Kutch with very low rainfall presents many of the characteristics of arid zones.

2.5 *Area and Population.*—The State has an area of about 195 thousand square kilometres, accounting for about 5.7 per cent of the total areas of the entire country (except Sikkim). According to the latest population count (1971) the State has a population of 266 lakhs with 138 lakhs males and 128 lakhs females.

2.6 *Units of Administration.*—The State has been divided into 19 administrative districts, Ahmedabad, Amreli, Kutch, Kaira, Gandhinagar, Jamnagar, Junagadh, Dangs, Panchmahals, Banaskantha, Broach, Bhavnagar, Mehsana, Rajkot, Baroda, Bulsar, Sabarkantha, Surat and Surendranagar. The districts have further been sub-divided into 184 talukas. The State has according to the 1971 census, 7 cities and 209 towns. The villages number 18697, all but 422, inhabited. The average density of population according to the 1971 census is 136 per sq. km. as against 105 in 1961. Inter-se variation between districts is however substantial, the range being from 19 in Kutch to 341 in the Kaira district. Gujarat ranks third among to States of the country in terms of urbanisation. The broad area and population features have been tabulated in the statement below (Table 2.1).

nagar, Mehsana, Rajkot, Baroda, Bulsar, Sabarkantha, Surat and Surendranagar. The districts have further been sub-divided into 184 talukas. The State has according to the 1971 census, 7 cities and 209 towns. The villages number 18697, all but 422, inhabited. The average density of population according to the 1971 census is 136 per sq. km. as against 105 in 1961. Inter-se variation between districts is however substantial, the range being from 19 in Kutch to 341 in the Kaira district. Gujarat ranks third among to States of the country in terms of urbanisation. The broad area and population features have been tabulated in the statement below (Table 2.1).

TABLE 2.1.

(Area Population and Density-Gujarat State 1971 Census)

Sr. No.	Name of the District.	Area in K. M.	Population			Density per KM ² .	No. of inhabited Village	No. of talukas/mahals.	Size of households.
			Rural	Urban	Total				
1	2	3	4	5	6	7	8	9	10
1	Jamagar	14125	718936	392407	1111343	79	706	10	6.19
2	Rajkot	11203	1000836	623236	1624072	145	859	13	6.29
3	Surendranagar	10488	617135	228319	845454	81	648	9	5.91
4	Bhavnagar	11155	955671	449614	1405285	126	879	12	6.21
5	Amreli	6760	679984	168746	848730	126	595	10	6.38
6	Junagadh	10607	1170736	435941	1656677	156	1092	15	6.22
7	Kutch	45612	635315	214454	849769	19	900	9	5.02
8	Banaskantha	12702	1145794	119580	1265383	100	1351	11	5.51
9	Sabarkantha	7390	1083674	103963	1187637	161	1386	10	5.50
10	Mehsana	9027	1703593	388875	2092468	232	1084	11	5.45
11	Gandhinagar	649	176587	24055	200642	309	75	1	5.07
12	Ahmedabad	8707	964493	1945814	2910307	334	674	7	5.48
13	Kaira	7194	1962357	480030	2451387	341	957	10	5.44
14	Panchmahals	8866	1641634	207170	1848804	209	1903	11	6.02
15	Vadodra	7783	1376860	603205	1980065	254	1677	12	5.71
16	Bharuch	9045	916587	193014	1109601	123	1137	11	5.82
17	Surat	7745	1184272	602652	1786924	231	1218	13	5.77
18	Bulsar	5236	1172326	256416	1428742	273	823	8	5.83
19	Dangs	1683	94185	..	94185	56	311	1	5.40
Total: Gujarat:		195984	19200975	7496500	26697475	136	18275	184	5.75

2.7 *System of Communication.*—By the end of the year 1972-73 the State had a total of 5656 km of railway tracks in three gauges. The total road length was 37513 km. in 1973. This works out to a ratio of 18 km. per 100 sq. km. of the area of the State, in terms of road length and 2.90 km. of railway track. The State is served by a vast network of bus services operated by the State Road Transport Corporation.

The percentage of villages connected by bus routes (as on 31st March 1971) is indicated in the table below:—

TABLE 2.2

Directly served	Distance from the nearest bus-stop		
	Upto 1 km.	1.5 km.	above 5 km.
61.28	4.98	26.27	7.47

66% of the villages of the State are thus covered by the bus services run by the State Transport Corporation, either directly or fall within a distance of one kilometer from the nearest bus stop. Among the cities and towns 99.5% are directly served by bus services.

2.8. *Demography.*—During the decade 1961-71 the rate of growth of population in the State was 29.4% as against 24.8 for the whole of India. The sex ratio (number of females per 1000 males) in 1971 stood at 934 as against 940 in 1961. The rural/urban composition of the population worked out to 72 and 28 per cent in 1971 as compared to 74 and 26 per cent in 1961. The scheduled castes constitute 6.84 per cent of the State's population and the scheduled tribes another 13.99%. The percentage of literacy in the State is 35.79 per cent in comparison to the 29.46% of the entire country. The distribution of the State's population according to age-groups is presented in the table below.

TABLE 2.3

	Age-group	All India Percentage to total population	Gujarat Percentage to total population
I. Total	0-14	42.02	43.05
	15-59	51.99	51.88
	60 above	5.97	5.26
	Age not stated	0.02	0.01
	All ages	100.00	100.00
II. Rural	0-14	42.77	44.20
	15-59	51.00	50.35
	60 above	6.21	5.45
	Age not stated	0.02	nil
	All ages	100.00	100.00

III. Urban	0-14	39.03	40.13
	15-59	55.98	55.09
	60 above	4.97	4.78
	Age not stated	0.02	nil
	All ages	100.00	100.00

The occupational classification of the working population given below, shows that agricultural workers constitute 65% of the working population, the largest single group.

TABLE 2.4

Economic Activity	%age of workers.
i. Cultivation	43.12
ii. Agricultural labour	22.48
iii. Live stock, forestry, fishing, hunting, plantation, orchards and allied activities.	1.98
iv. Mining and quarrying	0.41
v. (a) House hold industry	2.82
(b) Manufacture other than household industry.	9.25
vi. Construction	1.43
vii. Trade and Commerce.	6.94
viii. Transport, storage and communications.	2.86
ix. Other services.	7.71

The table given below furnishes details of estimated live birth rate, death rate and natural increase in Gujarat from 1941 to 1972 based on the Sample Registration System.

TABLE 2.5

Year	Live birth rate	Death rate	Percentage of natural increase	
1	2	3	4	
1941-50	41.8	24.9	1.7	
1951-60	45.7	23.5	2.2	
1965-66 Rural	44.4	19.3	2.5	
1966-67 Rural	44.7	20.1	2.5	
1968 Rural	45.5	18.1	2.7	
1969 Rural	52.7	21.5	2.1	
1970 Rural	42.7	18.9	2.4	
	Urban	35.3	14.8	2.1
	Total	41.2	18.1	2.3
1971 Rural	42.1	18.1	2.4	
	Urban	36.1	13.1	2.3
	Total	41.0	17.1	2.4
1972 Rural	41.6	16.8	2.5	
	Urban	35.3	12.2	2.3
	Total	40.4	15.9	2.5

Registration system.

In the State the live birth rate for the 1951-60 decade was 45.7, which was second highest in the Indian Union. It will be observed that over the two decades the live birth rate has declined by nearly 5 points and is 40.4 in 1972. Among the rural and urban areas the birth rate in the urban areas is 5 to 6 points lower.

Some of the other demographic characteristics of the State's population are listed in the table below:

TABLE 2.6.

Item	Period 1970.	
	Rural	Urban
i. Crude birth rate	41.7	34.9
ii. General fertility rate.	188.6	148.0
iii. Total fertility rate	6.1	4.7
iv. Gross reproduction rate	3.0	2.3
v. Crude death rate.	12.3	13.7
vi. Crude infant mortality rate	159.7	134.5

A general idea of the extent of utilisation of medical facilities in the urban and the rural areas can be had from the two tables that follow, showing (i) the percentage distribution of deaths by type of medical attention before death and (ii) the percentage distribution of live births by type of attention at delivery.

TABLE 2.7

Period 1970

Distribution of deaths by type of medical attention before death.

Type of Medical attention	Percentage Rural	to Total Urban
i. Institutional	7.73	15.57
ii. By recognised Practitioner at home.	17.61	53.97
iii. By unrecognised Practitioner and others.	29.11	11.17
iv. None	20.09	19.29
v. Not stated	25.46	..
vi. Total	100.00	100.00

Type of Medical attention	Percentage to Total	
	Rural	Urban
i. Institutional	5.22	36.76
ii. By trained professional at home	4.45	13.91
iii. By untrained professional at home.	51.55	34.15
iv. Non professional and others	35.94	15.18
v. Not stated.	2.84	..
vi. Total	100.00	100.00

2.9 Morbidity and Mortality.—According to the data available under the sample registration system the estimated death rate per 1000, mid year population of the State in 1972 was 16.8. The corresponding figures for 1965-66 and 1971 stood at 19.1 and 18.1 respectively. The infant mortality rate was 122.2 in the year. The expectation of life at birth for the period 1970-72 was estimated to be 48.64 for males and 48.39 for females as against 40.8 and 39.2 respectively for the decade 1951-1960.

The following table affords data on age specific death-rates in the rural and urban population in 1970.

TABLE 2.9

Age group	Period 1970	
	Rural	Urban
Less than one year	176.1	149.5
I-4	39.0	27.4
5-9	3.5	3.3
10-14	2.5	2.2
15-29	10.9	6.3
30-54	46.3	49.6
55-69	101.1	92.5
70	124.2	113.9
All ages	18.3	13.7

Reliable information on the broad pattern of morbidity in the State has not been available and the Committee understands that no survey or study on the incidence of different diseases has been carried out any time in the recent past. In the circumstances, necessary deductions on the morbidity spectrum have to be made with reference to the registration of patients at the O.P.D. of different hospitals and the number of admissions in-doors. Table 2.10 presents this data obtained from two teaching and fifteen district hospitals of the State for the year 1971. It can be seen from the information tabulated therein, that infective and parasitic diseases account for the highest proportion of illnesses reported at the hospitals. Next in the order of importance are accidents and injuries, and the dis-

eases of the respiratory system. The major causes of death of in-door patients also follow the same pattern.

of the State of different categories and from different regions. The general picture of morbidity revealed by the figures in table 2.10 are confirmed by the data available from table 2.11.

Table 2.11 contains information on the total number of outdoor patients registered at selected hospitals

TABLE 2.10

Sr. No.	Disease group.	Total indoor and outdoor patients.	Percentage to total	Total indoor	%age to total	Total outdoor patients	%age to total	Total death of indoor patients	%age to total
1	2	3	4	5	6	7	8	9	10
i.	Infective and parasitic diseases.	266814	22.52	34008	19.15	232806	23.11	2353	29.31
ii.	Neoplasms	17817	1.50	4787	2.81	12830	1.27	203	2.53
iii.	Endocrine, nutritional and metabolic diseases.	43630	3.68	3942	2.33	39688	3.94	210	2.62
iv.	Diseases of blood and blood forming organs.	34168	2.88	3267	1.84	30901	3.07	189	2.53
v.	Mental disorders.	5964	0.50	1471	0.83	4493	0.45	57	0.71
vi.	Disease of nervous system and sense organs.	102648	8.66	12705	7.15	89943	8.93	425	5.29
vii.	Disease of circulatory system	37756	3.17	6177	3.48	31579	3.13	626	7.80
viii.	Disease of respiratory system	126693	10.69	16983	9.56	109710	10.89	658	8.20
ix.	Disease of digestive system	116655	9.85	15667	8.32	100988	10.02	672	8.37
x.	Disease of genitourinary system.	60007	5.06	13616	7.67	46391	4.60	188	2.34
xi.	Complication of pregnancy, child birth and the puerperium	52127	4.40	22681	12.77	29446	1.92	447	5.57
xii.	Diseases of the skin and subcutaneous tissue.	64260	5.42	5083	2.86	59177	5.88	32	0.40
xiii.	Diseases of the musculokeletal system, and connective tissue	37456	3.16	6493	3.66	30963	3.07	65	0.81
xiv.	Congenital anomalies	15007	1.27	1923	1.08	13084	1.30	70	0.87
xv.	Certain causes of perinatal morbidity	8056	0.68	2265	1.28	5791	0.57	251	3.13
xvi.	Symptoms and ill defined conditions	38515	3.25	8047	4.62	30468	3.02	302	7.50
xvii.	Accidents, poisoning and violence (external causes)	157707	13.31	18406	10.30	139301	13.83	980	12.80
Grand total :		1185280	100.00	177721	100.00	1007559	100.00	8028	100.00

Note - The information covers two teaching hospitals and fifteen district civil hospitals. Reference year 1971.

TABLE 2.11

Sr. No.	Disease group	Total number of outdoor patients registered.										
		Teaching Hospl. Ahmedabad			Dist. Hospl. Bhavnagar		Cottage Hospital Bhilad			Referral Hospl. Dabhoi		
		71	72	73	71	72	71	72	73	71	72	73
1	2	3	4	5	6	7	8	9	10	11	12	13
i.	Infective and parasitic disease.	43584	46388	66041	13097	10566	7680	4412	3036	11105	11578	11178
ii.	Neoplasms	2998	4931	569	3282	2739	3	4	18	37	30	20

1	2	3	4	5	6	7	8	9	10	11	12	13
iii.	Endocrine, nutritional and metabolic diseases.	20661	14669	5112	1302	4124	55	35	119	1486	1213	783
iv.	Mental disorders	311	5379	3247	792	2014	..	..	..	37	20	15
v.	Disease of the nervous system and sense organs.	22406	38236	39081	3681	5010	192	477	428	7446	3659	3726
vi.	Diseases of the circulatory system	1627	8076	11924	530	98	20	313	158	1801	1722	1758
vii.	Diseases of the respiratory system	14170	18949	5733	14062	13260	768	90	1410	892	894	780
viii.	Diseases of the genito-urinary system.	4011	13684	27502	4214	7950	219	1224	1338	4588	4670	4350
ix.	Disease of the Digestive system	6992	17806	34512	4611	16626	16	219	625	2886	3062	3021
x.	Complication of pregnancy, child birth and puerperium.	3814	7558	6630	7788	3331	75	105	25	594	40	..
xi.	Diseases of the skin and subcutaneous tissue	2409	8209	12768	3330	1740	50	464	511	2453	2384	2459
xii.	Diseases of the musculo-skeletal and connective tissue.	2037	2094	3534	2450	3998	5	318	314	103	100	120
xiii.	Symptoms and ill defined conditions.	215	1447	9848	550	..	686	158	174	981	2439	930
xiv.	Accidents, injuries and poisoning.	95716	33929	16350	7245	2892	1054	723	761	2586	2478	2419
xv.	Certain causes of perinatal morbidity and mortality	3276	189	5829	..	..	..	..	..	2590	2219	2036
Grand Total :		224227	221544	248680	66934	74348	10823	8542	8917	39585	36508	33595

3. HEALTH SERVICES — A REVIEW

A. Evolution of Health Services in India-Landmarks.

3.1 For the first time in the history of our country a comprehensive survey of the whole field of public health and medical relief was initiated in 1943 by the Government of India with the appointment of the Health Survey and Development Committee under the chairmanship of Sir Joseph Bhore. The Committee was entrusted the task of recommending the future development of medical relief in its widest sense. Since then several other Committees e.g. the Health Survey and Planning Committee, the Study Group on Hospitals, the Committee on Multipurpose Workers and the Group on Medical Education and Support Man power have attempted to redefine and restructure health care plans, to meet the changing needs of the society. The concept and content of medical care and preventive health measures have undergone major changes with the emerging patterns of socio economic development of the country, making it imperative that a constant reassessment of the country's need should be made.

It is often suggested that the Bhore Committee's recommendations were over ambitious, but, viewed against the background of the little that had been achieved by then and all that had remained to be done, this was perhaps not unjustifiable. In this context it is pertinent to quote the following from the Bhore Committee Report :

"If it were possible to evaluate the loss, which this country annually suffers through the avoidable waste of valuable human material and the lowering of human efficiency through malnutrition and preventive morbidity, we feel that the result would be so startling that the whole country would be aroused and would not rest until a radical change had been brought about".

An estimate of the economic loss attributable to the effects of ill health of the community is always difficult to make. While it is possible to estimate the financial loss incurred by an individual as a result of illness, it will not be feasible to calculate in meaningful terms, the mental strain suffered or the psychological effects of ill health. It is also not possible accurately, to estimate the financial loss that the country suffers as a result of decreased productivity through sickness. The worker can give his best only if his physical condition is not impaired by any disability resulting from ill health. A nation's wealth, prosperity and advancement whether in the

economic or the intellectual sphere, are thus conditioned by the State of the Physical well-being of the people. It is, therefore, essential that the allocation funds of for medical relief should not be regarded merely as a welfare measure but as a definite investment in human resources for the economic growth of the nation. (A summary of the main recommendations of the Health Survey and Development Committee is attached as Appendix IV.)

3.2 Since the publication of the report of the Bhore Committee, many important events had occurred, both in the national and international spheres which had their impact on programmes of health and medical relief. The Government of India, in June 1959, appointed the Health Survey and Planning Committee under the chairmanship of Dr. A. Lakshmanswami Mudaliar to undertake a review of the development that had taken place since the publication of the Bhore Committee Report in 1946 in order to formulate future health programmes for the country in the third and subsequent five year plan periods.

The Mudaliar Committee gave its recommendations primarily under the following heads : Medical care; public health and communicable diseases; professional education; medical research; population problem; drugs and medical supplies; administrative organisation; legislation and indigenous systems of medicine. A summary of the main recommendations of the Committee is appended. (Appendix V).

3.3 In the decade that followed the Mudaliar Committee's Report, the country witnessed rapid industrialisation and a steady rise in population, creating in its wake a number of medical and public health problems. The Government of India, therefore, set up a Study Group on Hospitals in August 1966 under the chairmanship of Shri Ajit Prasad Jain. The Study Group was charged with the task of undertaking a study of the work of different classes of hospitals with a view to improve the standards of medical care, and develop sound guidelines for the future expansion of the hospital services. The Bhore and the Mudaliar Committees' recommendations were on general lines, and it was therefore considered essential to set up a Committee specifically to deal with special services and facilities in the hospitals. The Study Group was also expected to make recommendations on the future pattern of development of the hospital services at the regional, district and peripheral levels under a phased programme. It

was also to suggest measures required for the integrated development of hospital services, so that peripheral units like the health centres, dispensaries and MCH centres could work in close coordination with the hospitals which act as referral centres. The report of the Study Group was published in February 1968. A summary of the salient features of the report is also appended as Appendix VI.

3.4 National programmes in the field of health, family planning, and nutrition have been in operation in the country for many years. Generally, these development programmes were being run almost independently of each other by separate staff recruited under each programme. Horizontal coordination between the field workers of the various programmes was almost negligible. This state of affairs had resulted in a proliferation of staff in an unbalanced manner, besides exposing the rural population to a loss of uni-purpose workers. It was, therefore, felt that the integration of the various facilities could profitably be attempted to produce better results, both from the point of view of conservation of resources and achieving an integrated approach to health care.

The idea of a unified health care programme through multipurpose workers was also being discussed both at the national and international forums. The Government of India appointed a Committee on Multipurpose Workers under health and family planning programmes, under the chairmanship of Shri Kartar Singh, for recommending the structure of integrated services at the peripheral and supervisory levels and training requirements for such workers. The Committee was also required to recommend the feasibility of having multipurpose/bipurpose workers and the utilisation of mobile service units set up under the family planning programme for integrated medical, public health and family planning services operating at the tehsil/taluka level. The Committee concluded that multi-purpose workers for the delivery of health, family planning and nutrition services to the rural communities are both feasible and desirable. The principal recommendations of the Committee have been summarised in Appendix VII.

3.5. The Government of India in the Ministry of Health and Family Planning set up in November, 1974 a Group of Medical Education and Support Manpower, under the chairmanship of Dr. J. B. Shrivastava. The Group has urged that a nation-wide net work of efficient and effective health services should be evolved, based on certain recommended general principles. The Group has recommended that steps be taken to create bands of para-professional or semi-professional health workers for the community, to provide simple promotive, preventive and curative health services and has envi-

saged two cadres, of trained workers, health workers and health assistants, to render medical assistance for day-to-day illnesses. The Group has also pleaded for developing a living and direct referral service complex so that improved service is available at PHC/Taluka level. A summary of the recommendations of the Group can be found at Appendix VIII.

Besides the national Committees and working groups, attempts have also been made in several other States, to study problem areas in health care and administration and related aspects. The K. N. Rao Committee that studied the organisation of Delhi hospitals, the Basu Committee set up by the Government of West Bengal to go into several questions concerning teaching hospitals, the Bihar Committee on Medical Education, the Maharashtra Committee on the Rationalisation of Teaching Hospitals and the recent Committee of the Tamil Nadu Government on the working of hospitals in the City of Madras, have all done valuable work and have come up with several ideas worthy of serious consideration. This Committee has thus had the benefits of a wealth of information and ideas to draw upon in formulating its recommendations.

B. Health Services in Gujarat—In Retrospect

(i) Public Health Services

3.6 *Pre-Plan Era.*—Except in the larger cities, the public health organisation was concerned till 1940, mainly with the collection of vital statistical data and organising vaccinations against smallpox throughout the State. The organisation consisted of the Director of Public Health at the State level and a few Assistant Directors of Public Health, whose main function was to conduct and supervise the vaccination programme and to advise the local bodies and the revenue officials on the control of epidemics, mainly, Cholera and Plague. Sanitary Inspectors were appointed in each district for the periodical supervision of the work of vaccinators. Schemes for protected water supply and drainage were also undertaken in some of the larger towns. The total annual expenditure on public health measures of the areas now forming part of Gujarat State, used to be of the order of Rs. 7 to 8 lakhs.

In 1942 a district health scheme was introduced in the Surat district and at the commencement of the First Five Year Plan, the scheme was in operation in a majority of the districts of the State. Special malaria survey squads were also set up to carry out detailed surveys in each of the districts. Malaria control measures were initiated in the Ahmedabad, Kaira, Panchmahals and Dangs Districts during the period between 1948 and 1950. The establishment of a mobile infectious diseases hospital in 1947-48 was another important landmark of this period.

A beginning was also made during this time, towards combining both the curative and the preventive aspects of medicine in the rural areas by establishing combined medical and public health units. Four such units were established in the Surat district.

3.7 First Five Year Plan.—During the first five year plan, efforts were made to implement certain major recommendations of the Bhore Committee relating to (i) the district health organisation (ii) malaria control measures and the (iii) establishment of primary health centres.

The District health organisation was extended to cover all the districts and a maternity and child health project was also launched in the State, in collaboration with international agencies. In the Baroda district, a net work of 25 primary health units, each covering a population of about 20,000 was established. Six Primary Health Centres of the Government of India pattern, each covering a population of 60,000 to 66,000 were also set up.

In 1953, a statewide malaria control scheme was started in all the known endemic areas of the State, covering a total population of 12.5 millions. The mass BCG vaccination campaign was also started during this plan period, originally under the medical department, but was later transferred to the public health department.

3.8 Second Five Year Plan.—The key objectives of the second plan in so far as the public health department was concerned, were (i) assignment of priorities for control of communicable diseases, (ii) provision of training facilities, (iii) population control by the spread of family planning methods, (iv) provision of basic health services in the rural areas covering both preventive and curative as also MCH services in an integrated manner.

The principal areas of accomplishment during the plan were; (i) the establishment of 3 Rural Health Training Centres, covering a wide range of training programmes, (ii) the starting of a Health Visitor's School and a Sanitary Inspector's training class, (iii) the establishment of 102 Primary Health Centres of the Government of India pattern in the community development blocks, covering approximately 50 per cent of the rural population in the State (iv) the establishment of 86 Rural Family Planning Centres attached either to the Primary Health Centres or MCH Centres and 41 urban centres run by voluntary organisations and local bodies, with the assistance of the Government of India, (v) the establishment of two Regional Family Planning Training Centres for providing specialised training in

family planning and (vi) the establishment of Family Planning Training Centres attached to three medical colleges in the State, for the training of undergraduate medical and nursing students, (vii) In the field of TB control, the entire state was covered in the first round of mass BCG vaccination, (viii) Three leprosy subsidiary centres and 17 survey education and treatment centres were established for the control of leprosy. Similarly 3 trachoma control units were also set up during the period.

3.9. Third Plan.—During the third plan period, the emphasis continued to remain on (i) the control of communicable diseases (ii) population control and (iii) rural health services (establishment of PHCs).

In the field of malaria control, barring five millions of the population, the rest of the State entered the consolidation phase. The entire State was covered under the second round of the mass BCG vaccination campaign. Three more trachoma control units were established during the Third Plan, one by the Government and two by voluntary organisations. During the Third Plan period, 142 Primary Health Centre of Government of India pattern were established in community development blocks bringing the total to 244.

3.10 Three Annual Plans (66-67, 67-68 & 68-69)—All the community development blocks had been covered with 251 Primary Health Centres and 753 sub-centres at the commencement of the 4th Plan. Under the family planning programme, District Family Planning Bureau were set up in all the districts of the State and there were 250 Rural Family Planning Welfare Centres attached to the Primary Health Centres with 750 sub-centres.

3.11 Fourth Plan.—At the end of nearly two decades of planned development there were unmistakable trends of improvement in the general standards of health in the State. The death rate which was around 24.9 per thousand in 1941-50 (census for West India *i.e.* Bombay and Saurashtra including Kutch) had declined to 13.3 per 1000 population in 1971. The expectation of life at birth which used to be around 30 years had gone up to 53 years.

The live birth rate in Gujarat was however high at 144 per 1000 population during the year 1971. The decennial population growth rate during 1961-71 was 29.39 per cent, and in order to reduce the live birth rate of 25 per 1000 population, the intensification of the family planning programme was clearly indicated.

At the end of the fourth plan the following institutions had been set up to provide family planning services.

	Number
(i) Dist. F. P. Bureaux.	19
(ii) Rural Family Planning Welfare Centres.	250
(iii) Family Planning Welfare sub-Centres.	1000
(iv) Urban Family Planning Welfare.	157
(v) Post Partum Units at district hospitals.	8
(vi) Family Planning sterilisation beds.	379

Till the end of February, 1973 over 9 lakhs sterilisations and 1.93 lakhs IUCD insertions had been accomplished.

The control of communicable diseases also continued to receive priority attention during the fourth plan.

In the field of smallpox the transmission of the disease has been completely intercepted since 1971. Under the National Malaria Eradication programme the entire State continued to remain in the attack phase till the end of fourth plan.

All but three districts of the State had district T. B. centres by the end of the fourth plan. Provision of 1800 special beds for the treatment of cases of tuberculosis had been made in various institutions.

As a part of the leprosy control programme the State had 156 Survey Education and Treatment Units at the end of the fourth plan period in addition to 5 Leprosy Hospitals with 745 beds and 3 Leprosy Control Units.

251 Primary Health Centres covering all the existing community development blocks have been established for providing basic health medical and MCH services to the entire rural population of the State. In order to ensure a higher degree of medical care to the rural areas a programme of establishing referral hospitals with 50 beds each, at selected centres had also been undertaken during the successive plans. Each of these referral hospitals was to have 4 to 5 Primary Health Centres attached. By the end of the 4th Plan 15 such Referral Hospitals had been organised.

Government had also taken up a scheme of upgrading of Primary Health Centres into 25 bedded hospitals in a phased manner in the backward areas. During the fourth plan, 7 such hospitals were opened in the backward areas in the southern region of the

State. The referral hospital at Chhotaudepur covering to a large backward and adivasi population was upgraded into a 100 bedded, Class I hospital.

With a view to provide better epidemic control, environmental sanitation and laboratory services in the rural areas, a beginning was made in the backward areas by providing epidemic cells in the Primary Health Centres. During the fourth plan, 35 Primary Health Centres in backward areas had been covered under this scheme.

By the end of the fourth plan the state became self sufficient in antirabic vaccine. Annually more than 55,00,000 ml. of the vaccine are produced in the vaccine Institute, Baroda. Not only are the health and medical institutions in Gujarat State fully supplied by this Institute, but the requirements of the Animal Husbandary department are also being met. Steps are underway to start the manufacture of triple vaccine.

The Public Health Laboratory, Baroda was strengthened to take up, in a systematic manner, the examination of air and water pollution samples in addition to chemical and bacteriological examination of water samples and samples of food under Prevention of Food Adulteration Act.

A programme of immunisation of school going children against Diptheria, Whooping cough and Tetanus, Polio and Smallpox had also been started through all the Primary Health Centres, MCH centres and Hospitals of the State.

3.12 *Fifth Plan.*—The Fifth Plan provides an outlay of Rs. 1261.91 lakhs for Public Health and Sanitation. The proposed programmewise outlay is given below :—

TABLE 3.1

	(Rs. in lakhs)
	Fifth Plan outlay.
(1) Direction and administration	12.34
(2) Prevention and control of diseases	94.86
(3) Prevention of air and water pollution	50.00
(4) Drugs control	74.00
(5) Training	80.70
(6) Health Statistics and research	18.06
(7) Health Education and publicity	15.30
(8) Manufacture of sera & vaccine.	7.00
(9) Sanitation services.	200.00
(10) Medical relief	117.95
(11) Minimum Needs Programme	591.70
	1261.91

Under the programme for the prevention and control of communicable diseases, it is proposed to establish 3 district T. B. centres and provide 200 T.B. beds. It is also proposed to provide 6 filaria control units, filaria survey units and filaria clinics. Another important item is the setting up of a training centre for Basic Health Workers.

In the sphere of institutional medical relief, 8 cottage hospitals are proposed to be converted into referral hospitals. It is also proposed to establish 5 new referral hospitals, and to strengthen the existing referral hospitals and to provide dental services at these hospitals. Under the Minimum Needs programme, 23 Primary Health Centres are proposed to be upgraded to 30 bedded hospitals for providing better facilities to the rural areas. An additional amount of Rs. 3000/- per P.H.Cs. is being given since the beginning of the Fifth Plan. Proposals for augmentation of the staff at the sub-centres of the PHCs and the provision of buildings at all the 786 sub-centres of the PHCs are contemplated.

(ii) Medical Services

3.13 *Pre-Plan Era.*—Prior to independence, six districts of the present Gujarat State Surat, Dangs, Kaira, Broach, Panchmahals and Ahmedabad formed part of the old Bombay province while the rest of the territory was under various princely States. Following the merger of the States, about 200 hospitals and dispensaries of these states were taken over by the provincial Government and at the end of December, 1947, there were 781 hospitals and dispensaries in the Bombay province, inclusive of institutions run by local bodies, private aided, private non-aided institutions and those run by municipalities. The total number of hospitals and dispensaries rose to 1217 by the end of 1948. In 1948, the total bed strength of the entire province was 9146 of which 1919 beds were of the Gujarat area. Beds in the districts merged were however not included in the total. The number of beds in the State was 9792 in 1949, of which the Gujarat area had 2286 beds, inclusive of those of the merged states.

Kutch was a separate State before independence and was under the direct control of the Central Government in 1948. At the time, Kutch had 6 hospitals and 14 dispensaries. The first hospital at Bhuj had been established in 1949.

The medical institutions in the Saurashtra area were under the control of the State of Saurashtra between 1948 and 1956. Prior to the formation of Saurashtra, different princely states of the region had developed their own medical facilities and large sized

hospitals with full facilities for treatment came to be set up under the aegis of the States, at centres like Rajkot, Junagadh, Bhavnagar and Porbandar. At the time of the reorganisation of States on 1st November, 1956, Saurashtra had 119 hospitals and dispensaries and Kutch had 45 medical institutions. The eventual position under the bilingual Bombay State after re-organisation was as under :—

TABLE 3.2

	No. of Hospitals and Dispensaries
Old Bombay State	1314
Kutch	45
Saurashtra	119
Marathawad	65
Vidharbh	193
Total :	1736

The number of beds in the Gujarat, Kutch and Saurashtra areas as on 31st December 1956 was 6483, distributed regionwise as under :—

TABLE 3.3

	No. of beds.
Gujarat	3723
Kutch	415
Saurashtra	2345
Total :	6483

There was no medical college in the Gujarat region before 1946. The existing B. J. medical school with the associated Civil Hospital, which was training for the students licentiate course since 1879 was converted into a medical college in 1947-48 with 50 seats. A new medical college at Baroda with 40 admission was started in 1949.

3.14 *First Plan.*—The first plan mainly envisaged the establishment of medical colleges, expansion of existing hospitals and opening of new ones and the increase in the number of beds. A total expenditure of about Rs. 44.16 lakhs was incurred on various schemes implemented during the plan period as against the total provision of Rs. 65.16 lakhs.

The number of admissions at the B. J. Medical College, Ahmedabad was raised to 60 in 1952 and to 100 in 1954. The intake capacity of the medical college, Baroda was also raised to 60 in 1952. A new medical college at Jamnagar was established in 1955 with 60 annual admissions. During the first plan the following medical institutions were established.

Hospitals	5
Mental hospital	1
Dispensaries	4
Mobile dispensaries	7

A total of 613 beds were added in the various al institutions.

15 *Second Plan*.—The programme of expansion of institutional medical care continued during the d plan also and the following facilities were ised :—

Mental hospital	1
Hospitals	4
Dispensaries	10
T. B. hospital	1
Maternity home	5
Mobile dispensaries	11
V. D. mobile unit	1

In all 1931 additional beds were provided at various hospitals, T. B. Sanitoria and other medical institutions. The admissions at the medical college Jamnagar were increased to 100 from 60 during the plan period. In all, a provision of Rs. 337.81 lakhs was made as against which the total expenditure amounted to Rs. 387.81 lakhs.

3.16 *Third Plan*.—The total plan outlay was of Rs. 455.09 lakhs and the actual utilisation was of the order of Rs. 457.34 lakhs. During the plan the work of 3 major projects, the construction of the new mental hospital, (660 beds) with staff quarters at Ahmedabad, the construction of the new civil hospital with staff quarters at Mehsana and the remodelling of the civil hospital, Godhra which had spilled over from the second five year plan, were completed. The new civil hospitals at Mehsana and Godhra had indoor accommodation for 100 and 160 beds respectively.

A new medical college at Surat was established in June 1964 with 50 admissions increased to 60 during the plan period. The total number admissions to the different medical colleges was raised from 280 to 535 during this plan period. With a view to maintain the ratio of beds to students in teaching hospitals, 220 beds were added at the Civil Hospital, Ahmedabad, 129 at the I.G. Hospital, Jamnagar and 125 at the S.S.G. Hospital, Baroda, raising the total bed strength to 790, 500 and 567 respectively at these hospitals. Sixteen hospitals and 32 rural dispensaries were added during the third plan and the net addition to the bed strength of medical institutions was 2276 out of which 1092 were at the rural hospitals and dispensaries.

In the sphere of training of para medical personnel significant progress was made during the plan. Two nursing schools with 75 trainees were established at Rajkot and Junagadh. One nursing college unit with a post basic school was also established at Ahmedabad. A scheme for training of X-ray and laboratory technicians which was introduced at Jamnagar during the Second Plan period was extended to two other medical colleges at Ahmedabad and Baroda. By the end of Third Plan 211, technicians were trained.

A Dental College with its own hospital was established at Ahmedabad in 1963 with an annual intake capacity of 30. The number of admissions was later raised to 50.

3.17 *Annual Plans*.—The performance in financial terms during this period was as under :—

TABLE 3.4

Year	Outlay	Expenditure
1966-67	61.88	103.71
1967-68	93.32	92.95
1968-69	114.61	98.75
	269.81	295.41

The prominent achievements under the three annual plans were;

1966-67

- (i) The net addition of 655 beds.
- (ii) 4 departments were upgraded in the medical college, Baroda under the centrally sponsored scheme.
- (iii) 3 training centres for the condensed licentiate course were opened at Rajkot, Bhavnagar and Nadiad.
- (iv) Two general nursing school with 15 trainees each were started at Mehsana and Godhra.
- (v) 45 beds at the Civil Hospital Amreli, 100 beds at the Sir T. Hospital, Bhavnagar and 50 beds at the Ophthalmic Institute at Ahmedabad were added.
- (vi) A Cancer hospital at Ahmedabad with 40 beds was started.

1967-68

- (i) Two hospitals and two dispensaries were set up.

(ii) 55 beds were added at various institutions.

(iii) The teaching hospital at Baroda was equipped with a medical record department.

(iv) An additional training centre for condensed licentiate course was started at Navsari.

1968-69

(i) Two hospitals (Rural) and 6 rural dispensaries were organised.

(ii) 300 beds were provided in the different hospitals.

(iii) The Cancer Hospital, Ahmedabad was expanded by increasing the bed strength 40 to 75.

3.18 *Fourth Plan.*—The following were the main features of the performance during the period;

(i) The seats at the medical colleges at Baroda, Jamnagar and Surat were raised to 140, 175 and 100 respectively.

(ii) 200 beds at Civil Hospital, Ahmedabad and 400 beds at Civil Hospital, Surat were increased.

(iii) Under the centrally sponsored scheme the department of medicine at B. J. Medical College, Ahmedabad and the departments of pathology and pharmacology at the M. P. Shah Medical College, Jamnagar were upgraded.

(iv) A psychiatric clinic was established at the Civil Hospital, Ahmedabad also under the centrally sponsored scheme.

(v) Mobile hospitals at the Medical College, Baroda and the M.P. Shah Medical College, Jamnagar, were established.

(vi) The departments of oral surgery and orthodontia at the Dental College, Ahmedabad, were upgraded.

(vii) A school for Physiotherapy with 10 seats alongwith an orthopaedic workshop was established at the S.S.G. Hospital, Baroda.

(viii) The Post basic nursing school at Ahmedabad, was converted into the Post basic nursing college.

(ix) During the Fourth Plan period, 4 new hospitals at Gandhinagar, Umarpada, Tharad and an ophthalmic hospital at Rajkot were established. Besides, 3 dispensaries at Modhera, Lasundra and Unai were started.

(x) The Cottage hospitals at Jambusar and Tharad were converted into Referral hospitals.

(xi) During this plan period 6 ophthalmic units, 6 orthopaedic units and 6 paediatric units were established with 20 beds each.

(xii) In all, 938 beds were added over and above the addition of beds in the teaching institutions and 12 units established.

(xiii) 18 X-ray machines and 22 ambulance cars were provided in different hospitals. Besides, 12 blood transfusion service centres were established and in all district head quarter hospitals, dental clinics were started.

(xiv) One Cancer treatment centre with cobalt unit at the S.S.G. Hospital, Baroda was also started during the fourth plan.

3.19 *Fifth Plan.*—The fifth five year plan envisages an outlay of Rs. 829.09 lakhs for the medical section. The distribution of outlay by major groups is as under:—

TABLE 3.5

(Rs. in lakhs.)

	Fifth Plan Outlay
Medical relief	489.00
Education	150.09
Training	31.00
Ayurvedic	154.00
Homoeopathy	5.00
Total :	829.09

Among the key targets for the plan is the proposed increase of 1460 beds: 15 X-Ray machines and 30 ambulance vans are expected to be provided during the plan. The setting up of dental clinics at the taluka hospitals and the provision of specialists in the district hospitals are other major items. It is also proposed to upgrade 20 more departments for postgraduate medical education during the Fifth Plan.

The following table indicates the outlays on health programmes during the different plan periods. (Table 3.6)

TABLE 3.6

Outlays on Health Programme

(Rs. in lakhs)

Sr. No.	Plan	State	Centrally Sponsored	Total	Remarks, if any
1	2	3	4	5	6
1.	Ist Plan	96.16*	N.A.	96.16*	..
2.	IIInd Plan	565.19	@145.18	710.37	..
3.	IIIrd Plan	982.77	229.02	1211.79	..
4.	1966 to 1969	722.89	867.02	1589.91	..
5.	IVth	800.00	3700.00	4500.05	..
6.	Vth	1841.00	4222.00	6063.00	..

Note—* Of the total of Rs. 96.16 lakhs Rs. 31.00 lakhs are of Health section excluding the outlay for the areas of Saurashtra and Kutch.

@Only the outlay for Medical Section is given as the outlay for Public Health Section etc. is not available.

TABLE 3.7

A break up of plan outlays itemwise, has been presented for the third and subsequent plans in the table below :-

(Rs. in lakhs)

Sr. No.	Items	IIIrd Plan		1966 to 1969		IVth Plan		Vth Plan	Remarks
		Approved outlay	Expenditure	Approved outlay	Expenditure	Approved outlay	Expenditure	Approved outlay	
1	2	3	4	5	6	7	8	9	10
1.	Minimum Needs Programme	70.00	28.90	16.84	13.04	30.00	35.12	591.70	..
2.	Control of Communicable diseases and F.P.	553.23	504.22	1194.93	1140.00	3700.05	3612.84	4316.86	..
3.	Hospital and Dispensaries	180.00	108.80	61.60	60.06	283.00	303.36	606.95	..
4.	Medical Education and Research	183.45	213.78	176.15	210.38	209.00	329.01	159.39	..
5.	Training Programme	78.25	34.11	17.07	12.35	60.00	19.19	102.40	..
6.	Ism and Homeopathy	28.36	25.94	50.30	40.12	80.00	56.67	159.00	..
7.	Other Programme	118.50	144.87	83.02	66.85	138.00	84.34	126.70	..
TOTAL		1211.79	1060.42	1589.91	1542.80	4500.05	4440.53	6063.00	

TABLE 3.8

A statistical overview of the progress achieved during the different five year plans in term of specific parameters of progress, in the spheres of preventive and curative health services, is attempted in the following tables.

Programme	Achievements (cumulative)				Targets for 5th Plan (Additional)
	1st Plan	2nd Plan	3rd Plan	4th Plan	
1	2	3	4	5	6
1 No. of hospitals and dispensaries (Rural)	332	338	344	395	78
2 No. of hospitals and dispensaries (Urban)	277	280	288	293	7
3 Total number of beds (a) Rural	408	2339	3641	4298	1370
(b) Urban	N.A.	N.A.	8228	10860	1344
4 (a) Government Medical Colleges	3	3	4	4	..
(b) Annual admissions	320	380	635	725*	10
(c) Dental Colleges	..	..	1	1	..

TABEL 3.8 (Contd)

	1	2	3	4	5	6
(d) Annual Admissions		..		50	50	50
5 (a) No. of registered nurses		N.A.	N.A.	6001	9354	3500
(b) No. of registered midwives		N.A.	3	670	3041	N.A.
(c) No. of registered nurses		N.A.	7	779	3839	N.A.
(d) No. of dentists registered		N.A.	264	281	513	200
(e) No. of aux. nurse m/ws. registered		N.A.	20	810	3427	N.A.
(f) No. of health visitors registered		N.A.	5	80	413	N.A.
6 Control of diseases :						
(a) NMEP		N.A.	19.5	19.5	19.5	N.A.
(i) Units		N.A.	20.6	24.2	28.6	N.A.
(ii) Population covered						
(b) Leprosy control programme :						
(i) Control Units		..	3	3	3	1
(ii) SET centres		..	71	71	110	50
7 T. B. Control Programme :						
(i) BCG Tuberculine tested		4594879	1918404	148137	71963	..
(ii) Persons vaccinated		1265031	679743	36590	16172	..
(iii) BCG Direct vaccinated		Nil	983569	4459422	2934504	..
8 N. S. E. P.						
(i) Primary vaccinations		..	4481940	5244372	4957249	..
(ii) Revaccinations		..	26769596	8865138	8393434	..

* Includes 100 seats of the Municipal medical College, Ahmedabad.

TABEL 3.9

Class of Hospitals	Total number as on 1-1-60 (for the Gujarat area)		Total number as on 31-12-60 (after the formation of Gujarat State)		Total number as on 31-12-66		Total number as on 31-12-69		Total number as on 31-12-73	
	1	2	3	4	5	6	7	8	9	10
1. State Public	334	352*	115*	130	162	162	162
2. State Special	14	17	21	21	21	21	21
3. Local and Municipal	210	225@	489@	524	774	774	774
4. Private aided	33	34	49	62	64	64	64
5. Private nonaided	333	333	382	383	383	383	383
6. Railways	10	11	22	22	22	22	22
7. Subsidised	173	177	185	185	185	185	185
		Total	..	1116	1129	1273	1332	1611	1611	1611

* There is sharp reduction in these two figures because a large number of medical institutions were transferred to the District Panchayat in 1963.

TABEL 3.10

Distribution of Government Hospitals according to bed strength

Range.	No. of Government hospitals.			% to total	No. of Beds			% to total
1-24	40	..	..	30.4	511	..	4.1
25-49	35	..	..	26.7	1159	..	9.5
50-99	29	..	..	22.1	1875	..	15.2
100-199	12	..	..	9.2	1677	..	13.7
200-299	6	..	..	4.6	1269	..	10.3
300-499	3	..	..	2.3	1161	..	9.4
500-999	5	..	..	3.8	3303	..	26.9
1000-& above	1	..	..	.8	1339	..	10.9
	131			100	12284		100	

4. HEALTH SERVICES ORGANISATION IN GUJARAT AN OVER-VIEW

4.1 The State of Gujarat came into existence in May, 1960. At the time of the bifurcation of the bilingual State of Bombay of which Gujarat was an integral part, the health services at the State level were headed by two independent heads of departments, the Director of Public Health in charge of the Public Health organisation and the Surgeon General at the head of the medical wing. The same pattern continued for some time in Gujarat after the formation of the state. In 1961, however both the departments were brought under a single Director of Health and Medical Services who was in overall charge of all activities relating to public health, medical services and medical education and research. This arrangement persisted till recently when a separate Directorate of Medical Education and Research was established.

4.2 At the regional level formerly there were Regional Assistant Directors of Public Health under the composite Bombay state. These posts were later upgraded into those of Regional Deputy Directors of Public Health Services in 1968. Two regional offices were continued at Rajkot and Baroda after the formation of the new Gujarat State. The regional organisation was however wound up in 1968 as a measure of economy. On the medical side however there was no regional organisation at any time.

4.3 At the district level each district had a District Health Officer in charge of all health activities and a Civil Surgeon in charge of the Civil Hospital and other medical institution in the district. Both were of equal status and independent of each other. All the district level staff was under the State control till 1963, when the District Health Officers were placed under the jurisdiction of the District Panchayats. On the medical side however the civil Surgeons have remained under State Control the Primary Health Centres in the State have also passed under the sphere of influence of the District Panchayats. On the medical side out of 304 dispensaries and hospitals in 1963, 186 were transferred to the District Panchayats.

4.4 Operationally a comprehensive network of health services has been developed from the district down to the villages of each of the 250 blocks in the State under a multi-tier health services organisation.

First tier of Service.—In each development block a primary Health Centre with an attached Rural Family Planning Centre has been established with

sub-centres at the rate of one for every 10,000 population. These Primary Health Centres and sub-centres provide both preventive and curative health services including maternity and child health and family planning, school health and environmental sanitation services. Each P.H.C. has two beds for medical emergencies and medicolegal cases, in addition to four maternity beds.

The State has 251 such Primary Health Centres each of which covers, on an average a population of 80,000 to 1,00,000.

Second tier of Service.—At the second tier are referral/cottage hospitals established at the rate of one for half a million population or four to five Primary Health Centres. They serve as referral centres for the PHCs and by themselves provide, in addition to the services rendered by PHCs, better diagnostic and specialists services. In the State there are at present 18 Referral hospitals with an average bed strength of 50 and about 50 cottage and other hospitals with the bed strength in the range of 15 to 30.

Third tier of Service.—The third tier is formed by the District or Civil Hospitals providing higher and specialised types of services, both diagnostic and curative. There are twenty such hospitals.

Fourth tier of Service.—The fourth tier is formed by the teaching hospitals attached to the four medical colleges. Such hospitals provide sophisticated services in several specialities both medical and surgical.

4.5 A brief review of the progress achieved in specified areas is set out in the following paragraphs:

(i) During the decade 1961-71 the rate of growth of population was 2.94% per annum in the State. A massive effort was thus called for, to bring down the birth rate to 25 per 1000 population within as short a time span as possible. The present growth rate is about 41 per 1000 population. To achieve this objective family planning services have been organised through a net work of 150 Urban Family Planning Welfare Centres run by Government, Voluntary organisations and Local Bodies with grants-in-aid. Besides there are 250 Rural Family Planning Centres with 1144 sub-centres mostly under the control of the District Panchayats.

With a view to provide facilities for free sterilization operations among women, 622 additional beds have been reserved for tubectomy operations in the hospitals run by the Government, voluntary organisations and local bodies. There are also Post-Partum Units attached to the 6 Government hospitals at Ahmedabad (1), Baroda (2), Jamnagar (1), Surat (1) and Rajkot (1) and two hospitals of the Ahmedabad Municipal Corporation. 13 more Post-Partum units have been sanctioned recently in 13 other Government hospitals where more than 1000 deliveries are normally conducted annually.

Sterilization operations have proved quite popular with the public in recent times as is evident from the following statistics :—

1957—1966	...	1,46,809 operations
1967—1972	...	7,65,839 do

Two Regional Family Planning Training Centres have been set up at Ahmedabad and Rajkot for the training of various categories of family planning staff.

For the implementation of the Medical Termination of Pregnancy Act 1971, in the State, 66 Government, 24 run by the municipal corporations, 6 under other local bodies, 13 conducted by voluntary organisations and 112 private medical institutions *i.e.* in all 221 have been recognised by August end 1975. 126 Government doctors and 168 other doctors have been recognised for performing M. T. P.

(ii) *Rural Health Services.*—As pointed out earlier, the Primary Health Centres have been established in each of the development blocks. These, along with their 786 sub-centres form the nucleus of the rural medical services. The minimum staff provided at each Primary Health Centre consists of :—

Medical Officer (Class II)	1	
Compounder	1	
Nurse /Health Visitor	1	
Auxiliary Nurse Midwife	4	(1 for main centre & 3 for sub-centres)
Sanitary Inspector	1	
Class IV	4	

At the headquarters of the Primary Health Centre, there is a dispensary and six beds. Facilities are also available for holding ante-natal, infant and preschool child and F. P. clinics.

During the IVth plan period, steps were taken to strengthen gradually the existing Primary Health Centres by increasing the bed strength from 6 to 25. A beginning has been made in the State in the tribal and backward areas by upgrading 7 P. H. Cs into 25 beded rural hospitals by the end of the fourth Plan. Likewise in order to provide better epidemic control measures, environmental sanitation and Laboratory services in the rural areas, a programme has been launched in the backward areas, of providing Epidemic Cells in P. H. Cs. During the IV plan 35 such Epidemic Cells have been provided. In addition to the PHC network a large number of other medical institutions have come up in the rural areas both under governmental sponsorship and at the initiative of the Panchayats. In all there are 52 government dispensaries, 315 Panchayat dispensaries, 280 Ayurvedic dispensaries, 14 mobile dispensaries, 185 SMP Centres, 11 maternity homes, 78 Child Welfare centres and several grant-in-aid institutions. Voluntary organisation have also contributed handsomely towards the organisation of rural medical relief in the State. An idea of the districtwise coverage of medical facilities as in 1969 can be had from the following table. (Table 4.1)

TABLE 4.1

Sr. No.	Name of District	No. of inhabited villages.	Population	No. of villages having					
				Dispensaries	Hospitals	Maternity Homes	Child Welfare Centres	Health Centres	F. P. Centre.
1	2	3	4	5	6	7	8	9	10
1	Jamnagar	706	718936	61	3	8	7	35	38
2	Rajkot	859	1000836	113	4	10	9	40	47
3	Surendranagar	648	617135	76	3	11	20	23	36
4	Bhavnagar	879	955671	123	1	13	17	44	45
5	Amreli	395	679984	93	1	5	5	22	37

1	2	3	4	5	6	7	3	9	10
6	Junagadh ..	1092	1170736	123	1	14	8	43	59
7	Kutch ..	900	635315	112	10	17	16	22	44
8	Banaskantha ..	1351	1145794	38	8	12	4	20	37
9	Sabarkantha ..	1386	1083674	70	10	19	2	35	54
10	Mehsana ..	1084	1703593	162	13	38	3	56	77
11	Gandhinagar ..	75	176587	13	2	4	1	3	7
12	Ahmedabad ..	674	964493	82	1	10	9	26	32
13	Kheda ..	957	1962357	142	22	62	33	65	75
14	Panchmahals ..	1903	1641631	35	6	19	2	69	62
15	Vadodara ..	1677	1376860	144	3	58	13	64	48
16	Bharuch ..	1137	916587	87	1	12	2	50	52
17	Surat ..	1218	1184272	90	12	22	3	47	45
18	Valsad ..	823	1172326	70	5	17	7	41	39
19	Dangs ..	311	94185	5	1	3	..	9	8
Total ..		18275	19200975	1629	107	354	161	714	842

A noteworthy feature of the scheme of rural medical relief is the establishment of the centres of Subsidised Medical Practitioners in villages where medical facilities are not easily available. Registered medical practitioners of the allopathic, ayurvedic or other systems of medicine are granted a subsidy to induce them to settle in rural area and are entrusted with the responsibility of rendering medical relief to villages within a radius of about five miles of the centre. Annual grants for drugs and medicines, contingent expenditure and a permanent travelling allowance are provided for. The overall administrative control over the centres has since been transferred to the District Panchayats. Sanctioning of additional centres has been stopped since 1963 and the existing centres are closed as and when the posts fall vacant.

(iii) *Intensive Health and Medical Care to the Rural Population.*—The scheme for intensive health and medical care to the rural population—Task Force Scheme—has now been started in all the districts in the State in selected talukas. The main objective of the scheme is to render curative and preventive medical aid to the rural population economically, by taking health services almost to their doors. This is sought to be achieved firstly by chalking out for each public health worker whether he be a F.P. worker, a malaria worker or a vaccinator, a time bound

area marked and target oriented programme. The existing single purpose schedule of work is sought to be changed to multi-purpose work. Thus when a worker visits a village he will have to attend to diverse duties and functions under different programmes. The existing territorial jurisdiction of a worker will be redefined in such a way that he has to cater to a population of 5000 to 7000 and cover an area within 5 kms. of his headquarters. Secondly, Medical Aid Centres will be fixed so that there will be one medical aid centre within a radius of a maximum of 5 kms. This is to be done by utilising all available medical personnel in the districts. The date and time at which medical aid will be available at the centre will be fixed and published in advance.

Under the above scheme the services of the following staff are to be utilised :—

- (i) Medical Officer of Primary Health Centre.
- (ii) Medical Officer of the Rural F. P. Centre.
- (iii) Medical Officer of dispensaries.
- (iv) Medical Officers from the District hospitals to the extent, they can be made available.

- (v) Sanitary Inspectors.
- (vi) Block Extension Educators (Family Planning).
- (vii) Malaria Surveillance Inspectors.
- (viii) Malaria Surveillance Workers.
- (ix) Vaccination supervisors.
- (x) Vaccinators.
- (xi) Field Workers (Family Planning).
- (xii) Medical interns.

(iv) *Control of Communicable Diseases.*— Closely related to rural medical care is the problem of control of communicable diseases which take up a good deal of the time of the medical personnel in rural areas. Measures on a large scale are required to be undertaken to bring down the incidence of such diseases and pave the way for their eradication.

(a) *National Malaria Eradication Programme.*— Malaria control measures were started in the hyper endemic areas of State since 1953. From the year 1958, the National Malaria Eradication Programme, has been undertaken throughout the State. The salient features of the eradication programme are (i) spraying dwelling place with a suitable insecticide, normally twice in a year (ii) case detection *i.e.* surveillance operations throughout the State by fortnightly visits through special surveillance staff. The State is divided into 19.1/2 N.M.E.P. units each covering roughly one million population.

The present position regarding anti-malaria measures is as under:—

Insecticide spray.—As mosquitoes in most of the area of the State have now become resistant to DDT which is the insecticide generally used under the NMEP and some areas have also become resistant to BHC, Malathion has been used.

Surveillance-Case detection.—One surveillance worker is provided for every 10,000 population and one Surveillance Inspector for every 4 surveillance workers for supervision. Every surveillance worker visits each village in his charge once in 15 days and takes blood smears of all fever cases and sends them to the Unit office for examination. The worker also at the same time gives to the fever cases 4 chloroquine tablets for initial treatment. After the slide is examined at the unit headquarters and if is found positive for malaria, the Surveillance Inspector and the Malaria Inspector arrange for further treatment for 5 days with Primaquine tablets.

(b) *National Filaria Control Programme.*— Filaria is restricted mostly to the coastal areas of South Gujarat and Saurashtra and is mostly an urban problem. Control measures are mainly confined to anti-larval oiling at regular intervals. There are seven Filaria Control units.

(c) *National T. B. Control programme.*— Till recently hospitalisation for treatment of cases was the known measure in vogue for the control of tuberculosis. Now the concept of treatment has changed and domiciliary treatment of tuberculosis cases near their homes through the staff of District T. B. Centres and the Primary Health Centre Staff, is the accepted policy. For this purpose the multipurpose T. B. workers wherever they exist and the PHC staff *viz.* A.N.Ms detect T.B. cases and refer them to PHCs and other dispensaries which are being developed as treatment centres.

In the State there are at present 15 District T.B. Centres as per the pattern of the Government of India in all except three districts. In these 3 districts, there are T.B. clinics with smaller staff.

(d) *National Leprosy Control Programme.*— Leprosy is not a serious public health problem in the State. Of the estimated 47,000 cases of Leprosy in the State, three fourths are non-infectious. The incidence is comparatively high in the southern districts of the State *viz.* Surat, Bulsar, Dangs, Broach, Panchmahals and Baroda.

For the control of leprosy there are 5 leprosy hospitals in the State with a total bed-strength of 745. There are also 4 Leprosy Control Units and in addition there are 130 Leprosy Survey Education — Treatments units.

(e) *National Smallpox Eradication Programme.*— The National Smallpox Eradication Programme was started in the State, in 1962, with the objective of the elimination of clinical cases of smallpox. The attack phase of the programme was completed by 1966 and the programme has since entered the maintenance phase. There are at present 4 vaccinators per block. The annual target given to each vaccinator is 46 primary vaccinations per 1000 population and 33% revaccinations.

The disease has started showing a downward trend since 1969 and from 1971 the transmission of the disease has been completely intercepted. However, the emphasis on the vaccination programme has been maintained. Please see table below :

TABLE 4.2 Vaccination

Year	Primary	Revaccination
1968	1104817	946007
1969	1095792	5157825
1970	1124698	2138438
1971	1311885	2275636
1972	1277282	2384634

(f) *National Trachoma Control Programme.*—The prevalence of trachoma is very high in the Saurashtra districts and in the North Gujarat areas. The prevalence rate varies from 11.4% in the Dangs district to 79.2% in the district of Banaskantha. Trachoma control measures were started in Gujarat State on a pilot basis in 1958. As in the cases of the other National Programmes, the trachoma programme was also started on a unifunctional basis by providing separate staff. But from the beginning of the IVth Plan, this work has been integrated with the general health work entrusted to the PHCs staff. The staff of the PHCs, distribute eye ointment tubes in their areas under the general supervision of the supervisors who look after the work in the areas of four P.H.Cs. Trachoma Control work is undertaken by 231 of the Primary Health Centres of the State.

4.6 *Other Health Services.*—(i) *Vaccine Institute, Baroda.*—To meet the various requirements of vaccines in the different parts of the State, a full-fledged Vaccine Institute has been established at Baroda. It is now in a position to meet the entire requirements of anti-rabic vaccine of the State. Steps are under way to start the manufacture of other life saving vaccines.

(ii) *Public Health Laboratories.*—There is one State Public Health Laboratory at Baroda, a Regional Public Health Laboratory at Bhuj and a District Public Health Laboratory at Palanpur. These Laboratories undertake chemical and bacteriological examination of water and food samples under the Prevention of Food Adulteration Act. The State Public Health Laboratory, Baroda also undertakes research work for the prevention of Air and Water pollution attributable to industrialisation.

(iii) *Rural Health Training Centres.*—There are 4 Rural Health Training Centres at Bavla, Padra, Aliabada and Sachin which impart pre and in-service training for health personnel and pre-medical internship training for the medical students. A Sanitary Inspectors' class is also conducted at the Rural Health Training Centre, Bavla and the training of Basic Health Workers' under the scheme for the unemployed was also undertaken at Aliabada and Padra.

4.7 *E.S.I. Scheme.*—The E.S.I. Scheme was started in the State in the city of Ahmedabad, on 2nd October, 1964. Subsequently the scheme was extended to the following 13 mofussil centres covering in all 3,96,300 employees family units.

- | | |
|--------------|-----------------|
| 1. Rajkot | 8. Porbandar |
| 2. Wankaner | 9. Nadiad |
| 3. Cambay | 10. Jamnagar |
| 4. Petlad | 11. Dhrangadhra |
| 5. Morvi | 12. Baroda |
| 6. Bhavnagar | 13. Surat |
| 7. Kalol | |

The Scheme has its own diagnostic centres as under :—

1. ESIS General Hospital, Bapunagar, Ahmedabad.
3. ESIS Diagnostic Centre, Rajpur-Hirpur, Ahmedabad.
3. ESIS Diagnostic Centre at Baroda.

In addition, diagnostic facilities at other Government, Municipal, and private hospitals have also been made available at Ahmedabad and other mofussil centres. There are 20 such diagnostic centres in the State and the insured and their family members are referred to these diagnostic centres for examination and diagnosis by specialists and for X-Ray and Laboratory investigations as and when needed.

Dispensaries.—The Scheme has set up its own dispensaries at all centres. In addition to these dispensaries, Insurance Medical Practitioners, (Panel Doctors) have also been appointed to cater to the needs of the insured residing in areas, where service dispensaries could not be established.

The Scheme has also provided a Mobile Dispensary for medical care of the insured residing in villages round about Ahmedabad, where qualified medical personnel are not available for appointment as panel doctors.

There are 82 service dispensaries in the State under the Scheme. In Ahmedabad, 2,35,000 employees are provided the benefit of full medical care and 1,61,300 employees in the mofussil centres are provided expanded medical care.

Hospitals and Beds.—There are two ESIS hospitals in Ahmedabad, one 500 bedded ESIS general hospital at Bapunagar and another ESIS chest diseases hospital at Naroda with 200 beds. The Scheme has also started

a 12 bedded indoor ward attached to the ESIS diagnostic centre at Baroda. In addition, 543 beds are also reserved in Government and non-Government institution at different centres for indoor treatment of the insured.

Medical Store.—The ESI Scheme has a central medical stores in Ahmedabad. There are other sub-stores in Ahmedabad, which supply medicines prescribed by panel practitioners to the insured persons. A medical store is also maintained by the scheme at each centre in the dispensary, where sufficient stocks are held.

Ambulance.—The ESI scheme has its own ambulances at Ahmedabad, Baroda and Surat. At other mofussil centres, arrangements for the use of the ambulances of the other medical institutions on payment of charges as fixed, have been made.

Committees.—Government has constituted the following committees for the E.S.I. Scheme:

- (i) Allocation Committee for appointment of panel doctors.
- (ii) Medical Service Committee for looking into complainits against panel doctors.
- (iii) Pharmaceutical Committee for pharmacopia of drugs.
- (iv) Local purchase Committee for purchase of drugs locally.

Moreover, an advisory committee has also been sanctioned for each ESIS dispensary, in Ahmedabad and in the mofussil centres.

Staff.—Medical and para medical staff at the ESIS dispensaries and hospitals are being sanctioned by the Government on the basis of yardsticks prescribed by the E.S.I. Corporation.

Ceiling of expenditure.—The E.S.I. Corporation has laid down norms for treatment to I.Ps and has fixed the ceiling of the expenditure on medical care as under with effect from 1st April, 1974.

(i) Restricted medical care	Rs. 63 per annum per employee family unit.
(ii) Expanded medical care	Rs. 70 —do—
(iii) Full medical care	Rs. 85 —do—

The expenditure on the scheme is shared between the ESI Corporation and the State Government in the prescribed ratio of 7:1. The ESI Corporation contributes a $\frac{7}{8}$ th share of the expenditure if it is within the ceiling fixed by the Corporation for various types of medical care. Any expenditure above the ceiling has to be borne by the State Government entirely. The expenditure on capital construction for the building of hospitals and dispensaries is entirely borne by the E.S.I. Corporation.

5. FUTURE PATTERN OF HEALTH CARE —A BROAD APPROACH.

5.1. The last two decades and a half have witnessed dramatic changes in the field of medicine, especially in the techniques of diagnosis and treatment. The pattern of diseases has changed and the conventional type of fever hospitals and sanatoria have been rendered obsolete. The advances in immunology and the widespread use of a variety of antibiotics, have given a new direction to medical practice. Today, the general practitioner has to seek the advice of the specialist oftener than ever before, because of the increasing complexities of the newer therapeutic regimens. This has generated a steadily rising demand for sophisticated training methods, expensive equipment and supplies and highly qualified personnel. The costs of medical care have escalated in direct proportion. Increasing trends of urbanisation and a new awakening on the part of the rural masses to the basic tenets of a "a state of complete mental, physical and social well-being", have imparted a sense of urgency to the programme of expansion of health services. The resources available are in any event, limited, and it is therefore imperative to plan the future strategy with an eye on getting the best out of the available inputs of money, materials and manpower.

5.2. Maurice King in his book "Medical Care in Developing Countries", set down the imperatives for a future plan of action in the form of twelve axioms;

(i) The medical care of the common man is immensely worthwhile;

(ii) Medical care must be approached with an objective attitude of mind, which is free as far as possible from preconceived notions exported from industrial countries;

(iii) The maximum return in human welfare must be obtained from the limited money and skill available;

(a) In estimating this return means must not be confused with ends;

(b) Medical care must be adapted to the needs of an intermediate technology;

The pattern of a medical service;

(iv) A medical service must be organised to provide for steady growth in both the quantity and the quality of medical care;

(v) Patients should be treated as close to their homes as possible in the smallest, cheapest, most humbly staffed and most simply equipped unit that is capable of looking after them adequately;

(vi) (a) Some form of medical care should be supplied to all the people all the time;

(b) In respect of most of the common conditions there is little relationship between the cost and size of a medical unit and its therapeutic efficiency;

(c) Medical care can be effective without being comprehensive;

(vii) (a) Medical services should be organised from the bottom up and not from the top down;

(b) The health needs of a community must be related to their wants;

The role of the doctor and those who help him;

(viii) The role, a doctor has to play in a developing country differs in many important respects from that he plays in a developed one;

(ix) The role played by auxiliaries is both different and more important in developing countries than in developed ones;

(x) All medical workers have an educational role which is closely linked to their therapeutic one;

(a) Skilled staff members have a duty to teach the less skilled ones;

(b) All medical staff have a teaching vocation in the community they serve;

(xi) In developing countries medical care requires the adaptation and development of its own particular methodology;

(xii) Medical care must be carefully adapted to the opportunities and limitations of the local culture;

(a) Where possible medical services should do what they can to improve the non-medical aspects of a culture in the promotion of a better life for the people;

(b) Medical care and the local culture are closely linked.

5.3. A WHO Expert Committee identified the following, as the more important of the objectives, the attainment of which can be considered essential to the proper functioning of health services;

(i) *Comprehensiveness*—Comprehensive health services must be available for all;

(ii) *Accessibility*—Health Services must be located within or close to the community which will thus be aware of its availability;

(iii) *Quality*—Both the health administrator and the physician must strive to deliver high quality medical and health care;

(iv) *Adaptability*—Health administrations must remain dynamic, so as to be able to adapt themselves to changing social, economic and political conditions and to meet increasingly heavy demands on the existing health services;

(v) *Ability to influence and interpret*—This implies education of the consumer, by the health administrators. The consumer in turn is involved, not only through expressing his demands, but also by participating actively, in the determination of his own health affairs.

5.4. Health services as they are structured today have by and large failed in measuring up to these objectives. The gross disparity in the standards of medical care available at the peripheral areas and the teaching institutions is but one of the major inadequacies of the system. Inter regional and inter institutional variations and overall shortages, accentuate this situation. The Health Survey and Planning Committee had laid down a standard of one doctor per 3000/3500 persons by the end of the fourth plan and one hospital bed for every 1000 population, to be reached by the end of the fifth plan. Notwithstanding a regular programme of adding to the bed-strength at the government institutions and increasing the intake of the medical colleges, during the five year plans, the operative ratio in the State at the commencement of the fifth plan is 0.54 for beds in the Government medical institutions. The position however appears to be much better, when the beds at the hospitals run by the local bodies and voluntary agencies, are also taken into account. The proportion of hospital beds to a thousand heads of the population in the latter situation, works out to 0.90. The doctor population ratio stood at 1 : 4900 in 1970. Comparable information for some of the other States of the Union is presented in the following tables (Tables 5.1 and 5.2).

TABLE 5.1.
Doctor population ratio in different States (1970)

Sr. No.	State	Doctor-population ratio
1.	Andhra Pradesh	1 : 4416*
2.	Bihar	1 : 6083
3.	Gujarat	1 : 4900
4.	Kerala	1 : 3981*
5.	Maharashtra	1 : 2592*
6.	Rajasthan	1 : 12662
7.	Tamil Nadu	1 : 3511*
8.	Uttar Pradesh	1 : 7672
9.	West Bengal	1 : 1747
10.	All India	1 : 4313

Figures relate to 1973.

TABLE 5.2.
Bed-population ratio for different States (1973)

Sr. No.	State.	Bed population Ratio. Beds per 1000 population.
1.	Andhra Pradesh	0.65
2.	Assam	0.47
3.	Bihar	0.20
4.	Gujarat	0.56
5.	Karnataka	0.81
6.	Kerala	0.92
7.	Madhya Pradesh	0.33
8.	Maharashtra	0.74
9.	Punjab	0.60
10.	Rajasthan	0.53
11.	Tamil Nadu	0.55
12.	Uttar Pradesh	0.40
13.	West Bengal	0.78
14.	All India	0.49*

Figure relates to 1968.

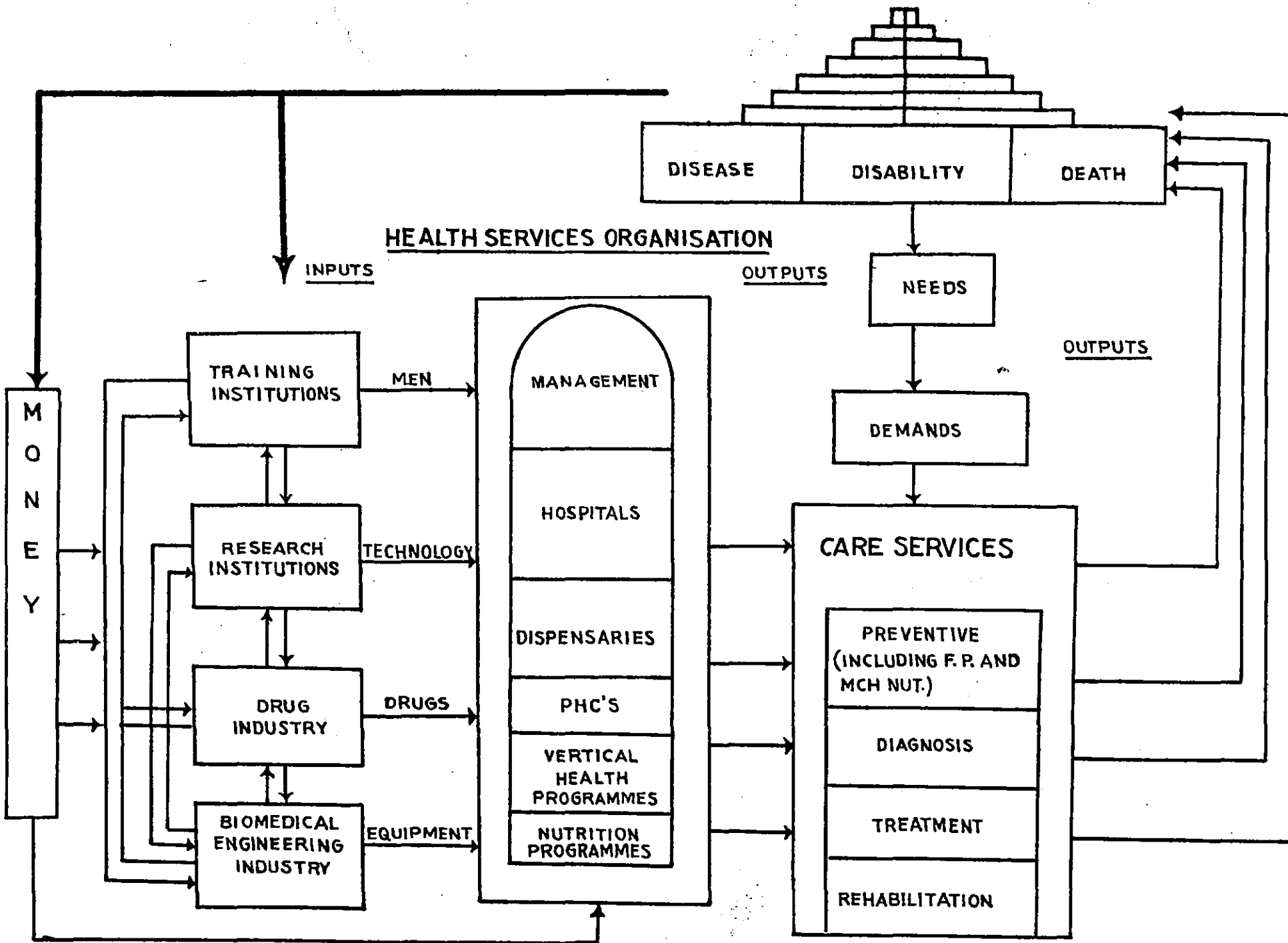
Inter district divergence in the bed-population ratio is also considerable. The data bearing out this situation is tabulated below—Table 5-3.

TABLE 5.3.

Sr. No.	District	No. of hospls. disps. with beds upgraded PHCs.	No. of beds.	Ayurved beds	Beds in PHCs excluding those upgraded	Total Govt. beds (4+5+6)	Beds ratio Govt. beds.	Other beds vol. orgn. local bodies etc.	Total beds including others.	Ratio
1	2	3	4	5	6	7	8	9	10	11
1	Ahmedabad	9	2693	240	60	2993	1.03	2081	5074	1.74
2	Amreli	11	333	15	66	414	0.49	36	450	0.53
3	Kutch	11	497	15	54	566	0.67	160	726	0.85
4	Kaira	4	255	30	150	435	0.18	1286	1721	0.70
5	Gandhinagar	1	50	11	12	73	0.36	35	108	0.54
6	Dangs	3	105	..	12	117	1.24	..	117	1.24
7	Jamnagar	6	1030	..	60	1090	0.98	166	1256	1.13
8	Junagadh	7	767	40	96	903	0.54	616	1519	0.92
9	Panchmahals	8	448	40	126	614	0.33	106	720	0.38
10	Banaskantha	5	332	..	72	404	0.32	84	488	0.38
11	Broach	5	260	..	72	332	0.30	284	616	0.55
12	Bhavnagar	6	768	70	84	922	0.66	1294	2216	1.58
13	Mehsana	8	524	20	114	658	0.31	798	1456	0.70
14	Rajkot	13	1068	31	84	1183	0.73	325	1508	0.93
15	Baroda	11	1623	58	84	1765	0.89	329	2094	1.05
16	Bulsar	7	214	20	96	330	0.23	454	784	0.54
17	Sabarkantha	4	244	10	72	326	0.27	410	736	0.62
18	Surat	8	713	..	102	815	0.46	1029	1844	1.03
19	Surendranagar	4	360	15	60	435	0.51	290	725	0.85
Total ..		131	12284	615	1476	14375	0.54	9783	24158	0.90

5.5 The draft fifth plan of the country has laid stress on the endeavour in health planning to remove the rural urban imbalance and extend health care facilities to peripheral areas and backward classes. It has been estimated that nearly eighty percent of the hospital beds are available in the urban centres and only the remaining twenty percent are spread out in the rural areas; the ratio is more or less the inverse of the population spread between rural and urban areas in the State. The availability of beds in the rural areas is again no indication of the standards of medical care available to the population. Primary health centres and rural dispensaries without doctors and the smaller hospitals, inadequately staffed and poorly equipped, also contribute to the total number of beds in the rural areas. How far these beds are at all utilised is not known, but it is generally believed that bed utilisation is very poor in the rural sector.

In the draft fifth plan, the primary objective is stated to be the provision of minimum public health facilities integrated with family planning and nutrition, for vulnerable groups, children, pregnant and lactating mothers, the need to consolidate past gains in the various fields of health, such as communicable diseases, medical education and provision of infrastructure in the rural areas. The accent during the plan was expected to be on; (i) Increasing the accessibility of health services to the rural areas; (ii) Correcting regional imbalances; (iii) Further development of referral services by removing deficiencies in the district and sub divisional hospital; (iv) Intensification of the control and eradication of communicable diseases (v) Qualitative improvement in training of health personnel; (vi) Development of referral services by providing specialists' attention to common diseases in rural areas.



5.6 In the circumstances, planning the expansion of health services to meet the emerging needs and the rising expectations of the community, would prove to be a far more complex exercise than the mere addition of hospitals, or beds, or manpower. The entire spectrum of health care delivery encompasses a wide range of policies and programmes. The inputs and the processes for the production of the required services and bringing about possible reductions in morbidity, mortality and disability in the community and other inter-relationships, need to be clearly understood in the first place. A conceptual model of health care delivery system could be delineated as in the chart on prepage.

The infrastructure that sustains the health delivery system already exists and several institutions participate in the process of generation of the necessary inputs. But a positive correlation between the production of the inputs and their consumption has not been possible to establish. Several studies carried out in the Delhi hospitals have brought out the maladies that afflict the system. Their applicability per se, to the local situation may be in doubt, but they do indicate unfailingly the direction of corrective action. Some of these studies have borne out that despite the significant increase in medical manpower shortages persist at some levels, while some medical graduates have to struggle for want of job opportunities. In the case of the peripheral services all categories of health workers were found to be idle to the tune of nearly 40% of their time while 15 to 20% of time was spent on travel. The gap that exist between the production of manpower and its optimum utilization therefore need to be narrowed down.

In the hospital sphere, studies have brought out that there has been a substantial under utilisation or inappropriate use of physical facilities and that the system devised for outpatient services or the acquisition and management of stores and supplies, have proved inadequate, in relation to the needs. Another major finding has been that the inpatient facilities of the non teaching general hospitals were being used mostly by people from within a radius of five kilometers.

The available evidence also indicates that the existing services of the PHCs, are utilised by the population living within a radius of three miles. As a result it has not been possible to assess how far they have helped in the containment of disease, disability and death except in general terms and that too for certain specific diseases for the national programmes.

5.7 The problems that are brought to the fore thus, are two fold; (i) those that pertain to the larger

system such as of strategy, planning of resource requirements, allocations of resources establishing linkages between different institutions and preparing the ground for larger community involvement and (ii) problems relating to the activities and processes in each of the many sub-systems of a micro nature.

5.8 Relevant to the future strategy of development of health services, is a concept which aims at adapting the hospital system to local geography and demographic and epidemiological features, on the one hand and the efficient utilisation of available resources on the other. In order that hospitals may be organised, equipped and adequately staffed with qualified personnel to handle the conditions occurring less frequently, they should be so placed as to serve reasonably large groups of the population. Commonly occurring and mild diseases can be treated in less lavishly equipped hospitals, placed at the periphery to serve compact local groups of people. This is the new idea of 'Regionalisation' seeking to accomplish the organisation and coordination of all health resources within a defined area. The rationale behind this idea and the advantages that it offers, are evident.

The regional health services complex will have multiple levels of organisation. At the bottom should be the health centres catering to a closely knit community. The WHO envisages a population coverage of the order of 10,000 at this level. The next higher level is represented by a local hospital with 50 to 100 beds, the population served being around 40,000. Intermediate hospitals for every 2,50,000 of the population and having about 300 beds are to operate at the next higher range. The top position in the organisational network is assigned to a base hospital with 500 to 1000 beds and the population to be covered in the range of 1 to 3 million.

5.9 A substitute of sorts, to the regionalised hospital system, exists today in the State though its organisational characteristics and operational modes are substantially different from the conceptual frame of the WHO. The teaching hospitals in Gujarat, located in different regions of the State are capable of fulfilling the role of the base hospitals and the district, taluka and other hospitals can fit into the scheme, at the intermediate level. The PHCs and rural dispensaries reorganised with reduced area and population coverage, could form the foundation of the entire edifice.

The Study Group on Hospitals visualised the situation thus "The Group is of the opinion that a dynamic concentration of medical facilities round about the teaching hospitals having all the medical

specialities and facilities for treating serious patients referred from lower tier hospitals and the radical downward flow of active services from the teaching hospitals to peripheral levels through mobile teams of specialists, are the essence of a well organised regionalisation".

The basic features of the scheme of regionalisation of hospital services can be briefly set out as follows : (i) Two way flow of patients and record; (ii) Two way flow of personnel and services; (iii) Mobile Units; (iv) Centralised control but decentralised execution; (v) Coordinated programmes of education for the entire region; (vi) Two way communication both physical and intellectual; (vii) Co-ordination with other community health services. The objectives of the new strategy should be clearly understood by all the constituent units of the regional organisation and operative procedures should be so devised as to ensure that a patient is treated as close to his place of residence as possible and is also provided comprehensive health care and that specialist cover and referral services are available as and when needed. The Group on Medical Education and Support Manpower said "from this point of view, it is necessary to develop an efficient and readily accessible system of referral from the PHC to higher and more sophisticated echelons, in the neighbouring taluka (tehsil, district, regional or medical college hospitals). At present most of these hospitals function in almost total isolation from one another and without satisfactory links with the local community and a wide gulf separates them from the primary health centres. We therefore recommend that the primary health centres as well as the Taluka/Tehsil District, regional and medical college hospitals should each develop living and direct links with the community around them and also have functional links with one another within a total referral services complex". The Committee concurs in the basic philosophy underlying these pronouncements. This idea has been further developed in the subsequent chapters on teaching hospitals and field health services.

5.10 An offshoot of the concept of comprehensive health care, is the idea of synthesising the administration of all health facilities operating in a given area and the provision of integrated services at the periphery. The first report of the Expert Committee of the WHO on the 'Role of Hospitals in Programmes of Community Health Protection', said "the integration of preventive and curative medicine in medical and administrative practice has been long overdue" and added that "a general hospital should not limit its functions to the restorative sphere alone, but should in so far as circumstances permit, organise itself to serve preventive, educational and

research needs as well". The Health Survey and Planning Committee had strongly advocated the idea of the integration of medical and public health services and envisaged that "under a long term programme, periodical shifting of personnel from medical to public health and *vice-versa* will be desirable if the problems of medical relief and public health are to be dealt with properly". The Study Group on Hospitals endorsed this approach and said "with a view to achieve a balance in the distribution of medical care it is necessary to have a unified approach to all problems of the provision of good medical and health care, under a single administrative authority."

The State has so far maintained separate administrative arrangements for the preventive and curative health services though at the top, the Director of Health Services is the common head of both the wings. The envisaged future organisation of health services can not countenance such a segmented approach and the movement of reform has, unequivocally, to be, in the direction of a complete unification of the health administration of the State. The Committee has dwelt on the modalities involved, at greater length, in the ensuing chapters.

5.11 The policy frame for future action being thus settled, a time bound programme of action has to be formulated with specific targets of performance. The thinking so far in the country has been, to adopt the broad criteria laid down by the Health Survey and Planning Committee more than a decade ago. The targets for the State's perspective plan were fixed on the same lines, both for the doctor population ratio and the bed requirement for every one thousand of the population. By the year 1986, corresponding to a projected population level of 37.3 millions, the requirement of beds was calculated as 37300. Similarly, assuming the scale of one doctor for 3000 persons, the perspective plan concluded that this ratio can not be attained by 1986 and proposed the opening of two more medical colleges in the State.

While a target oriented approach is in keeping with the mechanics of programme formulation and investment scheduling, the Committee wishes to stress that the realisation of the targets alone, does not mean that the problems of organising comprehensive health services all over, have been effectively tackled. The reach that the medical institutions are able to achieve in the rural areas and the range of services they provide are bound to be limited, and at best, rudimentary treatment for ordinary ailments may be made available. But the larger sphere of health education and the improvement of the social and economic environment will be precluded from their areas of action. The country's fifth plan document

invited attention to this phenomenon in the following words: "In regard to minimum public health facilities generalised norms such as improvements in the doctor-population and bed-population ratios or percapita expenditure on health, are not enough. Availability of health facilities in rural areas, continues to be lopsided. The norm will have to be related to adequate expansion of medical and health care to rural areas". It is also to be remembered that placed as the State is, even the targets set by the Mudaliar Committee can not be expected to be reached without a very substantial augmentation of outlays on health programmes and unless medical personnel in required numbers become available. The former is but a remote prospect and the latter, more of a pious hope than pragmatism would decree. The problem was placed in sharp focus by the Royal Commission on Medical Education thus: "We have found from our own enquiries that no country in the world has really succeeded in persuading recent medical graduates to serve in outlying areas where they are necessarily denied access to specialised medical facilities and the constant company of other doctors, with its important implications for maintaining professional competence and the amenities of social life, which a highly educated, young person normally expects"

5.12 The impracticality, in the existing circumstances, of an approach that emphasised the provision of health services through professional staff under the direct state control, has provoked creative thinking on non-traditional lines. The Group on Medical Education and Support Manpower for instance, canvassed a new mode! that "will have to place a greater emphasis on human effort (for which we have a large potential) rather than on monetary inputs (for which we have severe constraints)". The Group felt that what is needed is "the creation of large bands of part-time, semi professional workers from among the community itself, who would be close to the people, live with them and in addition to promotive and preventive health services, including those related to family planning, will also provide basic medical services needed in day-to-day common illness which account for about eighty percent of all illnesses. It is to supplement them and not for supplanting them that we have to create a professional highly competent, dedicated, readily accessible and almost ubiquitous referral service, to deal with the minority of complicated cases that need specialised treatment"

The salient features of the scheme, which the Committee feels, has fair chances of acceptance in the rural communities are as follows :

(i) *Para-professional community health workers.*—A large number of locally recruited, suitably trained, part-time, para-professional per-

sons working on self-employment basis, should be organised, who will be readily available to provide simple day-to-day medical and health services, to the community. They will form the links between the community and the multi-purpose workers functioning at the sub-centres, and the doctor at the PHC. The number of such workers should not be restricted. In fact the more such workers are trained, the better it will be, for the community. Suitable arrangements will have to be made for their selection, provision of training and retraining guidance and counselling and periodical evaluation and supply of materials needed at reasonable prices.

(ii) Reorganisation of the services of health workers and creation of the new cadre of health assistants.

Between the voluntary workers and the primary health centres, two cadres, of health workers and health assistants are sought to be developed;

(a) *Health Workers.*—The number of health workers should be ultimately increased from one male and one female each, for every 8000 population as provided in the Fifth Five Year Plan, to every 5000 population by the end of the Sixth Plan. Every health worker should be trained and equipped to give simple specified remedies for day-to-day illness.

(b) *Health Assistants.*—The existing supervisory personnel should be designated as "Health Assistants". There should be one male and one female health assistant for two male and two female health workers respectively. The health assistants should be located at the sub centres. They should be trained and equipped, to give specified remedies for simple day-to-day illness but at a higher level of competence, than the health workers. The health assistants should not only function in the supervisory role but also work as health workers in their own area. The female health assistant should take particular care of children and expectant and lactating mothers.

5.13 Health is essentially an individual responsibility in as much as the urge and the willingness to take proper care of one's health should be self-generated. The community has its share of responsibilities also. It is the duty of the community to provide a wholesome environment to live in and create congenial conditions for the operation of preventive and promotional health services through the medium of health workers and the health assistants. Health education has to be extended on a large scale to the rural areas to bring about attitudinal changes and to create a mood of assimilation of health and hygiene

as a way of life. The role of the community health workers in this regard will be as significant as it is difficult. Full institutional support for their efforts shall, therefore, have to be ensured.

At the hospitals, the opportunities for imparting health education should be fully exploited, though very little is being done in this regard, today. Specific instructions to patients on the observance of certain practices leading to the cure of ailments and ensuring a speedy recovery, is but a small part of health education. In its wider connotations, health education should deal with the dissemination of information on broad based health problems and creating an awareness about them. Visual and audio-visual communication aids should be extensively used for the purpose. The outpatients departments of the hospital offers excellent scope for launching programmes of basic health education. Medical social workers should be available at all the major hospitals to identify situations suited to health education work and guide the staff in developing among the patients, positive health attitudes and to reorientate their behaviour in such a way as would help them to get well and stay well. The association of voluntary agencies and social and community welfare organisations in the programme of health education at the hospitals and permitting their representatives to participate in its implementation would have a salutary effect.

5.14 *Resource Mobilisation.*—The programme of expansion of health services implies the creation of new infrastructural facilities where none exist today and adding to them very substantially, wherever they are available but are inadequate in relation to the felt need. Construction of hospitals, augmentation of medical and para medical personnel, addition of hospital beds, provision of equipments, vehicles, and drugs, constitute an expensive package deal. Taking but one constituent of this package, the addition of hospital beds, the norms laid down by the Health Survey and Planning Committee visualized the availability of one bed for every 1000 population during the fourth or fifth plan period. According to the State's perspective plan the number of beds required by 1973-74, to satisfy this yardstick, was of the order of 29300, representing a short-fall of about 5100. The Jain Committee had calculated the non-recurring cost of providing hospital beds at Rs. 15,000/- per unit and the recurring cost of Rs. 4,000/- per annum. Even assuming the total absence of any cost escalation in the intervening years since the Jain Committee's report, the outlay needed for achieving the target levels for 1973-74 now, would be of the order of Rs. 9.69 crores. The proposed fifth plan outlay of the State on health, excluding the control of communicable diseases and family planning, is around Rs. 16

crores. The resources constraint is thus, very severe. While it would by no means be unreasonable to expect that larger allocations in favour of the health sector should flow in the future plans, the dictotomy between the growing demands on the one hand and the inelasticity of resources on the other, belies any hopes in this behalf. A realistic course to pursue in the circumstances is to look inwards for any scope for augmentation of resources from within the hospital system. The Jain Committee approached this question with the necessary sense of pragmatism, when it said that the sector of the population which is in a position to pay for medical facilities, should pay for it. From the data available from the NSS for 1960-61 and an earlier survey among urban middle class families, the Jain Committee observed that people in the urban areas spend 2 to 5 percent of their incomes on medical care and in the rural areas the corresponding figures were 2 to 3 percent. The Jain Committee's view, that if the expenditure incurred by the people was of this order, then efforts are necessary to canalise the amount systematically through recoveries, to build up medical care facilities, is very pertinent to the present context. The Jain Committee made the following specific recommendations *inter-alia* in this connection.

- (i) Levy of a charge of 10 paise per attendance in the outpatients departments of hospitals and dispensaries.
- (ii) A minimum charge of 25 paise per day of hospital stay;
- (iii) Payment of diet charges by patients with a monthly income of Rs. 200/- or more;
- (iv) Provision of paying beds in district and other hospitals where they do not exist;
- (v) Setting up pay-clinics in all the major hospitals, in towns with a population of 5 lakhs and more;
- (vi) Extension of the Employees State Insurance Scheme;
- (vii) Starting health insurance schemes in selected areas or selected groups of the population;
- (viii) Health Cess.

Examining the same question, the Maharashtra Committee on the Rationalisation of Teaching Hospitals recommended the levy of the following charges in the OPD and on the patients admitted indoors.

- (i) Fifty paise for the first registration, before the outpatient department case paper is issued to the patient;

(ii) There should be no additional charge for routine investigations, like blood, urine, stools, and sputum examination, as also clinical examination and the prescription given to the patient;

(iii) However, for special investigations like (a) x-ray examination (b) electro-cardiograph (c) special blood examination like blood sugar estimation or glucose tolerance curve, fees should be charged;

(iv) It is suggested that as far as x-rays are concerned, the patients should be encouraged to buy them from either a co-operative shop or from similar organisations, working at many of our hospitals. Where such co-operatives shops or organisations do not function, a fee of Rs. 5/- should be levied. Similarly, for E.C.G. or Blood examinations, again a fee of Rs. 5/- for such investigations should be levied;

(v) At the inpatient department or wards, a uniform fee of Rs. 2/- per day inclusive of diet and linen should be charged to all but the indigent patients. A consolidated fee of Rs. 5/- for a single special investigation, like x-ray etc. and Rs. 10/- for multiple (more than one) investigations should be levied, on all patients (except the indigent and poor patients).

The draft fifth plan has also recommended the levy of a token charge for each outpatient for the first visit and a daily charge for an inpatient receiving free diet in Government run institutions and suggested that the proceeds be used for improving institutional services.

An idea of the attendance of patients at the OPD and indoor admissions in the hospitals and dispen-

saries in the year 1973, can be had from the following table. (Table 5.4).

TABLE-5.4

Sr. No.	Category of Hospital	Outdoor Patients	Indoor Patients
1.	Teaching Hospitals.	7,26,638	1,23,813
2.	District Hospitals	11,47,162	1,39,279
3.	Other Hospitals	39,56,601	2,07,866
4.	Primary Health Centres	25,95,295	40,564
Total		84,25,726	5,11,522

Even assuming that the poorest classes of patients to whom all treatment is to be made available free of charge, are excluded from the total, the scope of raising some revenues at the hospitals by levying registration charges at the OPD and for indoor stay can be considered to be quite bright. The Committee generally concurs in the principle underlying the recommendations of the Jain Committee and the Maharashtra Committee and would only suggest that the question of levy of fees of different kinds may be gone into by a departmental Committee, once the principle is accepted. A rationalisation of the rates for different kinds of special investigations, diet charges, ambulance hire charges, and special room charges may also be taken up as a part of the same exercise.

The Committee has favoured the idea of setting up pay clinics and satellite OPDs under the teaching hospitals. The provision of paying beds and the extension of the ESI scheme to other towns in the State will also be moves in the right direction. The idea of a health cess has much to commend itself in the context of the need for a massive programme of health care which the State may have to undertake even in the face of serious limitations of resources.

6. ENVISAGED ORGANISATION OF HEALTH SERVICES — STATE LEVEL

6.1 The terms of reference, require the Committee to examine, the present set up of the Directorate of Health Services in the State and indicate suitable steps for the reorganisation and rationalisation of its structure and working, so as to ensure its effective and dynamic functioning at the helm of health and medical services in the State. Any scheme of restructuring the department can not be restricted to the State level organisation only, but has rightly to cover the entire administrative apparatus in charge of the health delivery system. The Committee has therefore gone into the question comprehensively encompassing all the levels of the health administration of the State.

6.2 The salient features of the present organisational net-work are as follows :—

(i) A common head of the preventive and curative services wings, barring medical education;

(ii) A separate Medical Education and Research Directorate, having jurisdiction over the medical and dental colleges, teaching hospitals and some training institutions;

(iii) Functional division at the next lower level with no scope of horizontal movement;

(iv) Water-tight compartmentalisation of health and medical services at the district and the area levels;

(v) An independent E. S. I. set up, with separate functional cadres;

(vi) Independent medical teacher cadres;

(vii) Non-existence of any intermediate executive/supervisory authority between the District and State levels.

(viii) Organisation of health services and family Planning programmes in the non-urban areas under the District Panchayats.

6.3 The Committee has identified three major areas of reform of the present system; (i) the elimination of the dictotomy of preventive and curative services in terms of organisation; (ii) decentralisation of health administration in the non-panchayat sphere; (iii) Community involvement in the total health care programme. To bring about the necessary changes in the organisational frame to accomplish these goals, the Committee feels that the process of refurbishing the administrative edifice, should commence at the top. In so far as it concerns the top echelons of the health administration any attempt at structural changes should be inspired by these crucial consid-

erations; (i) the need for a unified authority frame covering the whole range of functional health services and (ii) the need for ensuring perfect complementarity between medical education and operational health services without diluting the emphasis on either.

6.4 Consistent with this basic approach, the Committee favours a composite top level set up in which a single functionary the Director of Health Services, would be in overall charge of all facets of health administration including medical education. The Committee is conscious of the fact that very recently the Government has bifurcated the Directorate of Health Services by creating a new post of Director of Medical Education and Research. The Committee is not aware of the compelling necessity of such bifurcation, even as the entire issue of the reorganisation of the department was under its scrutiny. As such, while taking note of the new development, the Committee has been constrained to proceed to consider the issue in the much wider context of the imperatives for a sound organisational structure, to administer the health delivery system of the future.

6.5 The hiatus between the policy making function and the policy execution function, has lost much of its relevance in modern public administration and especially in a technical sphere like health services, the Committee feels that it is essential that the top executive should have direct access to and have the right to participate in the policy making process. This has already been accepted in practice, in a few other states of the country and it is understood that even in the state of Gujarat there is a parallel in the State Public Works Department. Keeping this in view, the Committee recommends that the top officer in the hierarchy, the Director of Health Services should also be an Additional Secretary to the Health Department at the Secretariat.

6.6 There can be no denying the fact that medical education and research play an important part in determining the content and quality of health services in the State. Any attempt to raise the calibre of the operational health services will yield but limited results, unless, a solid foundation, in terms of improving the standards of medical education and research in health problems, had been laid. It is therefore imperative that the problems of medical education should be handled with the necessary insight and comprehension, at the top level of the departmental hierarchy. The Committee acknowledges that two views are possible on how to ensure

this, organisationally. In fact, some states, Maharashtra and Tamil Nadu, notably, have set up separate Directorates of Medical Education, while several others have composite Directorates, with medical education being looked after by an officer of the status of a Deputy/Joint/Additional Director. Admittedly, in practice, the top rungs in charge of medical education and medical and health services have several concurrent operational responsibilities and with two separate Directorates, it would be exceedingly difficult to ensure effective co-ordination, except perhaps at the behest of a third functionary placed a step above both, acting as a moderator. It would neither be practical nor economical, to introduce an additional element in the hierarchy, for the sole purpose of ensuring horizontal co-ordination, between the two wings of the same department. It is also conceivable that conflicts of jurisdiction and ineffective co-ordination will have serious implications for the integrated health delivery programme, comprising as it does, different levels of the administration, different institutions and official and non-official agencies.

At least two important associations, the Medical Teachers Association and the Resident Doctors Association, both intimately connected with the sphere of medical education, have expressed themselves clearly in favour of a single head of the department looking after both medical education and operational health services. A similar view has been expressed by the Indian Medical Association, Gujarat State Branch. The Committee concurs in this view generally and feels that it would be difficult to find justification for an independent Directorate of Medical Education. However, both in terms of status and devolution of authority, it is essential that the top level officer on the medical education side should have a prominent position, with considerable freedom of action, within his functional areas. This in the Committee's view, would ensure constant attention to the special problems of medical education and research and help the state in securing men of high abilities to man this key post. The appropriate designation for the post would be additional Director of Medical Education and Research.

6.7 In the realm of operational health services, traditionally, there has been a broad division of work between community health services and hospital services. This arrangement is logical and enables a rational assignment of responsibilities at the top level. Keeping in view the need for a broad parity of status as between the incumbents of the second-in-command positions as also the need for improving the prospects of promotion at the senior levels in the hierarchy, the Committee feels, that two officers

designated also as Additional Directors may be put in charge of Community Health Services and Institutional Health Services respectively, under the control of the Director. Family Planning should form a part of the sphere of duty of the former.

6.8 The areas of operation of these three top officers would be sufficiently large, but, in terms of total operational responsibility and the quantum of day-to-day work, there may not be any strict comparability. Hence, at the next lower rung of the hierarchy, uniformity will be difficult to achieve. Moreover, the decentralisation of the administration of health services that the Committee has in mind, is expected to shift the centre of decision-making closer to the field of action and the need for a large staff element at the headquarters should be therefore, minimal. In consequence, the Committee is of the opinion that the level of assistance to be provided should be the same under the three wings, though there could be variation in the number of assistants. The Committee favours the designation of Deputy Directors for the officers who are to hold these positions.

6.9 There should be a Deputy Director under the Director of Medical Education and Research, to help him to look after all aspects of medical education, training and research. The administration of all the teaching hospitals and the programmes for the training of medical officers, interns, and nursing and para-medical personnel, should also be in the charge of this officer. Matters relating to dental education and organising dental services, as a part of the hospital net work, should be put under the charge of a Deputy Director of Dental Education. More about the set up of dental services follows elsewhere in this chapter.

The load of responsibility that would devolve on the officer next lower in the hierarchy, of the institutional health services, would be directly in proportion to the number of medical institutions in the state. This functionary will be called upon to shoulder the burden of organising and operating the cadres specialists and the general duty medical officers of the health services in the government hospitals and oversee the whole range of activities in connection with the running of the non-teaching institutions. The Committee considers that the existing arrangement of some hospitals being run under the control of the health section of the Directorate and the others by the medical section, has no rational basis and accordingly recommends that all medical institutions with the exception of Primary Health Centres and rural dispensaries should be managed by the same organisational wing of the Directorate. As such, all

hospitals by whatever name they are called, will come under the supervisory control of this staff officer. The Committee suggests the designation of Deputy Director (Institutional Health Services) for this post. The Deputy Director would also be incharge of non-Government medical institutions in receipt of grants-in-aid, in so far as technical supervision and guidance are concerned. He will also have to co-ordinate the diverse aspects of the referral services complex, comprising the local, district and teaching hospitals and maintain effective liaison with the medical education and the community health services wings of the Directorate, to gear up the entire machinery to peak efficiency.

Turning now to the field health services, there are two principal areas of operation, Community Health and Family Planning. The major responsibility for organising and administering the programme of rural health care, is with the Panchayats and in the new scheme set out by the Committee, a large part of the liability for technical guidance, supervision and control will rest with the Regional Assistant Directors. However, at the state level, it would still be necessary to monitor the functioning of the sprawling net work of integrated community health services and ensure the successful implementation of the national health programmes. It would thus be appropriate to have a Deputy Director of Community Health, looking after communicable diseases, rural health services and special health programmes. Family Planning being an important national movement and having a special significance for the state, will have to be put under a separate Deputy Director. The Deputy Director of Family Planning could also take care of mother and child health programmes, and nutrition.

6.10. The creation of the regional posts of Assistant Directors would serve as a decisive step towards the decentralisation of the health administration. This should therefore lead eventually to the dispersal of authority, both technical and administrative, in favour of the regional offices. In such a situation the head quarters organisation should by and large stand relieved of concurrent involvement in the operation of the health delivery system in the field. The need for a large staff element distributed over various levels in the Directorate, stands curtailed to that extent. Keeping this factor in view, the Committee feels, that there should be three posts of Assistant Directors, one each for Communicable Diseases, Rural Health Services, and Health Education and Training, all under the Deputy Director of Community Health Services and a fourth post of Assistant Director (Family Planning and MCH) under the Deputy Director of Family Planning.

6.11 Another key structural change the Committee recommends, is that of the integration of the administration of the ESI Scheme within the fold of the health services of the State. The Committee has given careful thought to this question and has examined in considerable detail, the pros and cons of such integration. Admittedly, the E.S.I. Scheme caters to a well defined section of the working population and is governed by the ground rules laid down by the E.S.I. corporation. But, preserving the character and content of the E.S.I. scheme, is not basically inconsistent with the idea of integration of the various categories of technical personnel. The Committee finds that in several other states the E.S.I. organisation forms an integral part of the State Directorates of health services and is headed by an officer of the rank of a Deputy/Joint Director. It should therefore present no insuperable difficulty to work out a detailed scheme of amalgamation of the technical cadres. The Committee is however aware, that the management of a large cadre of medical officers is by no means easy and striking a fair balance between the different wings of the department will, be a demanding task. The Committee would therefore sound a note of caution against any lop sided personnel management policies, under which the manpower demands of the various functional divisions of the department would get embroiled in an irreconcilable conflict. Once an objective placement policy takes root, such problems should vanish and with them the major justification for separate cadres. On the contrary, the integration of the ESIS and the health services, is practicable and also desirable, firstly because it would provide for better utilisation of the available manpower and secondly since the posts in the E.S.I. set up are mostly located in the urban centres, it would facilitate the scheme of rotation of personnel between urban and rural areas, if the E.S.I. posts were to be pooled together, with those of the medical and public health cadres.

The Committee envisages that the Additional Director of Institutional Health Services will be in over all charge of the E.S.I. organisation also. However, since the Employees State Insurance Scheme deals with organised labour and the industrial sector, it is likely that several problems, relating to the scheme of medical relief, canalisation of medical supplies and supervision of the working of the various institutions, might demand constant high level attention. It would therefore be essential that a Deputy Director is appointed to assist the Additional Director in running the Employees State Insurance Scheme.

6.12 One of the important functions of the apex organisation of any field service, is to organise a concurrent and continuous programme of assessment of

performance in different fields and undertake a periodical review and reappraisal of policy. For this purpose there must exist, a regular arrangement for the issue of instructions and guidelines for action on the one hand and the feed back of progress data and reports on implementation, on the other. An intelligent appraisal of the information that flows in, should follow. This shall have to be supplemented by a suitably devised scheme of inspection and frequent exchange of views, with the field officers. Laying down specific targets of performance and reviewing actual achievement from time to time, are the other vital features of such a system of monitoring. The key objective of the entire exercise, is to gain the necessary insight into the working of the field programmes, identify problem areas and bottlenecks impeding the implementation process and facilitate quick corrective action. *Post-facto* evaluation of results and in-depth studies of the impact of on-going as well as new schemes, are also essential for monitoring to be purposeful. In order that this important task may be handled competently, the Committee recommends that a Deputy Director of Policy Planning and Evaluation should function at the Directorate, under the straight control of the Director of Health Services. The Statistical Cell in the Directorate should be placed under this officer. The Committee has in view the following spheres of responsibility for the Deputy Director;

- (i) Co-ordination and implementation of the operational plans for health services at all levels;
- (ii) Perspective planning of future expansion of health services;
- (iii) Liaison with professional bodies and social welfare organisations to organise non-institutional medical relief;
- (iv) Budget planning, and cost analysis of health programmes;
- (v) Man power planning;
- (vi) Establishment of standards for services, personnel, architecture and equipment;
- (vii) Conduct of research in hospital planning and design;
- (viii) Continual evaluation of progress.

6.13 The state has a Dental College with 50 annual admissions. At present the Dean of the dental college is not associated actively, either with the formulation of the policy regarding dental education, or the programme of organising dental services in the state. Earlier on, the Committee has recommended the creation of a post of Deputy Director of Dental Education under the Additional Director of Medical Education

and Research. While this would be the ideal, the committee feels, that at the present stage of evolution of dental education and dental services in the State, it would not as yet, be absolutely necessary to have a full-fledged post of Deputy Director for Dental Education. As an interim measure therefore, the Committee favours the Dean of the Dental College being additionally designated as the Deputy Director of Dental Education and Dental Services. This would however mean that the Deputy Director would be notionally under dual control, since the organisation of dental services will form a part of area of responsibility of the Additional Director of Institutional Health services, while dental education will fall within the ambit of the Additional Director of Medical Education. The Committee would like to obviate the possibility of such a duality and would therefore like to make it clear that the Deputy Director of Dental Education and Dental Services will be more in the nature of a policy adviser to the department and to that extent would function only through the Additional Director of Medical Education and Research. Operational responsibility in regard to dental services would continue to be in the charge of the Additional Director of Institutional Health Services.

6.14 In the structure of the health services at the top, as it exists today, the supportive non-medical administration is not well organised. It is true that a large variety of administrative tasks are interspersed in the total job schedule of a technical head of the department. To isolate them and take them out of the sphere of action of the top man, is neither practical nor desirable, since it would tend to weaken the authority structure. However, it is equally true that the technical head has neither the time nor the resources at his disposal, to discharge these functions effectively. This is valid also of the technical deputies, who may be placed at the head of the administrative wing. The result is that the non-medical administration is either wholly neglected or is relegated to the back ground. A number of inadequacies and irregularities relating to personnel administration, budgeting, spending and accounting have come to light time and again, and the general impression has always been that the non-medical sphere operates on a low level equilibrium. The Committee feels, that this situation requires to be remedied speedily. A workable solution is the creation of a senior post at the Directorate, to look after the non-technical tasks that can be broadly grouped under the following heads;

- (i) personnel management.
- (ii) budgeting and expenditure control.
- (iii) purchases of stores.
- (iv) housekeeping.

To this list one could add the management of 'Public Relations' as well, though the real need is for strengthening public relations specifically at the major hospitals. Both in order to give the officer manning such a post a sufficiently high status and to facilitate the delegation of a large part of the non-technical responsibilities, and financial powers of the Director in his favour, the Committee suggests that this post be designated as Joint Director (Administration). It is expected that the Joint Director would be a very senior officer drawn from the state civil services cadre. He should report directly to the Director of Health Services since he would be the staff officer common to all the three wings of the Directorate. He should be assisted by a Senior Administrative Officer in-charge of the non-financial spheres of administration and a Financial Comptroller-cum-Audit Officer, to help him in matters relating to the budget, regulation of the flow of grants, payments, accounting and audit. This officer should combine in himself the role of a Financial Adviser to the head of the organisation and of the Chief Accounts Officer. It would be useful to obtain the services of a senior officer from the Accounts service cadre of the State, to hold this post. The purchase organisation should also function under the panoply of the Joint Director (Administration).

6.15 The nursing services in the hospitals of the state are currently under the charge of the Superintendent of Nursing Services, who reports to the Deputy Director of Medical Services. The nursing staff of the ESIS are separately organised under the overall control of the Nursing Superintendent. Similarly, under the public health wing of the department, the top post in the hierarchy is that of the Regional Nursing Supervisor. Nursing education constitutes a separate sphere, with the Principal of the College of Nursing in charge of graduate nursing education. The Committee is of the view, that in the revised set up, there is need for a concerted top level involvement to coordinate the working of the two spheres of nursing education and operational nursing services. Accordingly, the Committee recommends, that the Superintendent of Nursing Services be made responsible for all the wings of nursing services as also nursing education. This would naturally enlarge the field of action of the incumbent of the post and make for a substantial addition to the load of work, as well. The Committee therefore considers it appropriate, to redesignate this post as Deputy Director of Nursing Services. At the supporting level there should be three posts of Assistant Directors (Nursing) to cater to the requirements of the Hospital wing, the ESIS and community health services sections. The principal of the Nursing College could also be usefully accommodated on the hierarchy of the nursing services, by conferring the ex-officio status of Assistant Director (Nursing Education). This, while

ensuring adequate attention to and appreciation of the problems relating to nursing education and training at all levels, will also forge strong links, between the academic and functional areas of nursing services.

6.16 The Committee is of the view that all activities in connection with the purchase of drugs and medical stores should be brought under centralised control. The present system of fixing rate contracts, to be actually operated by the heads of different medical institutions, supplemented by local purchases, leaves the entire task of planning of purchases and managing their flow, to be handled by them. The past experience in this behalf, does not appear to have been particularly happy. Moreover, such decentralisation of purchases also militates against standardisation of drug dispensing and scientific inventory control in the hospitals. In any event, the allocation of budget grants being the centralised responsibility of the Directorate, the scope for comprehensive planning of purchases at the institutional level, is also greatly circumscribed. The Committee therefore suggests, a non-stock holding central medical stores organisation at the Directorate, headed by a senior medical officer with some experience of running a district hospital, styled as Chief Medical Stores Officer. He should be in charge of the following functions:

- (i) Collection, compilation and scrutiny of indents from the various institutions;
- (ii) Procedures in connection with the determination of rate-contracts;
- (iii) Follow up of the placement of orders and delivery of supplies;
- (iv) Inventory review and forecasting of medical stores;
- (v) Verification of supplies and stocks and inspection;
- (vi) Advice to the hospitals on emergency purchases and control of inter-institutional distribution of surplus stocks;
- (vii) Technical guidance to the Panchayats in securing medical supplies;
- (viii) General inventory control of non-medical stores.

This officer should be assisted by a Purchase Officer and a Chief Stores Superintendent. It is essential that the Chief Medical Stores Officer should be given adequate training in scientific inventory and materials management.

6.17 The construction and maintenance of hospital structures and managing the estates, require

special attention. Besides, utility services like water supply, drainage, electricity, and gas have to be organised and run at maximum efficiency. Barring large constructions and major repairs, the other tasks of maintenance of the buildings and services, are managably small and could be attended to, internally. During the course of its visits to the various institutions, the Committee came across many items of work relating to the upkeep of the hospital buildings, requiring urgent attention. The officers in charge assured the Committee that these matters had been taken up with the local P.W.D. authorities. Either because of paucity of funds or because the Public Works Department could not assign high priority to such works, delays had occurred inevitably. Enlisting the assistance of the local forum for coordination to sort out these issues, did not also bring in the desired results, always.

The Committee is inclined to the view that the tasks of maintenance of the hospital buildings and repairs to the structures, deserve to be given higher priority and it would be in the interests of hospital administration, therefore, to have an internal engineering organisation, for this purpose. The annual maintenance grants and grants for special repairs should be placed at the disposal of the Director of Health Services, who will draw up a regular works programme, for all the hospitals in his charge and also lay-down inter-se priorities. Major repairs to buildings and new construction, should however, continue to be handled by the Public Works Department. It is only to be expected, that the engineering organisation at the Directorate will maintain effective liaison with the P.W.D. and speed up the execution of major construction projects also. The engineering wing can also be in general control of the maintenance of equipments at the hospitals and their

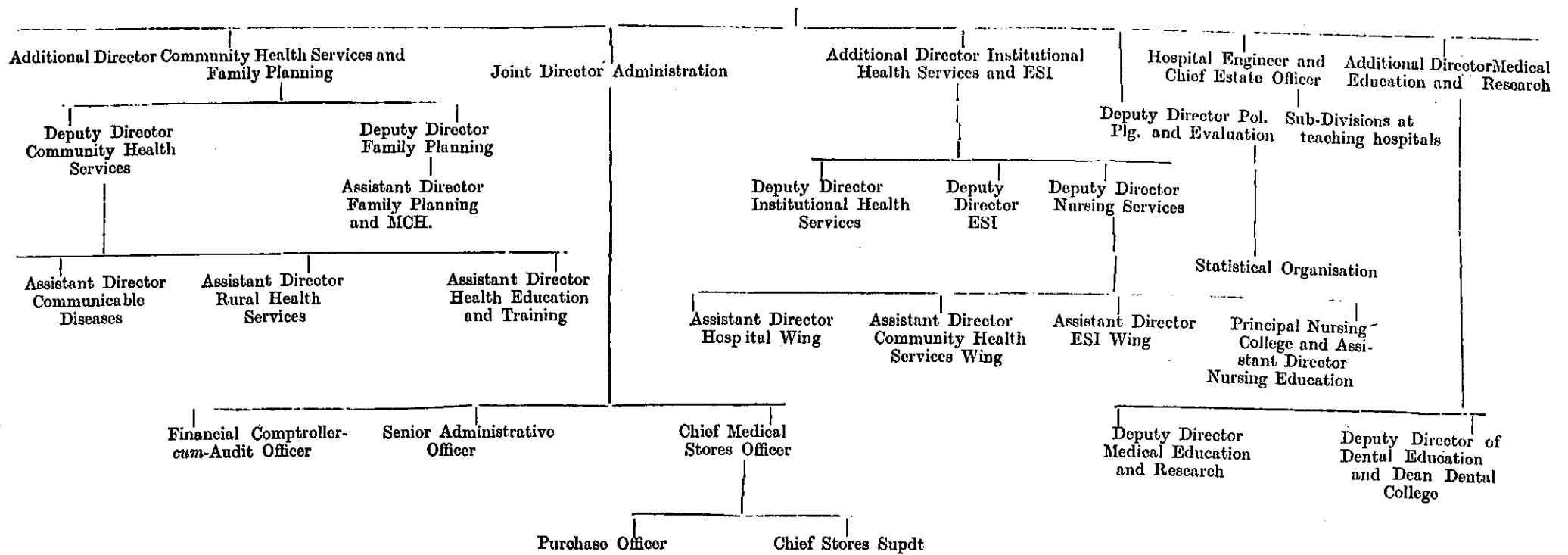
repairs. The transport organisation of the Directorate, the work shop and the management of hospital estates, could also be placed under the engineering section. With this in mind, the Committee recommends the appointment of a senior Executive Engineer of the State P.W.D., as the Hospital Engineer-cum-Chief Estate Officer. Regular sub-divisions could be organised to cater to the medical college centres and also cover medical institutions in their adjoining regions.

6.18 The health services organisation has a large number of non-medical personnel belonging to the sphere of lay administration, who play a vital supporting role. At the senior levels, they have very few openings to look forward to and relative to their numbers on the lower posts, the opportunities for advancement are strictly limited. While the problem is no doubt genuine, there is no denying the fact, that in a technical department, the chances of career advancement for the non-technical cadres can not be numerous. The Committee has recommended the creation of posts like Joint Director (Administration) at the Directorate and Administrators at the teaching hospitals. But, the Committee's view is that these posts require general administrative abilities of a high order and are strictly upper-middle management positions, to which departmental officers can not be elevated only on consideration of length of service. However, some of the next lower positions could be reserved for them. The posts of Chief Stores Superintendent, and Senior Administrative Officer can be identified in this context.

6.19 The proposed organisation chart of the Directorate of Health Services incorporating all the recommendations of the Committee is given below :

Organisation Chart of the Directorate of Health Services

DIRECTOR OF HEALTH SERVICES AND ADDITIONAL SECRETARY HEALTH



7. ENVISAGED PATTERN OF ORGANISATION — PERIPHERAL SERVICES.

7.1 With the abolition of the posts of Regional Deputy Directors of Public Health, some years ago, the entire responsibility for organising and supervising the health care programme, has come to be centralised at the Directorate of Health Services. No doubt, some measure of functional decentralisation, resulted from the transfer of rural health services including family planning, to the District Panchayats. But, a large part of the health delivery system has still remained outside the sphere of the Panchayats, especially, the hospital services and some of the national programmes. Even in respect of the functions transferred to the Panchayats, technical supervision of the health department has continued, though without direct answerability. The Committee is of the view, that in the face of the need for the integration of preventive and curative services in order to organise a comprehensive health delivery system for the future, involving the entire range of medical institutions from the PHC to the medical colleges, the States' efforts should lie in the direction of improving the quality and content of technical supervision and providing focal points of co-ordination.

The unit of operation best suited for the purpose, will of course be the district. The Study Group on Hospitals (Jain Committee) which strongly canvassed the idea of the integration of medical and health services, had felt that "the treatment of the sick, prevention of disease and family planning are integral parts of the national health system and as such can not be separated" and had therefore recommended that, curative and preventive services and family planning and maternity and child health work, should be integrated from the highest to the lowest operational level.

At the district level the Jain Committee suggested, that there should be a single officer responsible for curative, preventive and family planning work. This officer was to be designated as the Chief Medical and Health Officer, assisted by two deputies, one on the public health side with the designation of Deputy Chief Medical and Health Officer (Health) and another, on the family planning side, similarly designated. The Chief Medical and Health Officer was to be the ex-officio Medical Superintendent of the district hospital and all other medical institutions in the district were to be under his charge.

As mentioned earlier the major share of the responsibility for operating the rural health services

rests with the District Panchayats in Gujarat. The technical officers in charge of the health and family planning programmes, the DHO and the DFPMO, have also passed under the direct control of the District Panchayats. In such a situation, the administrative organisation at the district level, envisaged by the Jain Committee, can not be brought into existence, since complex problems of dual control and conflicts of jurisdiction would arise constantly. Moreover, the wide diversity between districts in terms of area, population, the number of medical institutions and the socio-economic infra structure, militate against the effectiveness of such reorganisation. The need for forging strong links between the rural services under the District Panchayats on the one hand and the medical institutions forming part of the referral services complex under the government, on the other, is very pressing, nevertheless. As such, the most practicable alternative would be to establish a regional organisation with broad authority for promoting coordination at the area level and general powers of direction, supervision and control over the technical aspects of rural health services. One of the principal responsibilities of such a regional authority, would be the translation of centrally established standards into detailed regional requirements, taking into account the regional situation e.g. size and distribution of the population, morbidity and mortality patterns, the existing health care institutions and special problems of the area. This would mean, that each region should be divided into suitable hospital command areas and plans formulated for the area taking into account priorities, such as areas where hospital services are most inadequate and new towns or growth centres where there are no health care services. A certain measure of coordination of the efforts of the government and non-government agencies, will also be called for.

7.2 The Committee recommends the creation of Regional Offices of Assistant Directors for various compact groups of districts. It would be desirable to open five such regional offices, covering the nineteen districts of the state, as follows:—

Region	Districts covered	Headquarters
Southern	Surat Bulsar Broach Dangs	Surat
Central	Baroda Kaira Panchmahals Sabarkantha	Baroda

Region	Districts covered	Headquarters
North Western	Bhavnagar Surendranagar Kutch	Surendranagar
Northern	Ahmedabad Mehsana Gandhinagar Banaskantha	Ahmedabad
Western	Rajkot Jamnagar Junagadh Amreli	Rajkot

7.3 The Committee contemplates a liberal scheme of devolution of authority, in favour of the Regional Assistant Directors, who shall have to play the role of a catalyst in promoting the objectives of the health delivery system of the future. Great deal of care should therefore, be bestowed on the selection of suitable officers to man these posts. Since the role of the Regional Assistant Director is mainly that of a team-leader, the organisation should adopt an officer-oriented pattern of functioning. The Regional Assistant Director should have a general staff officer—a junior level medical officer with at least five years experience and an Administrative Officer, to assist him in the discharge of his duties relating to supervision, inspection monitoring of field programmes and general coordination on the totality of activities of the health, medical and ESI services in the region.

7.4 The key to the success of the new scheme, lies in ensuring the effective participation of the official and non-official agencies, connected with it. At the district level, general coordination between the District Panchayats on the one hand and the development departments of the Government on the other, is brought about at the instance of the District Collectors. But, a more effective and purposeful exercise, is indicated, where the action programme for rural oriented health services, is concerned. For this purpose, a forum on which the teaching hospitals, the district hospitals and the Panchayats are all represented, becomes necessary. The Committee suggests the formation of a Standing Committee, at the teaching hospital centres, with the Dean-cum-Chief Superintendent as the Chairman and the concerned Regional Assistant Director as the Convenor—Secretary. The Presidents of the District Panchayats of the region, M.Ps. of the districts concerned and the District Development Officers, should be the members of the committee. In addition, the Civil Surgeons, the District Health Officers and District Family Planning Officers should be required to attend all meetings of the Committee. The Committee should play, not merely an advisory role, but, should also actively associate itself, in the process of planning for the expansion of health services, their

implementation and *post-facto* evaluation. In the scheme of setting up the regional organisations, suggested by the Committee, only the north western region does not have a medical college within it. It is therefore suggested, that a Regional Committee for this region may be constituted on the same lines as for the medical college centres, but with the Regional Assistant Director as Chairman. This Regional Assistant Director may also be included as a permanent invitee, to the meetings of the Committee at Ahmedabad.

District Level Organisation :

7.5 The responsibility of organising medical relief in general, and preventive and promotional services in particular, having been entrusted to the District Panchayats in the non-urban areas of the various districts, the net work of Primary Health Centres and rural dispensaries have ceased to be under the administrative control of the Directorate of Health Services. The hospitals at the taluka or regional levels, which serve as referral centres, are however not under their purview. In fact, some of these hospitals do not even come under the supervisory jurisdiction of the Civil Surgeons of the district, either because they are categorised as Class I hospitals, with independent Superintendents in charge, or because they are under the administrative and technical control of the health wing of the department. Such of these institutions as are under the health wing, notably referral hospitals, do not also come under the sphere of the District Health Officers. The primary need therefore, is of rationalising the organisational arrangements, at the district level, so that, they conform to the broad goals of the scheme of total health care and are geared up to maximum operational efficiency. The Committee recommends the following major steps in this direction:

(i) All medical institutions in the district, other than the Primary Health Centres and dispensaries under the Panchayats should be placed in the over-all charge of the Civil Surgeons, who should also be designated as District Medical Officers. The Civil Surgeons shall also be the Superintendents of the District hospitals.

(ii) All hospitals other than the principal district hospitals, should be categorised as Regional Referral Hospitals and be under the supervisory authority of the District Medical Officer. As a necessary consequence, none of these hospitals should be under direct state control, or under the administrative control of the health section of the Directorate. The present classification of hospitals into Class I or Class II and the existing diversity of nomenclature should also be dispensed with.

(iii) In order that the referral system involving the net work of Primary Health Centres on the one hand and the Regional Referral Hospitals and the District Hospitals on the other, may function smoothly, a district level Committee of direction, may be formed, with the Regional Assistant Director, the District Development Officer, the District Medical Officer and the District Health Officer, the DHO being the convenor of the Committee. The District Medical Officer should provide professional guidance and help to the PHCs and dispensaries and also help in organising medical, surgical and diagnostic camps at the various PHCs. He should also play an active role in securing the services of specialists from the medical colleges periodically, at the various Primary Health Centres.

(iv) The status of the district organisation in charge of family planning services, continues to remain ambivalent. With a large number of Rural Family Planning Centres and sub-centres, the District Family Planning Officer no doubt has a large sphere of action. But both at the area level and at the district level, the family planning programme cannot and should not be set in motion in isolation. It should form an integral part of the package of preventive and promotional services, so as to carry the message of family planning to the rural masses in the most meaningful manner. This in turn, underscores the need for centralised control and direction at the district level, in place of the existing duality of operations. The Committee favours the idea of the entire rural health care programme, including family planning, being placed under unified administrative and technical superintendence. The major partner in the enterprise being the District Health Officer, he should logically be the officer in full command and the District Family Planning Medical Officer should be expected to function under his general supervisory authority. In fact, with the full amalgamation of the preventive and curative services at all levels, there would no longer be any justification for an ironclad functional division of responsibilities, as between the District Health Officer and the District Family Planning Medical Officer. The Committee has suggested elsewhere the grouping of the posts of District Health Officer, District Family Planning Medical Officers and a few others, to constitute a single promotion group. It should therefore be none too difficult, to ensure that in any given situation the senior of

the two officers is appointed as the District Health Officer. In fact it would also be worthwhile to designate the District Family Planning Medical Officer as Additional District Health Officer (F.P.) to emphasise the single line of control and devise a rational work allocation between both the officers, with due stress on family planning work.

District Hospitals :

7.6. The Health Survey and Planning Committee said "The hub of the net work of medical care services, should be the district hospital which, must be expanded and strengthened with specialist facilities in order to be able to serve the needs of specialised services in the district, by providing the requisite clinical facilities in the hospital itself and by having mobile teams of specialists who could effectively cover the area of the district and provide necessary supervisory and consultant facilities at lower levels". The Committee went on to say "It is our view that in the present stage of development, reorganisation, expansion and improvement of hospital services of the district headquarters, is the most important single step for the improvement of medical care facilities for the people at large. Provision of good medical care is becoming a highly complex and expensive matter and it is much better to concentrate adequate facilities at a few points, instead of trying to scatter inadequate and ineffective medical care facilities over a large number of points." The validity of the aforesaid approach of the Health Survey and Planning Committee is unquestionable even to-day. With the extension of institutionalised medical care in the rural areas, the need for providing more sophisticated services at focal points has emerged with great force. In the Gujarat context, the taluka level institutions have neither developed in the requisite numbers nor in terms of professional expertise. One has therefore to look to the district hospitals to play an increasingly important role in the sphere of referral services.

7.7 The Committee had occasion to visit several District Hospitals in the State and noticed very wide diversity in terms of bed strength, staffing, provision of specialists services and standard of facilities available to patients. The table below throws light on the point. Some of the variations could perhaps be explained, as due to historical reasons, but, there can hardly be any justification for not evolving a broadly comparable pattern, covering all the district hospitals, which are expected to provide specialised services and at a higher level of competence, in a large local area.

TABLE 7.1

Sr. No.	Name of the Institution	Sanctioned bed strength			No. of Medical Officers				Posts specialists sanctioned.						
		Gen. beds	Spl. beds.	Total	Cl.I	Cl.II	Cl.III *	Total	Ful time surgeon	Gyn-ae-cologist.	Pae-dia-trician	Ort-hop-adic Sur-geon	Oph-tha-lmic Sur-geons	Phy-cian	Dent. Sur-geon
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Civil Hospital, Kaira.	60	28	88	2	3	..	5	..	..	1	..	..	..	1
2.	R. R. Hospital Limbdi	90	122	212	3	11	..	14	..	1	..	..	1	..	1
3.	Civil Hospital, Mehsana	106	69	175	3	6	..	9	..	..	..	1	..	..	1
4.	Civi Hospital, Rajkot	201	266	467	4	16	6	26	1	1	1	1	1	..	1
5.	Civil Hospital, Broach.	30	50	203	3	6	1	10	..	..	..	1	1	..	1
6.	Civil Hospital, Godhra	102	101	203	3	6	1	10	..	..	..	1	1	..	1
7.	M. G. G. Hospital Navsari	28	34	62	2	3	..	5	..	..	1	..	..	..	1
8.	Civil Hospital, Palanpur	112	103	215	2	9	..	11	..	..	..	1	1	..	..
9.	Civil Hospital, Himatnagar	76	49	125	2	8	..	10	..	..	..	..	1	..	1
10	Sir T. Hospital, Bhavnagar.	260	299	559	5	15	3	23	1	1	1	1	..	..	1
11.	Civil Hospital, Amreli	85	100	185	2	5	..	7	..	..	..	..	1	..	1
12	G. K. General Hospital, Bhuj-Kutch	84	127	211	2	13	3	18	..	..	1	..	..	..	1
13.	Centreal Hospital Ahwa Dang.	45	49	94	1	3	..	4	..	..	..	..	..	..	1
14.	Cottage Hospital, Gandhinagar.	25	25	50	4	5	..	9	..	1	1	..	..	1	1
15.	C. M. Z. & Gen. Hospital, Junagadh.	110	274	384	4	14	7	25	1	1	..	1	..	..	1

* Class III Medical Officers in position have been shown since the vacancies cannot be filled in due to discontinuance of the integrated courses. However sanctioned strength at respective places are as under:-

1. Limbdi-1 2. Rajot-11 3. Godhra-2 4. Himatnagar 1 5. Bhavnagar-10 6. Bhuj-5 7. Junagadh-11.

7.8 The Health Survey and Planning Committee had envisaged that each district head quarters hospital should be expanded to have 300 to 500 beds depending upon the population to be served. The Study Group on Hospital (Jain Committee) has recommended that every district hospital should have a minimum of 200 beds, to be raised, depending upon the population of the area, upto 300. Considering the present bed strength at the various hospitals, the Committee feels that this is a reasonable target to aim at, and therefore endorses this view and recommends that in the first instance the bed strength at all the district hospitals be brought upto 200. Increasing the strength to 300, may be undertaken in a phased manner subsequently, in relation to the needs of the various regions. In the case of the Dang district, largely on account of the geographical factors and the problems of communication in the remote areas, it may be desirable

to develop one more small hospital at a nodal point rather than expand the district hospital beyond the 200 beds limit. The Committee also noted, that two of the District Civil Hospitals in the Surendranagar and Bulsar districts, are located away from the district head quarters towns and in the Kaira district the epicentre of economic, commercial and social activity, is the town of Nadiad, while the Civil Hospital is located at Kaira. The district headquarters towns, apart from having a large concentration of government employees, also develop into a fulcrum of infrastructural development, towards which the peripheral population, naturally gravitates. Keeping this in view, a conscious decision to develop medical facilities at the district towns may have to be made, with due regard to the facilities already available through the efforts of local bodies.

7.9 Consistent with the role of the district hospital as the main centre of specialised therapeutic services within the district, there is a strong case for augmenting the strength of specialists at this level, on a uniform pattern. The Jain Committee has suggested that the district hospitals should provide specialist services in Medicine, Surgery, Obstetrics and Gynaecology, Eye, E.N.T., Paediatrics, Dentistry, Psychiatry and Venereal diseases. Earlier, the Health Survey and Planning Committee had made a similar suggestion with the addition of Tuberculosis to the list and excluding Psychiatry. While this would undoubtedly be the ideal pattern that the state shall have to strive to achieve, the Committee feels that a less ambitious beginning would be more realistic. In the first place, there is a general shortage of qualified personnel in specialities like ENT, Psychiatry and Skin and Venereal diseases and it is understood that these departments are largely understaffed even at the medical colleges. Besides, there is a very wide gap between the present pattern of staffing of the district hospitals of the state and the norms indicated by the Jain Committee. Both in terms of monetary resources and manpower needs, this gap cannot be expected to be bridged, except under long term plan. The Committee therefore recommends, that in the immediate phase, all district hospitals must have the services of senior level specialists, in Medicine, Surgery, Paediatrics and Obstetrics and Gynaecology. The number of surgeons would however have to be augmented in relation to the bed strength of the hospital. Accordingly, it would be necessary to provide for two posts of surgeons, at hospitals with 300 or more beds. The second phase of expansion that should soon follow, should cover Ophthalmology, and Skin and Venereal diseases. The provision of additional specialists, can be taken up in the third phase, in the larger hospitals.

The Committee learns that Dental Surgeons have already been posted at all the district hospitals. It will however be necessary to equip the dental wing adequately, in terms of supporting staff and equipment, to offer the complete range of dental services. The provision of a dental hygienist and a dental mechanic at the dental clinic of a district hospital would be a step in the right direction.

7.10 The staffing scheme of a 200 bed district hospital must necessarily include, a Pathologist, a Radiologist and an Anaesthetist. The Committee is aware that fully qualified men in these fields are scarce and it may therefore be advisable to appoint one general duty medical officer of the junior level each, on these posts. These officers should be given suitable training at a medical college for a period of nine months to a year. In order to provide the needed

incentive for these officers, a special remuneration of Rs. 125 a month may be sanctioned, on the completion of training.

7.11 The Civil Surgeon as the Superintendent of the hospital and in his new role as the District Medical Officer is certain to find his hands full and it is therefore essential that he is provided some assistance in the discharge of his routine responsibilities, of managing the hospital. The Committee feels that there is thus adequate justification for a full fledged post of Resident Medical Officer at every district hospital. Apart from assisting the Civil Surgeon-cum-Superintendent generally in running the institution, this officer could also usefully oversee the medicolegal work of the hospital and look after the ancillary services. A junior level medical officer with not less than five years of experience should be appointed as the R.M.O. and in view of the special position that he would occupy as the de-facto number two man in the hierarchy, a suitable special allowance may be sanctioned to the incumbent of the post. The Matron of the hospital should be in full charge of the nursing services and should function directly under the Superintendent.

7.12 As can be seen from the Table No. 7.1, there has been no attempt to standardize the staffing at the district hospitals, with reference to their sizes. The Committee understands that no specific yardsticks have been adopted by the department, while sanctioning posts of medical and paramedical staff. Especially in the sphere of specialists services, the lack of uniformity in the existing staff-structure is difficult to understand. The present practice is of General Duty Medical Officers drawn from the Gujarat Medical Services Class II cadre, being entrusted a large variety of specialised duties as well. The general complaint of the Civil Surgeons and Superintendents of the different hospitals was, of inadequacy of staff of all categories and particularly of the General Duty Medical Officers. The fact that posts of Class III Medical Officers sanctioned at the district hospitals are counted towards the total strength, but are in fact vacant, because there is virtually no fresh recruitment at this level, makes the problem all the more acute. The Study Group on Hospitals (Jain Committee) has attempted the standardisation of the staffing pattern for hospitals of different bed strengths. This and the recommendations of the Committee for Hospital Equipment and Standardisation (Ayyar Committee) taken together could constitute a working basis for the regulation of the staffing at the district hospitals. A tabulated statement of the recommended staffing pattern in the immediate phase for hospitals of different sizes broadly following the recommendations of both these Committees, is given below:—

TABLE 7.2

Post	No. of posts			
	For 100 Beds	For 200 Beds	For 300 Beds	For 500 Beds
Surgeons	1	1	2	2
Physician	1	1	1	2
Obstetrician and Gynaecologist	1	1	1	1
Paediatrician	1	1	1	1
Anaesthetist	1	1	1	1
Pathologist	1	1	1	1
Radiologist	1	1	1	1
General Duty Medical Officer	One M.O. for every 20 beds			
Resident Medical Officer	..	1	1	1
Dietician	..	1	1	1
Matron	1	1	1	1
Assistant Matron	1	1	1	1
Nursing Sisters	5	10	15	25
Staff Nurses	20	40	60	100
Radiographer	1	2	3	4
Physiotherapist	..	1	1	2
Occupational Therapist	..	1	1	2
Steward	1	1	1	2
Compounder	3	5	7	10
Operating Room Asstt.	2	4	5	8
Ward Boys	3	6	8	10
Nursing Orderlies & Ayas	10	40	60	80
Lab. Technician	3	4	5	6
Lab. Assistants	1	2	3	4
Lab. Attendants	1	2	3	4

Considering the existing organisational pattern in the state and the present inter-institutional diversity in the ratio of beds to General Duty Officers, the Committee feels that a beginning can be made by augmenting the strength of General Duty Medical Officers, to conform to a ratio of one for every twenty beds. In computing the beds strength, the total number of beds, irrespective of the division between general and special beds, should be adopted, as the determinative criterion. This ratio, however, falls substantially short of the norms recommended by the Jain Committee and efforts shall therefore have to be made, to bring down the ratio, in the first instance to one to fifteen, and eventually, reach the standards envisaged by the Jain Committee.

Interse adjustments between hospitals, may also be attempted to apply this ratio uniformly. In the case of the para-medical staff, the norms recommended must however be maintained, in as much as, they would be essential to attain the standards of service, expected of district hospitals. The Committee would like to include a physiotherapist and occupational therapist each, among the essential para medical staff of all the district hospitals.

7.13 The Committee found, that some of the district hospitals have Honorary Medical Officers attached to them. Whatever may be the arguments in support of the continuation of the system of appointment of Honoraries, on the staff of the medical colleges, the Committee believes that there can be no place for them in the district hospitals, especially in the envisaged future pattern of larger interaction between the hospital complex and the community. It is evident that with the claims on their time from their private patients, they could hardly give enough attention to the needs of the hospital, especially in specialities like surgery, medicine or obstetrics and gynaecology. The Committee would therefore urge the immediate replacement of all the Honorary Medical Officers in these specialities by full time incumbents, according to the pattern of staffing recommended for the district hospitals. The Committee however does envisage a role for the Honorary Medical Officers in the future set up. In the first place, it may be necessary to appoint some of the leading local practitioners, in the specialities where there may be difficulty in obtaining the services of full time medical officers. Secondly, organising out-station camps, both for diagnosis and treatment would necessitate the active participation of the private practitioners. A careful review of the actual situation at the various hospitals should be made, before a decision to continue the services of Honorary Medical Officers is taken.

7.14 In addition to the principal district hospitals, some of the districts have other hospitals accorded the Class I status, with independent Superintendents. To cite a few examples, the Civil Hospital at Porbandar with 231 beds, the General Hospital at Dhrangadhra with 73 beds, the General Hospital at Visnagar with 110 beds, the K. K. Hospital at Savarkundla with 71 beds, all fall under this category. Largely on account of the locational advantage some of these hospitals cater to a extensive hinterland. There can be no doubt as to the need for their absorption in the structure of referral services and bringing about some measure of uniformity in the organisation and functioning of these institutions. The Committee feels that the staffing of these hospitals should be regulated with reference to the bed-strength. All such hospitals with less than 100

beds should have the same pattern of staffing as recommended for the taluka level hospitals elsewhere. For hospitals with 100 or more beds, but less than 200, the provision of the services of a Surgeon, and a Gynaecologist in the first instance is recommended. The Superintendent should in these cases be an officer of the senior level in the cadre. The hospitals with a bed strength of 200 or more should have the same complement of technical staff, as the District Hospital.

Taluka Hospitals :

7.15 At the intermediate levels of the referral net work, the taluka hospitals have a crucial role to play. The Health Survey and Planning Committee had contemplated, that a Taluka hospital should serve as a referral centre for the majority of routine types of cases from two or three primary health centres, in its area. The taluka hospital was to have a minimum bed strength of about 50 and have a staff of at least three medical officers, dealing with medicine, surgery and obstetrics and gynaecology. The Committee obtained from the Directorate of Health Services a list of talukas of the state, that did not have any government hospital within their territorial limits. The list was long, accounting for nearly half of the total number of talukas in the State. In districts like Baroda, Surat, Broach and Banaskantha, more than 50% of the talukas of the district did not have any Government hospitals. A large number of the talukas identified as backward, on the basis of the survey carried out by the State Bureau of Economics and Statistics, some years ago, also came under this category. The pockets of large concentration of tribal people, also figured in the list.

The Committee is aware that a mere list of the type mentioned above, is by itself not determinative, either of the size of the problem, or its entire ramifications. The area and population of the different talukas are subject to wide variation and the existence of medical institutions run by local bodies and voluntary agencies, has also to be taken into account in this context. The Jain Committee has however recommended, that the talukas that do not have hospitals at present, should be provided with one hospital each with a minimum bed strength of 50 and in the talukas that have hospitals, but where the number of beds is less than 50, the bed strength should be raised to 50. This Committee is entirely in agreement with this view. However, having regard to the magnitude of the twin tasks of construction of new hospitals and adding to the bed strength of existing institutions, it would be necessary to lay down the priorities to be observed in the execution of the plan. The state has already undertaken a programme of setting up referral hospitals, covering

4 to 5 primary health centres and the conversion of some of the cottage hospitals into referral hospitals, has also been contemplated. The Fifth Five Year Plan of the state provides for the establishment of 3 allopathic hospitals in urban areas, 5 new referral hospitals and the upgradation of 15 cottage hospitals into referral hospitals by raising the bed-strength to 50. The department also has on hand a programme of upgrading selected PHCs, into 30 bedded hospitals, the fifth plan target being, 23. It would be worthwhile to take advantage of all these schemes to give due priority to the needy areas.

7.16 The Taluka level medical institutions, go under the names of Cottage Hospitals, Referral Hospitals, Class II Hospitals or Secondary Health Centres. There are also some Class I hospitals other than the district hospitals. There is considerable variation in the matter of staffing, bed-strength, facilities and even the pattern of supervision and control over their working. The Committee has already suggested that all these hospitals should come under the general control of the Civil Surgeon.

The Jain Committee has recommended that the Taluka hospital should have three medical officers, one each for the three basic specialities, medicine surgery, and gynaecology and obstetrics. The doctor in charge of obstetrics and gynaecology should preferably be a lady. The envisaged future role of all such institutions is the same and some measure of uniformity in the standards of service must therefore be brought about. The nomenclature for such hospitals should be indicative of their role in the health delivery conglomerate, as much as, its area coverage. The Committee suggests that all these hospitals be designated as 'Regional Referral Hospitals'.

7.17 The staffing pattern recommended by the Jain Committee deserves to be adopted uniformly. The Committee is however aware, that it would be very difficult for the department, to recruit specialists in the required numbers, especially because, the needs of the district hospitals will also have to be met simultaneously. A practical solution appears to be, to recruit a sufficient number of post-graduates in these basic specialities, at the junior level and constitute them into a separate pool for deployment to the taluka hospitals. The provision of a special remuneration of Rs. 125 per month would act as the necessary incentive, apart from the opportunity for later promotion to the cadre of senior level specialists at the district hospitals. A junior level medical officer trained in anaesthesia should also be posted at each of the taluka hospitals.

7.18 The taluka hospital should also have a good pathological laboratory capable of undertaking investigation of all routine specimens viz. blood, urine, stool and C.S.F. There should also be an X-Ray plant of 30 to 50 M.A., in addition to lamps for ultraviolet and infra-red therapy. Each hospital should also have an ambulance van.

7.19 The recommended staffing pattern for the Regional Referral Hospital with 50 beds is as follows:

Medical Officers	2
Lady Medical Officer (O & G)	1
Anaesthetist	1
Junior Matron	1
Staff Nurses	10
Compounders	2
Dresser	1
Laboratory Technician	1
X-Ray Technician	1
Ward boys	4

7.20 Considerable thinking has already gone into the question of standardisation of equipment for hospitals of various sizes. The Hospital Equipment Standardisation Committee (1963) has laid down certain norms which can serve as a guide to bring about the elimination of the needless diversity as between medical institutions.

Primary Health Centres and Rural Medical Care

7.21 The concept of the Primary Health Centre as a new approach to meet the health needs of the rural areas, was first developed by the Bhole Committee, in 1946. The pattern of providing one PHC in each community development block, as an integral part of the community development programme, came to be adopted uniformly, all over the country and it was visualized that the PHC should serve as the focal point, from which integrated health services, both preventive and curative, would radiate to the entire population of the community development block. The PHC was thus expected to become the hub of all health activity in the block and was to provide the following range of services: (i) Medical Care/Medical Relief (ii) Control of communicable diseases (iii) Environmental sanitation (iv) Maternal and Child Health and Family Planning (v) Limited School Health and Nutrition (vi) Health Education (vii) Vital Statistics. The basic strategy was multi-functional. However in view of the major health problems that faced the country at the time, some unipurpose programmes for the control of communicable diseases, were also formulated and put into operation, simultaneously.

7.22 A precise evaluation of the working of the Primary Health Centres, does not appear to have been attempted at any time, but, several problem areas of their functioning and inadequacies in the working of the programme, have no doubt, come to surface. Even as early as 1961, the Health Survey and Planning Committee had found that the Primary Health Centres, as constituted and staffed then, were not competent to offer an integrated health service and their activities were not public health oriented, in the manner and to the extent necessary. Later, the Study Group on Hospitals, in 1968, reaffirmed this finding and said that despite the increase in the sanctioned staff for the Primary Health Centre complex, enough attention was not given to preventive work.

Technically, the PHC has not grown in stature from a government rural dispensary, with a maternity home attached to it, into an institution forming a vital part of the rural community. As such, community participation in the health care programmes, has not been wholly reassuring. In terms of services, both quality and content, there is a lot left to be desired. Medical relief is provided mainly, as out patient care at the PHC and the periodic visits of the Medical Officer, to the sub-centres. The ANM at the sub-centre, largely attends to minor ailments in the field of Maternity and Child Health. Because of their pre-occupation with medical care services and the general administrative responsibilities, the Medical Officers have not been able to devote enough attention to the development of the preventive services.

The utilisation of beds at the PHCs has been subject to large variations and in most cases was found to be generally low. Besides, general organisational problems have hampered the working of the system. Two Medical Officers for a population of almost one lakh on an average, prove to be inadequate. The paramedical staff has grown in size over the years and supervision has therefore become increasingly difficult. Although the PHC is the integrated health care unit at the area level, there is still a manifest tendency to run several programmes, vertically. Construction of buildings, sub-centres and staff quarters has not received the deserved priority attention. The supply of equipments, provision of diagnostic facilities, and ensuring an adequate flow of drugs, are the other important problems demanding attention. The last and perhaps the most significant issue, is that of improving the terms and conditions of services of the personnel working in the rural areas. Here again, special consideration is necessary for those posted to work in the remote tribal regions or other difficult areas of the state.

7.23 In the state of Gujarat, along side the Primary Health Centres, a large net work of rural dis-

dispensaries, maternity homes and hospitals exists already. There are also a few mobile dispensaries. The responsibilities of rural health care having been entrusted to the elected bodies at the district and taluka levels, the process of community participation and involvement in the health delivery system, has been greatly facili-

tated. Moreover, a large number of voluntary agencies and charitable institutions have participated, actively, in strengthening the programme of institutional medical relief. An idea of the districtwise distribution of PHCs, RFPCs and their sub-centres and dispensaries under the Panchayats, can be had from the table below :

TABLE 7.3

Sr. No.	District	No. of PHCs.	Sub-centres under PHCs	RFPCs	Sub-centres under RFPCs	Mobilé disp. under Panchayats.	Rural disp. under Panchayats.
1.	Ahmedabad	10	35	10	60	..	22
2.	Amreli	11	33	11	35	..	18
3.	Banaskantha	12	38	12	72	..	30
4.	Baroda	16	54	16	84	1	42
5.	Bhavnagar	14	44	14	55	..	11
6.	Broach	14	44	14	48	3	17
7.	Bulsar	18	55	18	62	1	12
8.	Dangs	2	6	2	6	2	under Govt.
9.	Gandhinagar	2	6	2	12	..	..
10.	Jamnagar	10	30	10	53	..	11
11.	Junagadh	16	51	16	66	..	30
12.	Kaira	19*	63	19	133	..	32
13.	Kutch	9	26	9	38	4	62
14.	Mehsana	19	60	19	110	..	44
15.	Panchmahals	23	71	23	93	2	7
16.	Rajkot	14	42	14	58	..	17
17.	Sabarkantha	13	41	13	67	1	21
18.	Surat	19	57	18	60	2	23
19.	Surendranagar	10	30	10	32	..	12
Total		251	786	250	1144	17	411

* In addition to 19 PHCs established under Community Development Programme 6 additional PHCs have been established in Kaira district under Intensive district scheme for Health and Family Planning undertaking with financial aid from the Ford Foundation. Thus in Kaira district there are actually 25 PHCs.

7.24 The institutional frame-work that exists thus, shall have to be geared up effectively, towards the attainment of the priorities of any programme of comprehensive rural health care, which can be set out as follows :

(i) Family Planning Services to combat the rapid growth of population;

(ii) Control of mass prevalence diseases under organised programmes of control and eventual eradication;

(iii) Improvement of environmental sanitation and personal hygiene;

(iv) Maternity and Child health, including immunization;

(v) Nutrition supplementation for pregnant mothers and lactating mothers and children in the 0-5 age group;

(vi) Health education, organising self help and encouragement of active community participation;

(vii) Early detection of major ailments through a programme of screening;

(viii) Detection and treatment of common diseases that would constitute an overwhelmingly large population of the patient turn out;

(ix) A sympathetic appreciation of the local cultures and resources and attempts at the utilization of the most simple and inexpensive of the techniques and appurtenances of medical care, available within the existing body of technical knowledge.

The main tasks that have to be undertaken to make the scheme of priorities fully operational are :

(i) Integration of curative, preventive and promotional services effectively at the field level;

(ii) expansion of the present institutional network with special attention to backward areas; and

(iii) Innovations and new approaches to the basic concepts, to achieve a quick break through, in the direction of improving health care.

7.25 There can be no doubt that any future strategy of development of a package of health services must evolve around the nucleus of the Primary Health Centre complex. It is therefore essential that these should be viable units and achieve greater functional cohesion among the medical and para-medical staffs. A major requirement in this behalf will be the reduction of the population coverage of the main centre and the sub-centres.

The Jain Committee's observations in this regard are worth recalling. Commenting on the fact that the population coverage of the PHC is large, the Committee said that in practice, however, the PHC does not serve more than 30 to 40 thousand people living within a radius of two to four miles of the main centre or the sub-centres, and recommended that by the year 1976, at least one sub-centre in the block should be raised to the status of a PHC. Another suggestion of the Committee was, that in suitable cases where the need is felt, the number of beds in the PHC should be raised to 10 and that full use of the specialists visiting the PHC at regular intervals should be made and the medical officer of the PHC should keep cases needing specialist attention, in readiness and the ambulance services should be made full use of to make referral services successful. Two other important points made by the Committee were (i) the allopathic dispensaries functioning within the jurisdiction of a PHC should be treated as sub-centres of the PHC and (ii) the laboratory technician with the microscope, provided under the malaria eradication programme, should be utilised to undertake simple tests of the patients attending the PHC.

7.26 The total deployment of medical and support personnel at the PHCs and the attached RFPCs has followed the pattern indicated in the table below :

TABLE 7.4

Staff pattern of RFPC	Staff pattern of PHC
1. Medical Officer Cl. II	1 1. Medical Officer Cl. II 1
2. Block Ext. Educator	1 2. Health Visitor 1
3. Health Visitor	1 3. ANM 1
4. ANM	1 4. Compounder 1
5. Computer	1 5. Driver 1
6. Jr. Clerk	1 6. Peon 1
7. Driver	1 7. Sweeper 1

Staffing pattern of sub-centre Staff pattern of PHC sub-centre

One Part-time attendant with each ANM with Rs. 50/- p. m.

One F. P. Asstt. per 20 000 population.

The setting up of the Rural Family Planning centres has thus resulted in the virtual doubling of medical manpower in the area of the community development block. The R.F.P.Cs. and the sub-centres operate alongside the Primary Health Centres and their sub-centres and attempts to coordinate the working of both appear to have yielded only limited results. The department has no doubt issued instructions that the two medical officers should handle the OPD alternatively and divide visits to the sub-centres, between themselves. But it is to be remembered, that the services of the PHCs and sub-centres are generally availed of by the population in their immediate vicinity and large masses of the rural popular are, as yet, beyond their reach. Moreover, the location of the PHCs and the sub-centres in various districts, have left big segments of the rural community, uncovered. An attempt to relocate the RFPCs and their sub-centres in such a way as to include these areas in the service spheres of these units, could yield welcome results. Perhaps, one of the existing sub-centres, conveniently located with reference to the vast hinterland, could serve as the new Rural Family Planning Centre. The Committee learns that the Government of India had at one time issued instructions more or less on similar lines but had to rescind them later, in view of the huge capital costs involved. This would no doubt be a major constraint, but, the committee feels that the basic approach outlined above is valid, nonetheless. As a working solution, it would be possible to constitute a mobile team of the medical officer in charge of the RFPC and key para-medical staff, to cover certain fixed medical aid centres in the outlying villages, which are not a part of the effective area of operation of the existing centres and sub-centres. This would be but an ineffective substitute for a regular Health Centre, which should be the long term goal.

Towards this end, the Government may think of choosing new locations for the RFPCs, wherever infrastructural facilities have not already been organised. Even if residential and non residential structures have been constructed at some places, they could be made use of, for the conversion of selected PHCs into 30 bedded hospitals, and shifting of a few RFPCs to new areas, will still be possible.

7.27 Two other steps that can be visualized in the context of the reduction of the population coverage of the Primary Health Centres and sub-centres are, (i) A properly phased programme of upgrading selected sub-centres into full-fledged primary health centres and (ii) Linking of sub-centres and the Panchayat managed allopathic dispensaries into an integrated satellite health unit under the PHC. These rural dispensaries have medical officers of their own and most have posts of compounders, also. The Committee learns that at present, the dispensaries function independently of the PHCs and do not participate in preventive and promotional health programmes. This is also true of the mobile dispensaries. It is also likely that the services of the medical officers are not fully utilised and coordinated with the activities of the PHC since the Medical Officer of the PHC has no control over or liaison with these dispensaries. The linkage as envisaged above, would provide for the optimum utilisation of the available manpower and ensure maximum complementarity, of the curative and preventive health services, at the base level. The department has already in view, the conversion of some of the sub-centres into dispensaries and what has been suggested above is substantially in keeping with the main content of such a scheme.

The Medical Officers of the dispensaries could also be assigned a few medical aid centres at focal points in the surrounding areas. It is true, that their mobility is strictly circumscribed, since, they have no vehicles available to them. But the public transport system in the state is very well developed and it should therefore not be too difficult, to operate a few peripheral medical aid centres, during the eight months of the fair season. The village panchayats at the concerned villages, could be expected to provide the physical facilities and general manpower and material support, for running these centres.

The task force scheme in the state, under which all the available manpower is sought to be utilised for the effective coverage of the villages falling within the area of a PHC, is a step in the right direction and deserves to be continued. The problem of mobility of the Medical Officers constitutes a major impediment to the implementation of the scheme and the committee learns that the department originally

had a proposal for the supply of motor cycles to them. This would be a workable solution both from the point of view of the costs involved and the state of communications in the rural areas.

7.28 The effectiveness of the PHC is considerably hampered by the low budget provision for drugs and medical supplies. The drug budget of the PHC at Rs. 9000/- amounts to barely 10 paise per head of the population covered, per year. A large number of those who avail of the services of the PHC at Rs. 9000/- amounts to barely 10 paise per cines, prescribed by the Medical Officers and in most of the areas of the State, procuring them from outside sources would also be a problem, in the absence of drug stores in the vicinity. Thus, if the prescribed drugs in the required quantities, are not made available to the patients from the PHC, the whole process of treatment is reduced to an empty ritual. The Committee was happy to know, that many of the District Panchayats supplement these allocations to the PHCs for the supply of drugs, out of their own funds. In the minimum needs programme of the State also, a provision has been made for increasing the annual allocation for medicines to Rs. 12,000/- while even this would be on the low side, the Committee recommends that efforts should be made to at least reach this level, in the immediate future.

7.29 The availability of medical manpower is crucial to the successful operation, of the health delivery system, in the rural sphere. While there has been a general improvement in the supply situation, the position in regard to the staffing of rural dispensaries and the PHCs, is not entirely satisfactory. The problem of manning the posts in the remote areas and the tribal pockets is still acute. The Committee has given anxious thought to this vexed question. The solution to the problem seems to lie largely in the provision of monetary and non monetary incentives, to the staff posted to the rural centres. Examining this question at length, the Jain Committee has suggested the following steps :

- (i) Improvement of the working conditions at the Primary Health Centres;
- (ii) Reasonably comfortable residential quarters, with sanitary facilities for all staff;
- (iii) Formation of a unified cadre of all doctors in the State Government Services;
- (iv) Grant of Rural allowance to Medical Officers;
- (v) Posting by rotation in rural and urban centres;

(vi) Regular training facilities at district hospitals;

(vii) Provision of professional journals to help in keeping knowledge upto date;

(viii) Provision of transport facilities.

These suggestions are unexceptionable and efforts to implement them will go a long way in ameliorating the conditions of service of medical officers in the rural areas.

The Committee has recommended elsewhere in the report, the amalgamation of various field cadres of medical officers and has stressed the adoption of the system of rotation between rural and urban postings. In addition, the Committee would also recommend that weightage for rural service should be given, when registration for post graduate studies, is considered.

A few other specific proposals are also worthy of consideration :

(1) Allotment of Government owned residential accommodation, in towns having facilities for higher education, to the families of Medical Officers posted to remote rural areas, at concessional rentals;

(2) Provision of free hostel accommodation and subsidised messing facilities, to the children of Medical Officers, serving in outlying rural stations;

(3) Double increments for every year of service in the rural areas, after a minimum tenure of three years;

(4) Counting journey time from the place of posting to the district head quarters or the nearest rail-head as duty, before the commencement of leave of any kind;

(5) An opportunity to return to a refresher course every two years for 2-4 weeks so as not to feel professionally stagnant;

(6) A concessional railway ticket once a year, for an annual holiday with the family, anywhere inside the State;

(7) Permission to use Government vehicles at concessional rates for private journeys.

The most significant of all these will of course be the grant of a rural allowance. In Gujarat a tribal

areas allowance at the rate of 20% of the basic pay is admissible to technical staff, working in such areas. The problems of personnel posted in the tribal areas are even more complex than these at other rural locations. However there can be no two opinions about the need for monetary compensation for the inconveniences and privations that the Medical Officers are faced with, while serving in the rural areas. A monthly allowance at the rate of 20% of the basic pay may uniformly be sanctioned, to all the medical officers, posted at centres having a population of 5000 or less. The rate of the allowance may be raised to 30% of pay in the case of the tribal areas.

7.30 The problems of medical relief in certain difficult areas deserve very special attention. The Committee understands that the Dangs district and parts of Kutch, Banaskantha and Panchmahals districts, are perhaps the only areas that would fall under this category. The proper solution in such areas is to modify the normal rule of one PHC for a community development block and raise the number to two. Besides, the medical officer of the PHC should visit centrally located villages on fixed days and examine patients and dispense medicines. Introduction of a few mobile dispensaries attached to the PHCs to render clinical aid, will also be a useful step.

7.31 Gujarat has already tried the concept of associating private medical practitioners, in the scheme of rural medical relief. While the system of subsidised medical practitioners as it exists may not have been perfect in the working, it may still hold the key to the restructuring of, rural health services, with certain modifications. Where voluntary organisations are prepared to run such health care centres in the villages, affiliated to their own hospitals, or dispensaries, Government may support such ventures, by sanctioning appropriate grant-in-aid. The scheme could be made fully operational, if, with the assistance of organisations like the Indian Medical Association and Voluntary agencies that run their own hospitals or dispensaries in the nearby urban areas, panels could be prepared of general practitioners, willing to work at the sub centres of the PHCs or other selected centres, part time and on fixed days every week or fort-night. Payment of a reasonable honorarium and the provision of the services of the compounder from the PHC or dispensary shall have to be arranged and the vehicles of the PHC will have to be made available for transportation. A variant of the scheme could also be thought of, under which a local medical practitioner would make his services available on a part time basis on fixed days at the sub-centres.

7.32 The turn out of medical graduates from the different medical colleges of the State has been fairly large over the recent years and although there are no indications of actual unemployment among medical graduates, as in some other States, the stage might well be reached, in the not too distant future, when the towns and cities can no longer gainfully absorb any additional influx of medical practitioners. The bonds executed by the students admitted to the MBBS courses, shall have also to be made operative, by finding them placements, in the health services. Combining both these factors usefully, a scheme could be devised for providing the services of medical graduates at selected places, in the rural areas. The selection of centres shall have to be made with reference to the present level of availability of medical facilities and the prospects of private practice at these places. Under the scheme, the Government could provide seed money and a monthly stipend to the medical graduate, the stipend being available for a period of 18 months on a tapering scale, reduced by a third of the amount, every six months, on condition that he agrees to set up practice, in one of the approved rural centres and binds himself down to continue at the same centre for period of not less than three years. The government, in collaboration with the nationalised banks, can also arrange for loans at concessional rates, for meeting the costs of setting up the dispensaries. The Committee learns that a similar scheme was put into operation in the State for the benefit of Ayurved practitioners last year. The Kerala Government has already experimented with the scheme of health cooperatives in the State. A careful assessment of the working of the scheme and its relevance and feasibility in the context of the local situation may also be usefully attempted.

7.33 Strengthening the role of Voluntary Organisations in the sphere of Rural Health Services is both possible and desirable, in the face of the uneven inter-district distribution of institutional medical services. A liberal pattern of grant-in-aid, covering both recurring and non-recurring expenditure and special terms of assistance for institutions in the tribal areas, or remote rural communities, would give the right impetus to the voluntary organisations. The district and taluka panchayats which are incharge of organising and administering rural health programmes, could also be encouraged to streamline and expand services in the rural sector, by evolving a similar formula for grants-in-aid.

7.34 The main thrust of the future strategy of the development of rural health services, has to be towards cent per cent village coverage. Literally, the "Health delivery system" should become available at the village and even at the very threshold of the villagers. This implies the creation of rudimentary facilities at the area level backed up by an institutional net work, of progressively rising levels of expertise and supporting services. Organisationally, such a delivery system would have a multi-tier structure. At the first level of contact and that, at the villagers door-step, will be, the basic health workers who are to provide intensive health education and services in a compact area. The Primary Health Centres and sub-centres should provide a wide range of preventive and curative services and under the aegis of the mobile health teams seek to reach the non-user segments of the population and influence their health care aspirations, in a positive direction.

The PHC has no fullfledged laboratory or X-Ray units or facilities for surgical treatment of diseases and hence the need for the second tier, that would consist of an institution, having arrangements for indoor treatment, X-Ray and laboratory investigations and surgery. In addition, such an institution should also provide the services of specialists in basic specialities. At the next higher level should be the capable of providing extensive facilities for diagnosis and treatment and a wide range of specialised services. The apex level is represented by the teaching hospitals, with highly specialised personnel and sophisticated equipment, to cater to complex treatment needs. For its effective functioning the multi-tier health care complex depends on the development of an efficient referral system, from the periphery, right up to the medical college hospitals. This also underscores the need for an efficient ambulance service and dependable inter communication between the PHCs on the one hand and the hospitals in the nearby locations, on the other. While the flow of patients from the lower to the higher echelons would be a normal feature, there is a strong reciprocal need for the specialists at the higher levels to move out to the lower level institutions, frequently and according to scheduled programmes. In other words the hospitals should move out into the community.

8. MEDICAL COLLEGE HOSPITALS AND HEALTH CARE

8.1 Gujarat has four Government medical colleges with a total of 625 seats, distributed as follows: (i) The B.J. Medical College, Ahmedabad—210 (ii) The Medical College, Baroda—140 (iii) The Medical College, Surat—100 and (iv) The M. P. Shah Medical College, Jamnagar—175. The attached hospitals have a bed strength of 1339, 924, 530 and 770 respectively. In addition, there is a fifth medical college run by the Municipal Corporation at Ahmedabad. The Committee visited all the medical colleges and the hospitals attached to them and held detailed discussions with the members of the teaching fraternity—both the Honorary and Full Time teachers—and the undergraduate and post-graduate students.

Studying the organisations and the working of the Medical College-Hospital complex at the different centres the Committee encountered considerable diversity in different operational areas. While the medical colleges at Ahmedabad and Baroda are headed by the Deans, the attached hospitals have separate Superintendents, borne on the cadre of Deans, at the top of the hospital structure. At Surat and Jamnagar, the Dean is also the Superintendent of the hospital. The Civil Surgeon at Surat is the Joint Superintendent of

the Civil Hospital, under the Dean. The Committee was also informed that a separate post of Chief Medical Officer-cum-Superintendent, has been recently created at the Jamnagar hospital. This post was to be filled by drawing upon the non-teaching cadre of Deputy Director of Medical Services. The teaching faculty at Ahmedabad, and Baroda comprises both full time and honorary medical teachers, whereas at the other two institutions the teaching staff consists entirely of full time incumbents. The Committee understands that persisting staff shortages at both these institutions, have necessitated some re-thinking on this issue and recently the Director of Medical Education and Research has been asked to enlist suitable part-time or honorary teachers for appointment, in case full-time medical teachers in the required number were not available. The four medical colleges are affiliated to four different universities of the State and uniform standards of teaching and evaluation of students have thus not been possible, to achieve. Similar diversity persists in the sphere of post-graduate medical education also. The following table presents information on the distribution of units in the different subjects as between the four colleges.

TABLE 8.1

Sr. No.	Subject	B. J. Medical College, Ahmedabad			Medical College Baroda			M. P. Shah Medical College, Jamnagar			Government Medical College, Surat		
		No. of Units	Professors		No. of Units	Professors		No. of Units	Professors		No. of Units	Professors	
			Full time	Honorary		Full time	Honorary		Full time	Honorary		Full time	Honorary
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Medicine	6	2	4	6	2+1 Asst. Prof.	3	5	5	..	3	3	..
2.	Paediatrics	2	1	1	2	2 (1 vacant)	..	2 1 (Asstt.Prof.)	1	..	1	2	..
3.	Psychiatry	1	..	1	1	1	..	..	..	..	1	1 (vacant)	..
4.	T. B.	2	..	2	..	..	..	..	..	..	..	1 (Asst. Prof.) (vacant)	..
5.	Dermatology and Veneriology	1	..	1	1	1	..	1	1 (Asstt. Prof.) (vacant)	..	1	1 (vacant) (Asstt. Prof.)	..

1	2	3	4	5	6	7	8	9	10	11	12	13	14
6. Infect. Diseases	..	..	..	..	..	..	..	1	1 (Asstt. Prof.) (vacant)	..	1	1 (vacant)	..
7. Neurology	1	..	1	..	..	..	..	..	..	..	..	..	..
8. Cardiology	1	..	1	..	..	..	..	..	..	..	..	..	..
9. Nephrology	1	1	..	..	..	..	..	..	..	..	..	..	..
10. Gastro-Enterology	1	1 (Asstt. Prof.)	..	..	..	..	..	..	..	..	..	..	..
11. Diabetes	..	..	..	..	..	..	..	..	..	..	..	..	..
12. Surgery	6	2	4	6	3	3	5	5	5	..	3	3 (1 vacant)	..
13. Paediatric Surgery	..	1 (Temporarily converted into Prof. Ophth.)	..	..	..	..	..	..	..	..	..	..	..
14. Ophthalmology	5	4	1	2	1 (vacant)	1	2	2	2	..	2	2	..
15. E. N. T.	2	1	1	1	1	..	1	1	1 (Asstt. Prof.)	..	1	1 (vacant)	..
16. Orthopaedics	3	1	2	3	2 (1 vacant)	1	1	1	1 (vacant)	..	1	2 (vacant)	..
17. Neuro-Surgery	1	1 (vacant)	..	..	..	..	..	..	..	..	..	..	..
18. C. T. Surgery	1	1	..	1	1	..	..	..	1 (Asstt. Prof.) (vacant)	..	..	..	..
19. Plastic Surgery	1	1	..	1	1	..	..	..	..	..	..	..	..
20. Urology (Surg.) (Geneto-Uri. Surg.)	1	..	1	..	..	..	..	..	1 (conver- ted into Chief M.O. i/c Irwin Group of Hospital)	..	..	..	..
21. Anaesthesiology	1	1	..	1	1 (vacant)	..	1	1	1	..	2	2 (vacant)	..
22. Radiology	1	..	1	1	..	1 (vacant)	1	1	1	..	2	2 (vacant)	..
23. Obst. and Gynaec.	5	2	3	3	2	1	2	2	2	..	2	2	..
24. Intensive Care Unit	1	..	..	..	..	..	..	..	..	..	..	..	..
25. Dentistry	..	..	..	1	..	1	2	2	2 (Asstt. Prof.)	..	1	1 (Asstt. Prof.)	..

8.2 Compared to the non-teaching institutions, medical students, the interns, postgraduates and the teaching hospitals work under certain major constraints, in view of the training needs of undergraduate medical students, the interns, postgraduates and the para-medical staffs. The sheer size of the hospital, the presence of a large number of professional men belong-

ing to the different specialities and super specialities and the constant need for synthesising the demands of patient care with the requirements of practical instruction to the students, pose a variety of problems, to be resolved with understanding and imagination. The principal problem areas in the management of a teaching hospital can be identified as follows:

- (i) Improving the general and financial administration;
- (ii) Making the various services at the hospital more efficient;
- (iii) Ensuring that patients get prompt and adequate medical attention;
- (iv) Promoting coordination in the different sectors of the hospital to facilitate the development and functioning of specialities and super specialities;
- (v) Planning the Internship and Residency programme to ensure proper training and post-graduate specialisation;
- (vi) Strengthening the essential support services like Radiology, Anaesthesia and Laboratory services;
- (vii) Streamlining the procedures of purchase, storage and distribution of drugs;
- (viii) Resolving the shortages of staff and devising a suitable pattern for the future, in view of the Medical Council dictum regarding full time, non-practising staff.

No doubt, many of these problems are encountered in the non-teaching hospitals as well, but, the large inflow of patients in the wards and the O.P.D. and the wide range of specialised services that a teaching hospital is expected to provide, add a new dimension to the problem. Interlinking of teaching and patient care, makes the situation even more complex. Some out of these key issues have been gone into, by the Committee, in the paragraphs that follow. The rest are dealt with in separate chapters, in common with other hospitals.

8.3 The existing administrative set up of the teaching hospitals suffers as much from the lack of functional cohesion as the lack of uniformity of the pattern of organisation, referred to earlier. The consensus among the large number of medical teachers, whom the Committee met at the different medical colleges, during its visits, was clearly in favour of a unified administrative structure covering both the medical college and the attached hospital, with a common head. This is, as it should be, because, the

functional areas of the head of the teaching institution and the head of the attached hospital unit, broadly coalesce into each other and a scheme of dichotomous control cannot but detract from the quality of teaching and the standard of patient care. The head of the college-hospital complex should be the Dean-cum-Chief Superintendent. He has to be the king pin of the entire organisation frame and on his initiative and resourcefulness will depend, the sound development of the institutions in his charge. In addition to supervising the internal administration of the medical college and the hospital, he has also to represent these institutions to the outside world. He would be called upon to keep himself in close touch with the staff and students of the college and the large number of medical and para medical personnel in the hospital. His personal involvement in patient care, will improve the standards of service at the hospital.

8.4 Incongruous as it may seem, a Dean selected from the cadre of Professors does not have any training or experience to draw upon, while dealing with the complex tasks that confront him, in his assignment. The Committee therefore feels, that the second-in-command position should be used as a training ground, for prospective candidates for appointment as Deans. Thus, in the proposed heirarchical structure, the Committee envisages the Dean-cum-Chief Superintendent, having two top level assistants, a Vice-Dean, to help him look after the responsibilities relating to the teaching programmes and a Superintendent, to assist, in running the hospital. Senior professors by rotation, should be appointed on the posts of Vice-Dean and Superintendent, on a fixed tenure of two years, in addition to their duties as the heads of their own departments. It would however be useful, to reallocate their teaching and clinical duties partly, so as to enable them to devote greater attention to the supervisory responsibilities. The provision of a special remuneration of Rs. 150 p.m. would also be warranted, in view of the extended sphere of functioning, envisaged for them.

8.5 The Maharashtra Committee on the Rationalisation of Teaching Hospitals, has recommended the decentralisation of all the sectors of the hospital, making the head of the department shoulder administrative responsibilities of the sector assigned to him, with the other teaching staff of the department, assisting him in these tasks. The strength of the system lies in the fact that every officer at different stages of his career, could acquire worthwhile administrative experience, as he advances along the heirarchy. This scheme provides a pragmatic solution to the malfunctioning of the administrative structure of the teaching hospitals and therefore deserves to be tried at all the hospitals attached

to the medical colleges. As a part of this arrangement, medical teachers of the level of Assistant Professors, could be inducted as Deputy Deans, on the organisation of the medical college and assigned specific functional areas, like undergraduate teaching programmes, training of medical and para-medical personnel and university matters. Similarly, under the hospital wing, Deputy Superintendents could be put in charge of (i) Laboratory, Pharmacy and X-ray Services (ii) Medical Stores and (iii) Ancillary services. The number of the Deputy Deans and the Deputy Superintendents need not be fixed. Depending upon the size of the hospital and the volume of work, the number could be permitted to vary within certain overall limits. A special remuneration of Rs. 100 p.m. may be sanctioned to the Deputy Deans and Deputy Superintendents, who should also hold their post for a tenure of two years.

The adoption of this scheme would necessitate some changes in the mode of recruitment of the Deans-cum-Chief Superintendents. It is essential to the working of the system, that the appointment is made by way of selection of Professors who have not less than seven years of standing in a clinical or para-clinical department and experience of two years as either a Vice-Dean or Superintendent. It is generally likely that Professors drawn from the clinical side, would have had some experience of hospital administration and it would therefore be proper, to draft them on the college side as Vice-Deans and draw upon the services of the Professors of para clinical subjects to man the posts of Superintendents. This would further facilitate the process of selection of Deans, with sufficient background experience, in the administration of the college-hospital complex.

8.6 The nursing services at the teaching hospital should be organised under a Chief Matron reporting directly, to the Superintendent of the Hospital. The entire contingent of para-medical staff should be placed in the charge of one of the Deputy Superintendents of the hospital. A Chief-Steward may be appointed to assist him in running the paramedical and ancillary services at the hospital.

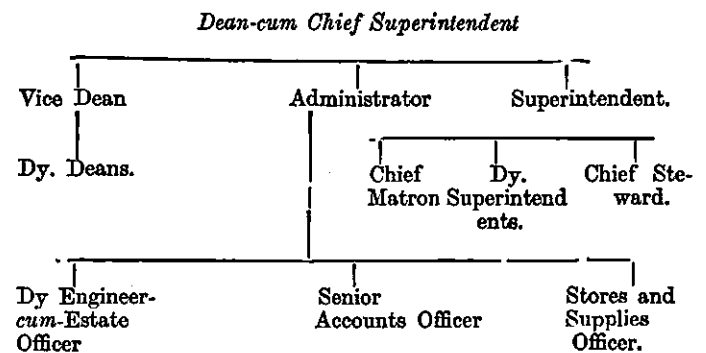
8.7 In order to relieve the top hospital authorities of the considerable load of general administrative and financial responsibilities that the running of a large hospital would entail, it would be desirable to create a post of a non-medical 'Administrator'. The choice of an officer with high managerial abilities and sufficient experience in the sphere of general administration will be crucial to the working of this arrangement. The Committee feels that carefully selected officers of the rank of Senior Deputy Collec-

tors of the State Civil Services, should man these posts.

8.8 It is well known that the financial administration of most of the hospitals, is less than satisfactory. Numerous irregularities in organising purchases, payments for services and maintenance of stocks, have come to light, time and again and effective procedures of expenditure control have been conspicuously absent. The Committee, therefore recommends the appointment of a Senior Accounts Officer drawn from the Audit and Accounts cadre, to be in charge of budgeting, audit and accounts. There should also be a Stores and, Supplies Officer to handle purchases, storage and issue of medical stores and the procurement of non-medical supplies. The Committee has already recommended the creation of a separate Hospital Engineering organisation, as a part of the Directorate of Health Services. A sub-division may therefore be located at each medical college, with a Deputy Engineer, incharge, who could also be styled as the Estate Officer. These sub-divisions should also cater to the requirements of all the medical institutions within the region, defined for them.

The organisation chart for a teaching hospital with these proposals, duly reflected in it, will be as follows:

Organisation chart for a Teaching Hospital.



8.9 The pattern of administration outlined above, requires for its effectiveness, a judicious use of the devices of coordination. Setting up different functional Committees, would be a very essential step, in this connection. A Standing Committee, consisting of the Dean, the Vice Dean, the Superintendent, the Administrator and the Senior Accounts Officer, is a must, to broadly oversee, the diverse facets of the working of the institution. It would be particularly helpful in evolving a system of budgetary control, comprising the formulation of departmental budgets, allocation of grants and review of expenditure.

8.10 The active participation of the professional staff of different departments in the administrative pro-

cess, can have a positive impact on the standard of services at the hospital. To facilitate such participation a series of Committees could be constituted as follows:

- (i) Executive Committee of the hospital, with the heads of the Medical, Surgery, O. & G., Pathology, Radiology and Anaesthesiology departments.
- (ii) Committees for casualty and emergency services;
- (iii) Committee for services, stores and supplies;
- (iv) Committee for medical audit.

The scope of these different committees should be clearly demarcated and the responsibility for follow up action should rest squarely, with the convenors of the Committees and the Superintendent of the Hospital. The formation of Committees in the college sphere has been dealt with elsewhere in the report. Questions concerning the development of specialities and super specialities and key issues of under graduate and post-graduate education are also discussed in separate chapters.

8.11 The pattern of staffing of the medical colleges, is governed by the regulations of the Medical Council of India, both in relation to the number of posts of different categories and the qualifications required. The real problem however, is that of finding qualified medical teachers in adequate numbers. A look at the staffing situation of the medical colleges in the State is disillusioning. The following table illustrates the present position of teaching staffs, at the four medical colleges:

Sr. Medical No. College	Posts of					Tutors Vacant
	Professors Sanc-tioned	Vaca-ant	Asstt. Sanct-ioned	Professors Vaca-ant	Sanct-ioned	
1. B. J. Medical College, Ahmedabad	27	3	61	27	94	29
2. Medical College, Baroda.	34	5	47	16	45	16
3. Medical College, Jamnagar	27	5	46	18	76	22
4. Medical College, Surat	27	10	37	10	66	28

A large number of vacancies thus exist, at all levels and the proportion of vacant posts, is fairly large at the Jamnagar and Surat medical colleges. The shortages of manpower are manifest in the clinical and the non-clinical departments alike and are particularly serious, in the super specialities. The under-graduate medical students and many of the resident doctors, expressed great apprehension at the disturbing state of affairs and requested the Committee to suggest steps to rectify the situation. The Committee also learnt with concern,

that there has been a fair turn over of medical teachers in the recent years and that the response to the recruitment notices by the Public Service Commission has not been encouraging and in some cases the Commission has not been able to select a single candidate.

Having regard to this background, the two prominent questions that stand out are; (i) is there any need for a basic rethinking on the staffing pattern of medical colleges with reference to the imperatives of patient care, teaching and research? and (ii) is there scope for flexibility within the existing system, to adjust to the changing situations and the demands of the future? As for the first, some of the witnesses, especially the Honorary Medical Officers strongly urged, that an ideological commitment to the full time system, must be given up and a fair proportion of private practitioners should be inducted into the teaching departments of the medical colleges, as they are better equipped to impart clinical bed-side teaching than full time teachers. The opposite view is, that the cause of medical education cannot be served by people who are not fully devoted to it and in the scheme of priorities of a private practitioner, the needs of teaching would not have the pride of place. The Royal Commission on Medical Education summed up this situation in the following words:

“There are still full-time teachers who see the part-time as a prosperous busy practitioner, who owes his success to clinical acumen rather than painstaking investigation, whose teaching is based on personal dogma rather than scientific fact and whose interests require the whims of private patients, to take priority over the needs of his students. There are still part-time teachers, who see the full timer as a desiccated preacher, more interested in the advancement of medicine than in the welfare of his patients and unable to offer his students any guidance as to the realities of life, outside the ivory tower of his own well equipped and over-staffed unit”. The Royal Commission concluded that medical education demands the employment of both full-time and part-time teachers, because each has something to offer that the other lacks and because each suffers from limitations inherent in the pattern of work he has chosen.

While there is great merit in the foregoing observations of the Royal Commission, it is important to note that their practical applicability to the Indian context is beset with serious problems. Firstly, there is the injunction of the Medical Council of India, that posts of medical teachers at the medical colleges, must be full time and non-practising. The existing honorary system wherever in vogue, is to be replaced by 1977. Secondly, the Government has already accepted the principle of medical personnel on teaching posts, not

being permitted to practice privately and the scheme of the non-practising allowance has been devised precisely to meet this requirement. Thirdly, so long as the doors are kept open for the non full-time medical teachers, the programme of filling in all the full-time posts would receive a set back and in any event the number of part timers who could be retained and the departments in which they would function, would become subject to undesirable manipulations. Fourthly, the existence of two categories of medical teachers, one devoted to the job of teaching on a full time basis and the other, with their attention divided between the claims of private practice and the load of academic responsibilities, introduces a dichotomy in the structure of the teaching fraternity. Having regard to all these factors, the Committee is of the view that there can be no basic rethinking on the concept of 'Full time, Non practising' medical teachers.

8.12 The adherence to the concept of full time non-practising staff has wide ramifications. It is firstly conditioned by the limitation of resources for the creation of the required number of full-time posts and secondly by the availability of qualified personnel. It is to be remembered in this connection, that with the present structure of salaries and conditions of service under Government, the scope for attracting eminent professionals into the medical teacher cadres, is not very bright. The large number of vacancies that exist in the different medical colleges of the State has exemplified this position. Even with a liberal revision of salaries the wide gulf between the earnings in private practice and the emoluments under Government would persist, the non-practising allowance notwithstanding.

Top specialists are therefore not likely to be drawn towards the full time posts. Senior full time teachers on the look out for opportunities of specialised work, perquisites and incentives may also be tempted to leave the service of the Government, unless the work environment improves considerably. The Committee therefore feels that a flexible approach would be justified, consistent with the present circumstances. Induction of sessional consultants and the introduction of geographical practice for the full time staff, are two major steps that might be considered, to strengthen the existing structure of the medical teacher cadres.

8.13 The lion's share of the responsibility for managing the hospital services and shouldering the load of clinical teaching, has obviously to be borne by the full-time staff. However, 25 per cent of the posts could be manned by outstanding clinicians of high standing, recruited as session consultants. This would help tide over at least partly, the twin constraints of financial and manpower resources contingent upon the replacement of the honorary system. Moreover, this

can not also be considered violative of the true spirit of the Medical Council's dictum in favour of full time teachers, since, in any, unit there will either be the full time staff or the session consultants available continuously, for teaching and hospital service, during the entire working hours. The Maharashtra Committee on the Rationalisation of Teaching Hospitals has given concrete shape to this concept in the following terms;

(i) There will be two sessions every day of four hours each;

(ii) During the six working days in a week there will be in all 11 sessions;

(iii) A minimum contribution of six sessions per week should be obligatory;

(iv) Qualification of a consultant for appointment to the session system should be based on the following principles;

(a) Post-graduate qualification in the speciality;

(b) Five years professional experience after acquiring a post-graduate degree;

(c) 3 years teaching experience;

(d) Preferably some contribution to Medical Literature.

The quantum and areas of work for each session, could be laid down for individual appointments, in consultation with the heads of the department, in such a manner, that the consultant's services are utilised to suit his experience and the purpose for which the appointment is made. The sessions could for example, be for clinical work, OPD, operative work, teaching or where feasible, for research.

8.14 The strength of full time medical teachers who are expected to be the main stay of the teaching departments and shoulder predominantly, the burden of running the hospital services, will have to be substantially augmented in the near future, to achieve the twin objectives of the withdrawal of the honorary system and the total implementation of the staffing norms laid down by the Medical Council of India. If the recruitment experience of the past were any indication, the prospect can not be considered to be wholly reassuring. The Committee therefore feels, that careful advance planning of every phase of the change over to the full time system is called for, and a beginning should be made even now. Fresh induction of honorary staff in the place of retiring honoraries should be stopped and denying further extension of tenure to the honoraries who have reached the age of retirement,

would be another key step in this direction. The Committee would also commend the following additional suggestions on the lines of the Maharashtra Committee for the Rationalisation of Teaching Hospitals, for the Government's consideration;

(i) The replacement of retiring honoraries or those who have completed their current terms of appointment, by full time staff or the session consultants should be systematically pursued till 1977;

(ii) The required number of middle level posts in the clinical departments, may be created first, so as to measure upto the MCI requirements in regard to these posts, in all units, including the super specialities. The posts of Professors/Readers may be created under session heads so as to facilitate their training;

(iii) Whenever any posts are to be filled, either of the full time category, or of session consultants, the existing honorary staff may be permitted to offer themselves for selection. Relaxation of age limit may also be considered in suitable cases for smoothening this process;

(iv) Posts of full-time teachers in the basic specialities of Medicine, Surgery and Obstetrics and Gynaecology may be created and filled, in the first instance.

8.15 The feasibility of the entire programme of replacement of the honorary medical teachers, depends on the availability, in time, of the full time staff. As the Committee has observed, at various places in the report, the large disproportion between the earnings in private practice and the emoluments offered by the Government, is a major deterrant. Any attempt to establish a linkage between the salary structure under the Government and the level of incomes from private practice would be fanciful and shall have to be discarded as such. The glaring disparity can hardly be mitigated by the non-practising allowance at current rates sanctioned to the full time staff.

A viable alternative can only be, what preserves substantially the essential features of the present system of full time non-practising staff at the medical colleges, but also permits of adjustments, in order to improve the earnings of the medical teachers. The search in this direction, has inevitably led to a redefinition of the concept of 'Private Practice' and the evolution of the phenomenon of 'Group Practice' and 'Pay-Clinics'. The Basu Committee on Medical Education and Medical Services in West Bengal has said "It would be in the interests of the senior clinicians that they should have arrangements for seeing patients outside

their duty hours within the campus of the Institute." The Royal Commission on Medical Education had also suggested a similar arrangement, in the case of part-time consultant teachers in Britain as "Geographically full time Practice." The Maharashtra Committee on the Rationalisation of Teaching Hospitals, outlined the modalities of the scheme thus; "What is envisaged here is a system whereby proper consulting rooms, laboratories and clinics are organised, in basic hospital services and specialities during specified hours, where by proper rotation, full-time staff conducts pay-clinics. Appointments for the patients would be given by office staff and the fees would be collected by the Superintendent's office and careful account would be maintained, of all the receipts and revenues. The fees charged for various services would be specific and fixed, for various clinical and laboratory services. The personnel at the payclinic would also be specified by rotation, as also the frequency of such attendance depending upon patient-load."

The advantages of the change over to the 'Geographical Practice' concept are obvious. In the first place, the sharing of the receipts between the Government and the medical teachers would give a boost to their earnings without any additional burden on the state exchequer and secondly, the revenues thus generated by the hospitals, could be reinvested to improve the facilities and the standards of service at the teaching hospitals.

8.16 A logical sequence of the Pay clinic pattern will be, "Group Practice" under which the entire unit, is assigned consultation duties and fees are shared between the members of the group on an equitable basis. The staff of the supporting services like Pathology or Radiology could also claim a share in the fees levied, in specified proportions. Para-medical staff shall also have to be paid extra remuneration for the services rendered by them, beyond their regular hours of duty. The Committee recommends that the income generated from the Pay Clinics, should be shared between the Government and the professional groups, in the ratio of 60:40, subject to overall ceilings for individual categories and that the overhead expenses of running the clinics should be met out of the Government's share and surpluses should be earmarked for being spent on projects of expansion or improving facilities at the concerned hospitals or on approved programmes of research. With the introduction of the new arrangement, the non-practising allowances for the participant medical teachers may be withdrawn.

8.17 While the Committee has no apprehensions as to the practicability of the idea of pay clinics, the

pre-requisites for the general introduction of Pay Clinics at the teaching hospitals will have to be carefully worked out. A proper lay out of the pay clinics and the provisions of necessary amenities therein, should be insisted upon. Consulting rooms and nursing homes with facilities like Electro Cardiograms, Laboratories and X-Ray shall also have to be provided. All this would require to be sustained by sound organisational support from the hospital administration, so as to make the experiment of the Pay clinics, workable. The key to the success of the scheme lies in the degree of consumer satisfaction, the extent to which the paying patients are made to feel that the Pay clinic is not a rehash of the OPD or the general ward of a Government hospital.

8.18 Monetary compensation apart, improvements in the service conditions and the provision of amenities like housing would act as positive incentives to the full time staff of the Medical Colleges. A rational placements policy that takes into account the needs of the teaching institutions and the circumstances of the individual members of the staff is another essential step in this direction. Provision of facilities for research and participation in scientific conferences and seminars within the country and abroad should also be thought of.

8.19 An important question that was brought up before the Committee, concerned the status of honorary and part-time teachers vis-a-vis the full time staff, in the various units and especially, as to who should be at the head of the unit, or department. The Royal Commission on Medical Education said;

“We think that the burdens and responsibilities of administration in the school should be distributed in proportion to the amount of time that members of staff are committed to devoting to the work of the School. Those who can give only a small part of their time to medical education, should not expect, or be expected, to have the same voice in the School's affairs as those whose main interests lie in this field”. In the same connection it is also relevant to quote Sir Robert Platt; “As to the question, who should be the head of the department, one must remember that there are only 24 hours a day and a Professor of Medicine has teaching, hospital practice, research and administrative duties to perform. Where is the time for private practice left?” In the fact of these clear pronouncements, there can be no doubt that the administrative responsibilities of the department should devolve squarely on the full time staff. Of course the honoraries should have due representation on all the important committees of the college and the hospital.

8.20 The problem of organising hospital services in towns with a large population, has many facets. Largely on account of the composition of the population and its spatial distribution, a certain measure of dispersal of hospital facilities in the different parts of the city, does become necessary. Moreover, the occupational classification of the city population and special features of the pattern of morbidity in the local area may also have to be kept in view and the types of services provided in the hospitals, have to be reoriented to specific needs derived, therefrom. The existence of a number of voluntary organisations providing medical aid, as also the medical institutions run by Civic bodies, makes the position, really complex. On the one hand, a proliferation of medical institutions in an unplanned and uncoordinated manner results, and on the other, duplication of sophisticated facilities at various centres creates a serious drain on human and material resources, not all of which are put to optimum use. It should therefore be possible to regulate the creation and expansion of medical facilities in the major cities by coordinating effectively, the activities of all agencies involved in the programme of providing medical relief. A central body could pool the resources available in the city and plan the utilisation of existing facilities to the optimum level and plan future expansion purposefully.

Taking the case of Ahmedabad city with its population of around 18 lakhs, two teaching hospitals, one under the Government with 1339 beds and the other under the Municipal Corporation of Ahmedabad, with a bed strength of 750 exist side by side. In addition, the Municipal Corporation runs two general hospitals with a total bed strength of 447 and an eye hospital with 80 beds, all attached to its medical college. There is also the hospital, run by Employees State Insurance Scheme, having 200 beds providing a whole range of specialised services. The E.S.I.S. also avails of beds at other hospitals for the specialised treatment of the insured.

Similar is the position at Surat with the Government Medical College and hospital and hospitals run by the Municipal Corporation and other agencies. No doubt these hospitals are located in different parts of the town and cater to the areas round about and should therefore have normal facilities for treatment of outdoor and indoor patients. But a proper synthesis of the efforts of all the concerned agencies in the cities could lead to better zonal coverage of hospital services without duplication and concentration of highly specialised services at central points so as to derive the best utilisation of the available skills and expensive infrastructural facilities.

8.21 As between the two medical colleges in Ahmedabad both affiliated to the same university there has been no attempt to coordinate the post graduate teaching programmes and the development of super specialities, with the result that both the institutions incur considerable expenditure on overheads and on creating and running the departments of post graduation. With the overall shortage of staff, it does not become possible to man the departments at either of these institutions, to conform fully to the norms laid down by the Medical Council of India. The Committee understands that departments like skin and V.D., Preventive and Social Medicine, T.B., Psychiatry and Neuro-Surgery are not fully developed at either of the Medical Colleges in Ahmedabad city. Similarly, the development of highly specialised departments like Plastic surgery, Cardiology, Cardio Thoracic Surgery, Paediatric surgery, Nephrology, Urology, Genito Urinary surgery, to name only a few, could be planned and organised better, if the two teaching institutions could coordinate their efforts in the direction effectively. Once this is accomplished, it would be possible to treat each speciality as a referral service, not only for the city hospitals, but for the other hospitals also, for purposes of diagnosis and treatment of patients, as well as the training of medical personnel.

8.22 The solution to this problem appears to lie in institutionalising the arrangements for coordination, between the two teaching institutions and other city hospitals. The Committee recommends the creation of a City Hospital Authority, in the two cities of Ahmedabad and Surat in the first place. The City Hospital Authority should coordinate the activities of all the major hospitals in the city, both in relation to the teaching programmes and programmes of patient care. Expansion of existing hospital services, addition of beds in the existing institutions, opening of new departments and acquisition of sophisticated equipments, should be subject to the expert advice of this authority. The ideal situation would be to cover the private, charitable institutions also, under such a discipline. This may be difficult to achieve in practice, but the Government may regulate the recognition of such institutions for grant-in-aid and actual release of grants, with reference to the recommendations of the City Hospital Authority. This Authority should consist of representatives of the Government, the Directorate of Health Services, the Municipal Corporation, and the Boards of Management of the hospitals run by private agencies and the Superintendents of the concerned hospitals. A Committee of the Deans of the Medical Colleges and the Superintendents of the attached hospitals concerned may be specially constituted, to coordinate

the various aspects of undergraduate and post-graduate teaching. These two authorities should work in close collaboration with each other.

8.23 Establishing a fully equipped record and reference and information service would be an essential pre-requisite, of the scheme. It is a common experience that patients treated at one hospital, move over to another, in the same city and the whole process of investigation and indoor treatment are repeated at the second centre, without reference to the diagnosis and treatment had earlier. While restricting such inter-hospital movement may be difficult, in the outpatients department, it may not be too difficult where indoor cases are concerned. A regular system of referring cases to the appropriate centres and providing the necessary information on the availability of specialised services at particular hospitals, would have also to be established. A central control room could also be organised to run the ambulance services in relation to the accident and emergency relief programme. The Committee is aware, that the trouble free working of the scheme will depend solely on the effectiveness of the proposed City Hospital Authority. This in turn is directly related to the extent to which the various agencies concerned are prepared to shed the insular approach, and subordinate considerations of prestige and self-importance, to the broader concept of public service and consent to defer to its judgement and direction. The support and sympathy of the Government, the civic bodies and the medical profession would be essential to make the scheme function with any measure of effectiveness.

8.24 "Medicine is coming of age as a social science in the services of society". Traditional concepts of medical practice within the narrow confines of a hospital campus are no longer valid and "Present ideals of health care transcend the platitudinous to become infused with real content; health emerges as an obtainable social objective of being given a functional, organisational matrix, effectively related to human striving to a better life as a whole". The envisaged pattern of health care for the future should therefore provide for a larger interaction with the community so that its institutional frame is tempered to be responsive to the needs of society. While the basic objective is of providing comprehensive health care to the entire population, the distressing imbalances in the levels of development as between the rural and urban regions, place the attainment of the goal, almost beyond reach.

As outlined in an earlier chapter this dilemma can only be resolved, by evolving a multi-dimensional

regional organisation to cover compact geographic areas. The medical college will be at the apex, with the responsibility for treatment, teaching, training of personnel and research, oriented to the evolving needs for the community. At the middle level, should be the district and sub-regional hospitals, largely service oriented and also handling the task of providing supervision and direction to the peripheral units. The peripheral units comprising the Primary Health Centres, the sub-centres and the rural dispensaries represent the cutting edge of the health delivery apparatus. The activities of these three functional complexes, should be complementary to one another, so as to achieve the best use of available manpower and provide health services at progressively higher levels of competence and professional specialisation. This implies the organisation of efficient referral services linking all the three levels of the regional network. Movement from below would be the normal feature of the referral system, but the process of involvement of the hospitals in the various facets of community health, will not be complete, unless the out flow of services in the reverse direction is activated. This is also crucial for inculcating in the interns and post-graduates at the hospitals, a sense of social obligation and commitment to the goal of community development.

The *modus operandi* could generally be on the following lines; the professors and heads of the clinical departments of the teaching hospital would visit the district hospitals in the region once a fortnight. They would attend the out-patients sessions, take ward rounds, see complicated cases, perform operations and generally guide the staff of the district hospitals. At a later stage it would also be possible to effect similar liaison between the teaching hospitals and sub-divisional or taluka hospitals and even selected primary health centres. Mobile teams of specialists from the medical college hospitals should also move out into the interior regions, to conduct short duration diagnostic and treatment camps. The responsibilities that would devolve on the medical colleges in such a scheme of

two-way movement from and towards the community would be threefold—diagnostic, curative and instructional. The role of the medical college specifically would be;

(i) To organise the training of doctors fully reoriented towards the health care of the community;

(ii) to impart comprehensive training to the para-medical staff at all levels to equip them to play their part in the health team;

(iii) to conduct refresher courses both for the medical and para-medical personnel, so that none is left behind in the mainstream of health activities.

(iv) to facilitate a continuous turnover of people from the periphery through different health organisations, to the medical colleges;

(v) to set up a central public health laboratory in close association with the diagnostic laboratories, to serve as a referral centre of the district and regional referral hospitals as well as the primary health centres;

(vi) to supply all necessary chemicals, reagents, glassware and medical and technical know how, for the laboratories located in the various groups of health care centres under their charge;

(vii) to provide a continuous stream of faculty members, registrars, residents, house-surgeons and interns and undergraduate students to the district, and regional referral hospitals and primary health centres so as to establish effective coordination of health care and training activities at these centres. In fact the medical colleges should undertake the task of providing expertise to the sub-units at all levels with a constant circulation of both personnel and material.

9. SPECIALISED HOSPITALS AND SERVICES

9.1 *Mental Hospitals.*—No estimates of the incidence of mental illnesses, are available for the State. The Bhole and the Mudaliar Committees had estimated that mental health services were required for 1-2 mentally ill persons per thousand. The WHO had recommended the creation of beds on the scale of 1 per every 10,000 population. The Jain Committee set a target of 1 bed for every 15,000 population, to be reached by 1976. Every district hospital was expected to have a psychiatric ward, with a minimum of 5 beds and every teaching hospital a psychiatric wing, of 30 to 40 beds. The Committee also recommended the setting up of regional mental hospitals with 300 to 400 beds, to cover contiguous districts in groups of seven or eight. The existing facilities for the treatment of mental ailments is summarised in the table below:

TABLE 9.1

No.	Item	Government	Non-Government.
1.	No. of mental hospitals	4	1
2.	No. of beds at the mental hospitals	538	82
3.	No. of beds in the wards of teaching hospitals	50	..
4.	No. of Psychiatric clinics	1	1
5.	No. of Psychiatric OPD at teaching hospitals	3	1

The number of admissions in the Government mental hospitals was 923 in 1965-66 and stood at 852 in 1973-74.

The position that stands revealed thus, is far from satisfactory. The State is no where near the yardsticks recommended by the Jain Committee, either in terms of the total number of beds or the institutionalised facilities expected to be created.

9.2. The Committee feels that the mental hospital, Ahmedabad which has a sanctioned bed strength of 317 but has in effect extra beds squeezed in, to the extent of another 227, should be developed into a full fledged regional hospital of at least 500 beds. The Committee learnt that a new building for the mental hospital, constructed more than a decade ago, has continued under the occupation of Government offices. Needless to say, efforts must be made to restore the building for its intended use, as early as possible. Similarly, the mental hospital at Jamnagar needs to be developed to provide adequate coverage to the entire Saurashtra region. Increasing the facilities at the teaching hospitals, including the provision of additional

beds in the Psychiatric wards, requires priority attention. Proper linkages should be established between the psychiatry departments of the medical colleges and the mental hospitals so as to cater to the needs of specialised treatment on the one hand and undergraduate and post graduate education on the other.

9.3 Development of outdoor facilities at the mental hospitals deserves to be attended to. Rehabilitation and follow up services are also to be usefully provided. The problem of setting up separate wards for mentally retarded children and separate homes for chronic cases, would have to be tackled in the long run.

9.4 At the district hospitals, a beginning requires to be made, by organising psychiatric units with a few beds. The present shortage of qualified personnel would not permit an elaborate set up and for the present, specialist services shall have to flow from the nearby medical colleges.

9.5 The Gujarat Government has shown its keen interest in the sphere of mental health by appointing an Honorary Mental Health Adviser at the State level. However, the future planning of mental health services would be greatly facilitated if a State level co-ordination Committee consisting of the judicial, police, social welfare and medical departments, is set up with a broad advisory and consultative jurisdiction.

9.6. The Committee learns that Post Graduate degree courses in Psychiatry could not be started in Ahmedabad on account of the inadequacy of staff at the medical college. The availability of trained manpower to meet the State's future needs would be in serious jeopardy, if the situation does not improve. Training of para medical staff like Clinical Psychologist, Psychiatric nurses, occupational therapists, and Psychiatric social workers shall also have to be arranged with reference to the emerging needs of the State.

9.7 *Dental Hospitals.*—At present there is a Dental College at Ahmedabad with a hospital of 20 beds. The Committee feels that efforts require to be made to develop dental services in the districts as well. The Committee found that in the district hospitals there was wide variation in the range and quality of services offered. Even where facilities were available, the main-

tenance was not upto expectations, nor were they found to be fully utilised. The Committee recommends that each district hospital should have a dental centre, to provide comprehensive dental care, with a qualified dental surgeon in charge, supported by trained staff. The other major hospitals in the districts and eventually all the taluka hospitals should have their own dental clinics, under a phased programme of expansion. Periodical 'Dental Clinics' should also be organised at the taluka hospitals and selected P.H.Cs. A regular programme of instruction in dental hygiene deserves to be instituted, for school children.

9.8 The Committee learns that the ratio of dentists to the population is 1 : 80,000 with the usual concentration in the urban areas. Creation of hospital facilities apart, it would also be necessary to create favourable conditions for dentists settling in practice in the smaller towns and the non-urban centres. The State Government could make full use of the scheme devised by some of the leading banks to grant loans to dental graduates to set up practice in the rural and semi-urban areas. The State Government's responsibility should, however, be restricted to the provision of some seed money and subsidising the rate of interest on loans, as also the payment of a stipend, for the first six to nine months of setting up of private practice. Government's assistance in this form may be made available, subject to the stipulation that the beneficiary concerned should undertake to serve the same area for not less than three years.

9.9 *Ophthalmic Hospitals.*—The incidence of economic blindness in Gujarat has been determined to be 0.42 per cent in the urban population and 0.62 per cent in the rural population. An estimated 1,75,000 are suffering from serious visual impairment and are equal number are visually handicapped. 50 per cent of the blindness has been attributed to cataract.

For the population of 28 million in the State, the number of qualified eye specialists, is very small, the number is not likely to exceed 150. The concentration of eye-specialists in the principal towns is another major limiting factor in the State's efforts to provide rural oriented services.

Tabulated below are the broad features of the network of institutional ophthalmic services. (See Table 9.2).

TABLE 9.2

Item		Year of reference		
		1965-66	1970-71	1973-74
1. No. of Eye Hospitals	(a) Government	2	3	3
	(b) Non-Government	N. A.	5	5
2. No of beds available in	(a) Government Eye Hospitals	66	116	228
	(b) Non-Government Hospitals	N. A.	215	215
	(c) Wards of General Hospitals both Government and Non-Government	N. A.	N. A.	N.A.
3. No. of Eye camps organised under Government and Non-Government sponsorship		18	19	30

9.10 The Health Survey and Planning Committee had considered it necessary for each State to have one ophthalmic hospital with 300 to 500 beds and each medical college centre to have 50 to 100 ophthalmic beds. Considering both the factors of geographical location and the availability of the necessary facilities and expertise, the Committee feels that the M&J Institute of ophthalmology should be expanded to serve as the premier centre for highly specialised treatment of eye diseases. The medical colleges at the three other cities have their own departments of ophthalmology which could be suitably equipped and developed to cater to the regions served by them.

9.11 Many of the district hospitals do not have posts of eye specialists, including the large hospitals of Bhavnagar and Junagadh. The Committee has already recommended that each district hospital should have a post of a specialist in eye diseases. This will have to be implemented early, in view of the magnitude of the problem in the State. The Health Survey and Planning Committee had envisaged that each district hospital should have 10 to 15 ophthalmic beds. This pattern has been suggested by the Jain Committee also. This Committee agrees that this should be the operative target to be reached in the near future. Gujarat is again fortunate in having several service minded organisations that have set up eye hospitals and organised eye-camps in the remote rural pockets. Government support to such efforts and, a planned expansion of these camps could no doubt extend the coverage and improve the content of the services provided.

9.12 The Committee realises that the problem of eye-care, in the rural areas particularly, is an admixture of socio-economic and medical factors and a programme of comprehensive eye care has to cover a number of facets like the relief of curable blindness, efforts to prevent blindness, educating the people in basic eye care, stimulation of school health programme, provision of low visual aids to the partially blind and the rehabilitation of the incurably blind and helping in the employment of the visually handicapped. Thus, the future strategy has to encompass the activities of government, semi-government and non-government organisations. In the towns and cities the main thrust should continue to

be the provision of institutional care. But in the rural areas, largely on account of the manpower constraints, the reliance shall have to be placed on mobile ophthalmic centres. Such centres can be organised under the joint sponsorship of the government and non-government agencies, at selected locations in the countryside. The services made available by such centres should include, diagnosis instructional programmes and conducting routine surgery and referring complicated cases, to regular hospitals. The leadership and organisational support furnished by the medical college would be vital to the successful implementation of the scheme as envisaged. In the final analysis this would be but another step in the process of strengthening the bonds between the medical colleges and the community, by enabling the full utilisation of the services of eye-specialists and post-graduate students of the medical colleges in the cause of the rural population, on the one hand and providing on the other, opportunities for the study of the eye-care problems of the non-urban regions by the post-graduate students and the resident staff as a part of their own education.

9.13 The Committee would also like to draw special attention to the need for periodical check up of school children for the detection and treatment of eye diseases. This should form an important aspect of the school health programme.

9.14 *T. B. Hospitals.*—According to the National Tuberculosis Survey conducted in 1955-58 nearly, 1.5 percent of the country's population suffer from active tuberculosis, of whom a fourth were infectious. The estimated number of X-Ray/sputum positive cases is 1.4 lakhs.

Thanks to the initiative of a large number of private charitable institutions, a number of T.B. Clinics and hospitals have been established throughout the State. The overall picture of institutional facilities for diagnosis and treatment as available at present, can be had from the table below :

TABLE 9.3

Item	Year			Remarks
	1965-66	1970-71	1974-75	
1		2		3
1. No. of T. B. Demonstration Centres	1	1	1	
2. No. of T. B. Clinics including Dist. T.B. Centres. (a) Govt.	7	17	18	Dist. T.B. T. B. Clinic Centre
(b) Non-Govt.	1	1	3	
			15+3=18	
3. No. of T. B. Hospitals/Sanitoria (a) Govt.	4	4	4	
(b) Non-Govt.	12	12	15	

	1	2	3
4. No. of beds available in			
(a) Govt-T. B.Insts. ..		894	946 ..
(b) Non-Govt. T.B. Insts. ..			
(c) Wards of Gen. Hosp. etc. both Govt. & NonGovt. ..		212	213 ..
5. No. of B. C. G. Vaccinations.	683191	8861 41	8,90,991 ..

At the base level, domiciliary treatment is provided through the Primary Health Centres and dispensaries. Diagnostic and treatment services have rightly been integrated with the other preventive and curative services of these institutions.

9.15 In keeping with the changed approach to T. B. cure, the Committee feels that the emphasis should shift from hospitalisation to domiciliary treatment and opening of new hospitals and expansion of existing institutions should be carefully regulated. The stress should be on optimum utilisation of existing beds at the hospitals, admissions being restricted to (1) medical emergencies, (2) surgical cases and (3) sputum positive cases and (4) cases not responding to domiciliary treatment. The length of detention at the hospitals would also have to be controlled. Enforcing such discipline on the large number of private institutions, would no doubt be difficult, but government which has accepted a considerable liability for providing financial support to them, shall have to devise suitable measures in this behalf. Simultaneously, efforts should be made to develop facilities for indoor treatment, in the districts where the existing position is not satisfactory.

9.16 The Committee feels that closer links should be forged between the T.B. institutions at the district and taluka level and the hospitals. This would enable the full utilisation of technical expertise and the physical facilities. The medical officer in charge of the T.B. centre could act as the specialist at the district hospital. The functioning of hospitals and clinics run by voluntary organisations would also have to be similarly co-ordinated with the district health and medical organisation for the same purpose. These institutions could also be effectively involved in a programme of early detection of T.B. cases, in peripheral areas and follow up of cases discharged from the hospitals. A Regional Committee under the stewardship of the Regional Assistant Directors may be constituted, to bring together the public health and medical authorities of the district and the representative of voluntary organisations engaged in T.B. work, to provide a sense of identity of purpose and complementarity of action programmes between them all.

9.17 *Leprosy Hospitals.*—The estimated population at risk in the State is around 5 millions, especially in the districts of south Gujarat. The number of cases of leprosy in the State has been estimated to be 47,000. Three government and two non-government hospitals, with a total bed strength of 745 and an equal number of dispensaries and clinics, provide institutional services. Under the National Leprosy Control programme, 130 Survey Education and Treatment units have been set up, each one covering a project area comprising 20,000 people and an out project area of around 30,000. The area covered is roughly coextensive with the immediate command area of a P.H.C. A leprosy supervisor for every 6 or 7 SET units has also been appointed, to guide and control the working of leprosy assistants of the SET units. In addition, four control units, headed by medical officers and 4 to 20 non medical assistants and other staffs have been established in the moderate and high endemic areas. Two urban leprosy centres attached to the medical colleges of Ahmedabad and Jamnagar, have come into existence recently

9.18 The Committee feels, that the integration of the leprosy programme with the Primary Health Centres is a step in the right direction. However, it would be essential to maintain adequate stocks of sulphones at the centres. Occasionally the services of specialists may be obtained for the SET centres for examination of patients. In the endemic areas, due emphasis should be laid on the early detection of leprosy among school going children, under the school health programmes. People should be educated into the belief that leprosy is no longer incurable and that its control is directly linked to the general health consciousness and promotion of personal and environmental hygiene and prolonged sulphone treatment.

9.19 The Committee was deeply impressed by the excellent work done by voluntary agencies in the field of leprosy treatment. It was particularly gratifying to note that the M. P. Shah Kusht Nivaran Dham at Bhavnagar has been able to organise periodically, reconstructive surgery on leprosy patients with the aid of plastic surgeons from Bombay. The Committee feels that the State Government would do well to develop atleast one major centre in the State for undertaking reconstructive surgery.

9.20 *Cancer Hospitals.*—There is only one specialised hospital for cancer in the State, at Ahmedabad called the 'The Gujarat Cancer and Research Institute', run by an autonomous body. The hospital has 200 beds and another 100 for ambulant patients, in the hospital annexe. The Committee was informed that there was a steadily rising demand for the services of

the institute and the beds at the hospital are always fully occupied, with a very long waiting list of patients.

9.21 The Committee is of the view that the facilities for diagnosis and treatment afforded by the Institute should be augmented further and the Institute should become the major centre for cancer treatment and research for the entire State. The Government of India's Cancer Assessment Committee had envisaged that the Institute could be upgraded as a Regional Cancer Centre and had suggested the strengthening and the development of the divisions of surgery, radiology, laboratories, epidemiology and cancer control, biostatistics and cancer registry. The implementation of these suggestions is a pre-requisite for the systematic expansion of cancer treatment services in the State.

9.22 The Committee also learnt that several voluntary organisations in the state have evinced keen interest in setting up cancer centres in the other towns of the State. The Committee considers that any unplanned expansion in such a highly specialized field is clearly undesirable. On the contrary the State should effectively guide and regulate such efforts, so as to put to the best use, the resources available in the State. The Committee recommends that cancer diagnostic centres be started at all the medical colleges with minimal facilities for therapy. Sophisticated facilities for treatment should however be concentrated at the Ahmedabad centre only.

9.23 *Cardiology Departments.*—The Committee could not obtain any dependable data on the incidence of the heart diseases in the State. However, having regard to the general trends in the country as a whole, and the experience of other countries in the south east asian region and elsewhere, it could safely be assumed that the morbidity and mortality attributable to cardiovascular diseases in the State, are on the increase. The causes for such a development, are well known. The growing complexity of living styles and the increasing trend towards urbanization, resulting in added stresses and strains, have both contributed to a sharp rise in the incidence of heart diseases, over the course of several years. This necessitates a certain minimum standard of facilities for diagnosis and treatment of heart diseases, correspondingly. Considering the specialised nature of the services and the need for expensive equipments, a beginning could be made by providing at each of the teaching hospitals, full-fledged intensive coronary care units with a minimum of 5 beds. The emergency services at various hospitals should be geared up to optimum efficiency while dealing with cardiac cases.

9.24 At all the district hospitals and other hospitals with more than 100 beds, E.C.G. machines must

be provided, to facilitate a proper diagnosis of cases involving heart ailments. At the smaller hospitals also it will also be worthwhile to organise periodical cardiac clinics to coincide with the visits of specialists from the teaching hospitals. At the urban centres, such clinics may be organised in collaboration with voluntary agencies and local medical practitioners. A programme of mass education covering the urban areas of the State in the first instance, may be chalked out for the semination of useful information about the risk factors and simple steps leading to the prevention of heart diseases.

9.25 To provide a precise data-base for the creation and extension of facilities for the treatment of heart diseases in the future, it would be useful to carry out a sample survey, covering initially all urban centres, having the population of more than 1,00,000.

9.26 *Department of Metabolic Diseases.*—As in the case of heart diseases, diseases due to disorders of the metabolism are also on the increase. A recent study carried out in Gujarat showed the incidence of diabetes to be 3.04 per cent in the urban population, and 1.87 per cent among the rural population. Arrangements for a careful study, diagnosis and treatment of diabetes and the various metabolic diseases, are thus clearly necessary. To begin with the Committee suggests that the State should develop one Centre for Diabetes with modern facilities for investigation and research. The Committee understands that the B.J. Medical College, has already got such a centre which could fulfil the envisaged role with the provision of necessary equipment and staff. The other medical colleges of the State should also develop on a small scale centres for the diagnosis and treatment of diabetes and metabolic diseases. A programme of mass education should also be taken on hand to help the urban public recognise the symptoms of the diseases, seek treatment and learn to live with them.

9.27 *Burn Centre.*—In Gujarat, the number of cases of burns is stated to be fairly high, particularly in the districts of Saurashtra. The Committee could not however get any definite figures of the number of cases, but the impression it gathered was, that the fatalities were also high. Data available from the Civil Hospital Junagadh, indicates that the number of burns cases admitted in 1972, 1973 and 1974 stood at 130, 126 and 156 respectively. The Committee also noticed that the hospitals in the Saurashtra region, preferred to have separate burns wards and offers of donations for the purpose had also been made to the Government. Much as the Committee would like these facilities to be developed at the level of the district hospitals, it feels constrained to sound a note of caution against any indiscriminate creation of hospital wards or beds.

9.28 Cases of burns require immediate life saving treatment as they suffer from shock and loss of body fluids. Extensive burns cause large open wounds, that are likely to become infected and hence invariably pose problems of cross infection. Also, strict aseptic precautions have to be observed in the wards, where the burn cases are treated by the exposure method. Cases often require skin grafting and reconstructive surgery. In view of these special requirements, injury due to burns must be treated at specialised burn centres. In establishing a burn centre the following guide lines are, therefore, required to be observed:—

(i) *Accommodation.*—The centre should essentially comprise an operating room complex, a resuscitation room with two beds, wards for male and female patients and staff rooms. There should be a large treatment room with saline bath facilities in specially constructed stainless steel saline baths. The building should be so designed that there is minimum chance of infection being carried from outside. There should be two sets of rooms separated by an air locked service corridor. The rooms should open into the service corridor. There should be a separate entrance for the staff which should lead into another corridor opening into the staff room. The staff room should directly open into the service corridor through an air lock. Visitors' entrance should be separate, located on the outer side of the ward units.

(ii) *Air Control.*—The whole burn centre complex should be airconditioned under positive pressure. The temperature tolerance should be around 72°F. Air should be admitted through wide ports at the ceiling level and discharged outside through large ports at the floor level. There should be no recirculation of air let in. The air flow should be 20 changes per hour. The air should be filtered of dust particles to the extent of 5 microns.

(iii) *Equipment.*—The requirements of equipment are, normal operating room and anaesthetic equipment, instruments for skin grafting, a large weighing machine for weighing the patient lying in bed. The stainless steel bath should have preferably a hydraulic arrangement to raise or lower the patient lying inside the bath.

(iv) *Staff.*—The centre should be under the charge of the specialist in reconstructive surgery. In addition to the appropriate nursing, paramedical and class IV staff for the number of beds authorised for the centre, there should be at least one physiotherapist assigned to it.

9.29 It is envisaged that the burn centre fulfilling the rigid specifications will be located at all the teaching hospitals. The Committee also feels that similar centres, may be on a smaller scale, can also be established at selected district hospitals keeping the special needs of the areas in view.

9.30 *Rehabilitation Centre.*—An estimate of the number of handicapped persons requiring rehabilitation has not been possible to work out on account of the lack of basic data. Three random sample surveys carried out during the 2nd Five Year Plan at Bombay, Delhi and Kanpur had revealed that 2 to 3 percent of the total population in these cities were physically handicapped including the blind, the deaf and the orthopaedically handicapped. Gujarat being an industrially advanced state it is safe to assume that the industrial accident rate is high and the number of the orthopaedically handicapped is fairly large.

The Committee has noted that proper facilities to cater to the rehabilitation of the handicapped are by and large unavailable in most parts of the State. A full rehabilitation unit should include medical, physical and occupational therapy, psychological, medico-social, and vocational guidance and prosthetic and orthotic services. Only the medical college at Baroda however has reasonably well developed physiotherapy, occupational therapy, prosthetic and orthotic departments.

9.31 The Committee recommends that the status of the rehabilitation department in Baroda should be raised to that of a full 'Rehabilitation Centre' with all its appurtenances. The medical college hospitals at Jamnagar and Surat should develop physiotherapy and occupational therapy units, immediately. The Medical College hospital at Ahmedabad should in due course have a full rehabilitation centre also. The Committee has elsewhere recommended that all the district hospitals should have facilities for physiotherapy and occupational therapy. It would be worthwhile to constitute a special departmental Committee to lay down the scale of equipment and appliances necessary for these units.

9.32 The staffing of a 'Rehabilitation Centre' should preferably conform to the pattern indicated below:

<i>Sr. No.</i>	<i>Post</i>	<i>No. of Posts required.</i>
1.	Senior Physio-therapist	1
2.	Physiotherapist	3
3.	Senior Occupational therapist	1
4.	Occupational therapist	2
5.	Psychologist	1
6.	Medical Social Worker	1
7.	Vocational Counsellor	1
8.	Craft Instructor	1
9.	Prosthetic workshop supervisor	1
10.	Limb fitter	1
11.	Brace fitter	1
15.	Shoe-maker	2
13.	Leather worker	1
14.	Wood worker	1
15.	Shoe-maker	2
16.	Nursing orderlies	3

At the district hospitals apart from the posts of Physiotherapists and Occupational therapists, posts of brace fitter, metal worker, leather worker and shoe-maker will also be necessary. A beginning in this regard could be made at selected district hospitals to provide balanced regional coverage.

9.33 *Paraplegic Homes.*—Information on the number of paraplegic cases in the State is not available. It is, however, well-known that there are a large number of paraplegics who are admitted to the hospitals and continue to occupy beds for very long. The hospitals find themselves unable to discharge them to their homes, even when they are stabilised and are not in need of any active treatment, as the members of the families of these paraplegics, often refuse to take the responsibility of looking after them, in their homes. The Committee, therefore, feels that there is a case for establishing atleast one full-fledged Paraplegic Centre in the State.

10. MEDICAL CADRES — PERSONNEL MANAGEMENT

10.1. The bulk of recruitment to the Medical and Health Services of the State, takes place at what is known as the Class II level. A fresh M.B.B.S. graduate can hope to enter service at this level, either on the medical side or the health side or the E.S.I. Scheme or as a Tutor in one of the medical colleges. However, the age limit at the point of entry into these parallel cadres is not uniform. In the case of the Gujarat Medical Services, the upper age limit for entry is 28 years, for medical graduates, while the same limit is 35 years, in the Gujarat Public Health Services, and for appointment as Insurance Medical Officers under the E.S.I. Scheme, is still higher, at 45. These are non-interchangeable posts and once entry into the GMS or GPHS or the ESI cadre, is accomplished, there is no possibility of horizontal intercadre movement. It has been understood from the State Directorate of Health Services, that while recruitment prospects have generally improved in the recent years in the G.M.S. cadre and of the Medical Officers under the E.S.I., filling up of all vacancies in the GPHS, still poses a problem. Recent experience has indicated that while for recruitment to the GMS Class II, the State Public Service Commission was able to select candidates in adequate number, to meet the entire requirement and also have several names on the waiting list, in the case of the GPHS, both in terms of the response to the advertisements of the Public Service Commission and number of candidates the commission could select, as against the notified vacancies, the position was not entirely reassuring. The reasons for such a situation are not far to seek. The GPHS cadres cater mainly for the requirements of rural areas and the postings available to the selectees are predominantly, in the non-urban regions. On the contrary, both the GMS and the ESI scheme offer a substantial number of openings in the towns and cities of the State and are therefore a better attraction from the point of view of new entrants into service.

The Committee has already recommended that there should be a complete integration of the preventive and curative services and thus envisages the amalgamation of the technical cadres under a new, Gujarat Health Service; in furtherance of this objective. In keeping with this approach, it would be proper to provide for a single point of entry into service and regulate recruitment with reference to a common set of rules and norms of selection. Accord-

ingly, the Committee would recommend the induction of fresh MBBS graduates at the junior level under a unified programme of recruitment covering the medical, health and E.S.I. services. Any disparity in the upper age limit, in the matter of recruitment to the different wings of the services, can have no place in such a scheme. The Committee favours the maximum age of entry being fixed at 30 years. The Committee is aware that the structure of the medical teachers cadres poses special problems, since at the level of the Assistant Professors, teaching experience and post-graduate qualifications are essential for appointment. As such, the scheme of integration cannot cover the feeder cadre of Tutors in the Medical Colleges.

10.2. The classification of the junior level posts under Class II of the gazetted services, has implications for the prestige value of the jobs and the morale of the medical graduates who opt to join Government service. What with the highly expensive professional education he has had, a fairly delayed entry into service and the prospects of high earnings in private practice, the basic aspiration pattern of a fresh medical graduate, is pre set, to expect a higher status rating for his job. This issue is brought into the foreground with emphasis, in the non-institutional spheres of health administration, where horizontal relationships at the field level, are required to be defined, involving both medical and non medical functionaries. The position of a medical officer incharge of a Primary Health Centre vis-a-vis a Taluka Development Officer is an instance in point. The Committee feels, it would be appropriate to adopt the nomenclature of junior and senior levels both under the Class I category. The Second Pay Commission has also adopted a similar approach.

10.3. It is likely that a fair proportion of post graduate degree and diploma holders, may aspire for the posts at the junior level. It may also be desirable from the point of view of the State, to institute a general scheme of preferences for post graduates, since it would help in feeding the cadre of specialists at the senior levels of the service. A general preference to the post-graduate degree holders for selection at the junior level is hence recommended. This should be made purposeful by providing for three advance increments, on the time-scale prescribed for such posts. The Committee does not favour any outright preference to post graduate diploma holders,

because they would not readily fit into a scheme of promotion to the higher posts, requiring post-graduate degrees. However, in the event of their selection for appointment, an incentive by way of one advance increment may be provided for, but the relaxation of the age limit for entry in their favour, may be restricted only to one year. In the case of the post graduate degree holders however, the relaxation of the age limit may be upto a maximum of three years.

10.4 Repeated references were made before the Committee to the lack of opportunities for promotion in the health services of the State. The Committee could sense that many among the Class II officers, both on the medical and public health wings, felt keenly the absence of adequate chances of career advancement. The Committee's attention was also called to the disparity in the promotion prospects, as between the health, medical and medical education cadres. It is true that to-day such a disparity does exist, as the number of higher level posts on the health side, is greater than on the medical side. A comparison with the situation on the medical education side, is strictly not relevant since the number of posts of Professors and Assistant Professors in the medical colleges is determined with reference to the norms prescribed by Medical Council of India. However, it is essential that a properly structured promotion pyramid should provide for adequate opportunities for advancement in certain minimum numbers and if the number of higher level posts cannot be augmented without undue distortions in the hierarchical arrangement, the proper solution would be to provide a selection grade.

Considering the existing picture it is found that as against a total of 501 Class II posts in the GMS cadre, there are only 13 posts at the Class I level, available for promotion and out of these 8 posts are to be reserved for candidates who possess post graduate qualifications. In the GPHS, at the first level of promotion there are only 38 posts, as against 693 at the Class II level. Here also, specific post graduate qualifications are necessary before promotion to the senior positions could be considered. As against this, under the Employees State Insurance Scheme, most of the posts at the Class I level are of specialists and promotion from the Class II cadre, would depend upon the candidates possessing the necessary post graduate qualifications.

The Committee's approach is that, promotion avenues at any level should bear a reasonable relationship to the number of posts at the next lower level. The Committee does envisage that in consequence of its recommendation regarding the restruc-

turing of the State's health services, there would be a net addition of senior posts, though not at the first level of promotion for the entrants on the junior grade. Moreover, in pursuance of the scheme of integration of preventive and curative services the posts of Civil Surgeons, Superintendents of hospitals, D.H.Os., D.F.P.Mos. and Regional Malaria Officers and other comparable positions, could be pooled together and promotion to these posts could be regulated by merit based selection. It is no doubt true that special qualifications have been prescribed for the posts like DHOs; but it does not appear to be absolutely essential that a candidate for appointment to one of these posts, should invariably possess these qualifications at the time of appointment. The very nature of these assignments would demand from the incumbents of such posts, a high degree of motivation, qualities of leadership and a capacity for organisation and interaction with the community, even more than mere professional expertise. It could be expected that after putting in a reasonably long period of service on the junior level positions, an officer would have acquired sufficient organisational and professional experience, to handle the responsibilities of such jobs. A brief period of post selection training for orientation, preceding actual appointment, shall however be necessary, so as to equip such officers, to meet the specific demands of their office. It should therefore be possible to select and appoint an officer on promotion to such higher posts and permit him to acquire the necessary specialisation thereafter, by stipulating that he should obtain the required degree or diploma within a maximum period of three years from the date of appointment, failing which, he would lose his entitlement to continue on the promotion post. This would also imply that the Government should depute such officers to the necessary courses of study or training so that they can acquire the prescribed qualification within the time limit stipulated.

Since the number of senior posts is likely to be small, in relation to the strength of the composite feeder cadre, there would be no special merit in providing for separate ratios for direct recruitment and promotion. Direct recruitment to these posts should be resorted to, only in the event of non-availability of suitable candidates, on promotion. Necessary modifications in the recruitment rules may have to be carried out in order to make them conform to these broad objectives.

At the senior level, there would be a good number of posts of specialists, which require post-graduate qualifications in particular subjects or advanced training in specific fields. It is understood that these posts are at present filled only by way of direct recruitment. The Committee has already re-

commended a policy of general preference for post-graduate degree holders, for recruitment of the junior level. It is therefore likely that in course of time the department will have a good number of candidates fulfilling the eligibility criteria for appointment as specialists and also possessing valuable work experience. Direct recruitment for such posts should also be provided for though the Committee does not favour any fixed proportion as between promotion and direct recruitment. It should be possible however, to consider direct promotion of eligible officers on the junior grade rather than make it obligatory for them to go through the direct recruitment process.

10.5 Even with the filling up of senior level posts generally on promotion, it is evident that the career prospects for candidates who join service on the junior grade posts, are not very promising. With the large flow of medical graduates in recent years from the different medical colleges in the country, the outlook on self-employment and absorption in the non-government spheres, is not optimistic and it is therefore probable that in the coming years, the number of medical graduates aspiring for a career in Government service, would be on the increase. A major disincentive for them would be, the limited prospects of advancement, once they join the services. A number of medical officers working in the PHCs and the hospitals, whom the Committee met during its visits to various centres in the State, expressed concern at the lack of promotion avenues and mentioned this as an important factor that keeps fresh medical graduates away from Government service and induces many in service to quit, in search of better opportunities. Needless to say, there are overall limits to the number of senior positions in the departmental hierarchy and it would be well-nigh impossible to add to the higher level posts in the field, without reference to the actual needs of the various medical institutions.

The Committee has recommended elsewhere the augmentation of the strength of specialists in the various district and other hospitals; but it might not be possible to treat them as regular promotion posts to which the medical graduates who enter service at the junior level could aspire, particularly in the absence of the necessary qualifications. Therefore, the provision of a selection grade for 15% of the posts, borne on the junior grade, encompassing the health, medical and ESI wings, excluding any direct posts of promotion as might be available, is the only answer. The second Pay Commission of the State has recommended a pay scale of Rs. 700-1300 for the junior posts and 1100-1600 for the senior level posts. The appropriate level of remuneration for the selection grade would be Rs. 1050-1400. The Committee would add, that

granting the selection grade should not be treated as a matter of course, solely with reference to the seniority of various incumbents. On account of the large turn over of officers at the junior level, one may have also to visualize a situation, in which medical officers with a very short span of service, may become entitled to the selection grade. To obviate such a possibility, the Committee would recommend that due screening of various incumbents on the junior level posts should precede the conferment of the selection grade and the selection grade should be available not earlier than the 6th year of service, on the junior level posts.

10.6 Coming to the Class I level, the picture that presents itself, is fairly disillusioning. As compared to a few posts of Assistant Directors and two posts of Deputy Directors that are available for promotion of the District Health Officers, the Civil Surgeons can only look forward to the lone post of Deputy Director of Medical Services. On the contrary, the cadre of specialists in the hospitals (GMS Cl. I Div. II) has no avenues of promotion to higher posts. The same is true of the groups of posts of District T. B. Officers, Regional Malaria Officers, Senior Medical Officer i/c. Post Partum Units and Medical Officers i/c. Secondary Health Centres and Government Hospitals under the health wing of the department. The situation is no better on the ESI side. The inter cadre disparities could be evened out by a proper grouping of comparable posts within the frame work of the integration of preventive and curative services recommended by the Committee, in order to constitute a unified feeder cadre, for the top level posts. The creation of the posts of Regional Assistant Directors and the addition of a few more Deputy Directors at the Directorate could be expected to improve the prospects of advancement of officers at this level.

10.7 The cadre of specialists at the senior level, is likely to grow significantly in size, following the Committee's recommendation on the staffing of hospitals of different sizes. It is understood that the department has been facing considerable difficulty in recruiting qualified persons in various specialities. It was also brought to the notice of the Committee that a large number of these selected for the posts of specialists, prefer to leave after a few years of service, in order to settle down in private practice. While one has to reckon with the fact that a highly qualified specialist commands a high market price and the prospects of large earnings in private practice would continue to lure one away from Government service, it is also true that the near total absence of openings for career advancement in the medical institutions under the Government, does seriously date even a

public spirited aspirant for the post of a specialist. Moreover, the higher level posts which carry predominantly, responsibilities of an administrative nature offer little attractions for many a devoted specialist.

This problem would therefore have to be tackled on two fronts. Firstly, at the point of entry, the scale of remuneration for the cadre of specialists should be made more attractive and secondly, there being few corresponding senior level posts to provide a regular channel of promotion, the introduction of a selection grade should be considered. The Committee feels that it would be appropriate to establish a lead of Rs. 200/- at the minimum of the time scale prescribed for the senior level posts by the government after considering the recommendations of the Second Pay Commission. A selection grade covering 20% of the posts of specialists is also recommended. The selection grade should be available to the concerned individual, only on the completion of six years of service and should be operated on the basis of a common seniority list and not according to speciality-wise gradation lists. The selection grade should carry roughly, the same pay-scale as the posts of Assistant Directors with a lead of Rs. 200/- at the minimum.

In order to maintain proper relativities as between the levels of remuneration of the Superintendents of hospitals and the specialists who would have to work under their general supervisory control, the Committee recommends that the Superintendents of hospitals may be granted a special pay of Rs. 200/- p.m. An important factor that should be born in mind in regard to the cadre of specialists, is the need for utilising, their services properly in the various medical institutions. This calls for a pragmatic administrative policy, that would make it possible for the services of the senior specialists to be available in the major hospitals and enable them to work with a large measure of functional independence vis-a-vis the Superintendents of the hospitals where they have to work.

10.8 At the next higher level will be the cadre of Assistant Directors, covering both the regional posts and the staff posts at the Directorate of health services. Since there would be a sufficiently large number of eligible officers available at the promotion base, the Committee does not favour any direct recruitment at this level. A proper system of rotating the officers of the cadre between the field and the head-quarters should be operated, so as to enable these officers to acquire a balanced perspective and prepare them for shouldering higher responsibilities in the organisation.

10.9 The posts of Deputy Directors whether incharge of the curative or preventive services may be filled on promotion of the Assistant Directors or Senior grade specialists in the hospitals. Induction of senior level specialists on the posts of Deputy Directors on promotion, is not considered infeasible, because these are supervisory positions at the head quarters, conforming to a broad pattern of functional division of responsibilities and would not therefore require a high degree of administrative capability to start with. However, senior specialists when appointed on the posts of Deputy Directors should be deputed to undergo a course of orientation training in health administration. A general provision for direct recruitment at the level of Deputy Directors is also necessary, firstly to provide for the infusion of fresh blood, in senior positions and secondly to preclude the forced choice of the second best. However, the recruitment rules should carry a provision that direct recruitment be resorted to, only in the event of suitable candidates not being available by way of promotion. The post of Deputy Director of Medical Education should be filled on transfer of a suitable officer of the cadre of Deans of Medical colleges. It would also be desirable to fix a tenure of 3 years for any incumbent, in order to facilitate the rotation of medical educationists, between the academic and administrative spheres.

10.10 The posts of Additional Directors occupy a position of considerable importance, in the heirarchical arrangement of the department. The Committee has advocated a policy-execution nexus being established, by making the technical head of the department, also the Additional Secretary to the Government. This, coupled with the fact that the functional sphere of the Director will be far too vast and diverse to permit the concentration of executive authority in his hands, necessitates a pragmatic scheme of delegation of authority, in favour of the Additional Directors. The concept of 'Maximum possible and not minimum necessary' delegation propounded by the Administrative Reforms Commission should permeate the entire scheme of devolution of authority, at this crucial level.

The Additional Directors would thus be the defacto heads of the administrative wings, under them. In tune with the theme of integration of the field cadres, the Committee would recommend that the posts of Additional Directors of Community Health and Institutional Health Services should have Common recruitment rules. Experience acquired in the organisation would be an asset to any incumbent of these positions and accordingly, it would be appropriate to treat these as posts of promotion for the Deputy Directors with the proviso that in the event of the non

availability of suitable candidates recruitment from the open market could be resorted to.

10.11 The Additional Director of Medical Education should necessarily be a medical teacher of exceptional standing and research experience of a high order. The recruitment rules framed recently by the Government for the post of Director of Medical Education and Research cover these requirements in full and many therefore be adopted with minor modifications. Direct recruitment to this post should also be provided for, in order to facilitate the entry of outstanding medical teachers serving at non-government institutions.

10.12 The Director of Health Services should be a man of great dynamism and combine in himself, the qualities of leadership and high abilities of man management. All the three Additional Directors should have equal chances of elevation to the post by way of promotion. In addition, there should also be scope of entry for a candidate from outside the confines of the department. For a direct recruit however, the upper age limit for selection should be fixed at fifty years of age and the qualifications for recruitment should be so defined as to render professional men belonging to both the teaching and the non teaching spheres of the science of medicine, eligible for appointment.

10.13 As the Committee has observed, the scheme of integration of the medical and public health services can not be extended to cover the teaching cadres in the medical colleges, because of the requirement of teaching experience at various levels. Even at the lowest point of entry for a medical graduate without any teaching experience, the situation becomes complex what with the influx of post graduate degree holders in clinical subjects who have done the registrarship which counts for two years of teaching experience. The Committee also understands that the Government has recently created a few posts of Senior Registrars in the context of the long standing demand for introducing the three year term of registrarship. The Committee considers this a step in the right direction and strongly recommends the adoption of the scheme of three years registrarship in the state since this would provide avenues of direct entry into the cadre of Assistant Professors in clinical subjects to post graduates who have done their registrarship and help ease the staffing situation at this level.

However in the intervening period and in any event, on the non-clinical side, recruitment of Tutors will continue. Both in order to confirm to the gene-

ral pattern of preference for post graduate degree holders, recommended by the Committee earlier in this chapter and to facilitate the entry of those having two years of teaching experience to their credit, the Committee would recommend that the relevant recruitment rules may be amended, to provide for a general preference for post graduate degree holders and those who have done the two years registrarship in the concerned subjects. The pattern of age relaxation and advance increments as suggested in the case of the field services, may also be made applicable to such entrants, into the cadre of tutors.

The present scheme of recruitment of Assistant Professors and Professors is in conformity with the norms laid down by the Medical Council of India. The Committee has no modification to suggest in this behalf.

10.14 The Dean-cum-Chief Superintendent of a teaching hospital, occupies a position of pivotal importance in the scheme of medical education and hospital administration. It is therefore essential that recruits of proved abilities are inducted on these key assignments. Professors of both the clinical and non-clinical subjects should be eligible for promotion as Deans and simultaneously a provision for direct recruitment should also exist so as to facilitate the entry of a well equipped candidate from outside the Government sphere. The Committee has devised the scheme of appointment of Vice-Deans and Superintendents of the medical college teaching hospital complex, in order to provide the necessary training ground for senior medical teachers for, handling the responsibilities of the post of the Dean-cum-Chief Superintendent, on promotion. Hence it would be necessary to restrict the opportunity for promotion only to those Professors, who have worked for not less than two years in either capacity.

In this connection, it was brought to the notice of the Committee that the Second Pay Commission constituted by the State has bracketed the Deans with the Professors of medical colleges and has recommended a common scale of pay for both the categories of posts. As is well known, there is a marked lack of preference among medical teachers and especially the clinicians, for the post of a Dean. The reasons are far too obvious to need any elaboration here. To eliminate the pay differential between the two posts would only make the problem of finding suitable candidates for appointment as Deans all the more difficult. The over all responsibilities of running a medical college and a large hospital are really onerous and there is therefore ample justification for

providing additional remuneration to the Dean-cum Chief Superintendent as compared to the Professors. The Committee would accordingly suggest that the post of the Dean should carry a special pay of Rs. 200/- p.m. In order to maintain parity, similar additional remuneration should be available to the Deputy Director of Medical Education. The Committee learns that all the Deputy Directors of the department are at par in the matter of scales of remuneration. It would therefore be only fair to extend the same benefit to the other Deputy Directors also. If the Government would consider the scheme of providing additional remuneration by way of a special pay, unsuitable, the alternative would be to take a fresh look at the internal relativities of the medical education wing, recommended by the Pay Commission.

10.15 The quality of medical education is directly linked with the calibre and capacity of the medical teachers. High ranking specialists are normally not drawn towards service in the Government Medical Colleges, largely because of the constraints of full time, non-practising service and generally low levels of remuneration. Revision of salary grades will become an unrealistic exercise beyond a point, since the gap between the earnings in private practice and the emoluments in Government service is bound to remain too wide to be effectively abridged. Elsewhere in the report the Committee has advocated the idea of geographic practice, which is for all purposes restricted private practice, within the premises of the teaching hospitals. This may serve to attract eminent medical teachers especially at the medical college centres. The Committee would also suggest the introduction of special incentive grades for Professors of high eminence. These special grades should not be administered on traditional lines, governed by the rule of seniority cum suitability. This device should on the contrary be used with the highest degree of selectivity and should serve as the instrumentality for recognising and rewarding work of exceptional merit in the spheres of medical education and research. It is understood that the University Grants Commission has also recommended such special grades for Professors of high standing, in the Universities as a part of its recommendation on the pay structure of college teachers, for the fifth Five Year Plan period.

10.16 A forward looking placement policy is an essential requirement of sound personnel management. Mercifully, the days of manpower shortages of crisis proportions, seem to be over, but, intelligent advance planning of recruitment and purposeful deployment of the available forces, are as essential

as ever. The Committee understands that the process of selection through the Public Service Commission is time-consuming and the time lag between the notification of vacancies and the final placement of selected candidates, is substantial. However, the situation is not such as cannot be remedied by meticulous forecasting of requirements and timely action. Moreover, the Government does have the authority to make appointments for a period not exceeding one year. A judicious recourse to this provision can largely neutralise the effect of temporary man-power shortages. The powers of such temporary appointments may best be delegated to the Director of Health Services, so that the procedures of selection, appointment and postings could be handled with the necessary dispatch.

10.17 In the very nature of things, a substantial number of posts at the junior level will be available in the rural areas and the number of openings in the cities and the urban regions, relatively fewer. Apart from the fact that many medical officers may have to serve in rural areas, lacking basic amenities and particularly facilities for higher education, long years of service in remote areas would also deprive them of the opportunities of exposure to new developments in the field of medicine and advanced techniques of treatment practised in the major hospitals and in the specialised institutions. This underscores the need for a conscious policy of rotation between rural, urban and metropolitan centres. Initial appointments in rural areas may not as such be discouraged, but accepting it as a firm practice, would lead to the situation wherein relatively inexperienced doctors would be inducted on all the posts in the rural areas. This cannot, but affect adversely the quality of medical care in rural communities. In fact the emphasis should be on manning the rural health services with medical men of some years of service. A scheme should be worked out under which a medical officer at the junior level could reasonably expect to move out of a posting at the PHC or a dispensary in a rural area, after a tenure of three years. The next posting should generally be in an urban area. Rotation between PHCs, dispensaries and hospitals in urban areas and the teaching hospitals, should similarly be worked out and adhered to, so as to ensure that postings do not become the subject matter of individual manipulations.

The system of rotation recommended by the Committee would largely be facilitated by the pooling of posts, including those in the hospitals and also those under the ESI scheme. This scheme if implemented conscientiously, will substantially improve the conditions of service of medical officers, many

of whom get dispirited after spending several years in the rural areas.

10.18 In operating the integrated cadres, cutting across the traditional dictotomy between the medical and health sections of the department, gauging the aptitudes of individual officers, would be essential before placement are decided. These aptitudes on the part of the field officers will play a crucial role in furthering the impact, particularly of the preventive and promotional health services. This would obviously be a difficult task where the numbers involved are very large. However it is by no means an insuperable difficulty and the personnel management section of the Directorate should be alive to the problem and establish sound guidelines for the purpose.

Orientation courses covering the broad objectives and the modalities of the programme of comprehensive health care, principles and practice of hospital administration, and the essential aspects of administrative and financial procedures should be organised for all the junior level officers shortly after entry into service. Refresher courses for officers of five years service, should also be devised to ensure complementarity of the training programme. The schedule for the refresher courses should stress problem oriented studies and the method of instruction should ensure greater participation by the trainees.

At the level of district officers, the Regional Assistant Directors and Senior Specialists, the five year rule would be ideal. However, in cases of the specialists in the hospitals and functional specialists like Assistant Directors in the Directorate, transfers need not be resorted as a matter of course.

10.19 The operation of a large cadre and catering to the requirement of the public health, hospital and ESI wings and reconciling their conflicting claims for allocation of personnel will, by no means be easy. Moreover, there will also be a tendency to retain those who show promise, in the main stream of medical services and dump the average performers and the unwanted elements on rural postings or on the E.S.I. Scheme. In fact this has been one of the strongest arguments in favour of separate cadres. The success of the integration of services outlined by the Committee would be at stake, if the fairest possible balance is not maintained, between the different functional wings of the department, in the matter of allocation of manpower resources. Frequent transfers of field personnel, largely in deference to 'popular demands' or high level pressures, would also throw the management of the composite cadre, out of gear and shall have to be

guarded against. However, the Committee envisages that the creation of the post of a Joint Director for Administration directly responsible to the Director would facilitate centralised personnel management, and will be conducive to sound and equitable recruitment and placement practices.

10.20 While a regular policy of transfers may not as such be necessary in the case of the medical teachers, the advantages of periodical transfers are obvious. It came to the notice of the Committee that several senior medical teachers have stayed for long years at the Medical Colleges of Ahmedabad and Baroda and were reluctant to move out to Surat or Jamnagar. This would undoubtedly affect the quality of teaching at these centres and would also serve to build up vested interests at particular institutions and should therefore be discouraged. This is a delicate problem. Admittedly, the facilities available and the general work environment, differ from one medical college to another. Therefore, teachers of high standing, especially those interested in research and post-graduate work, would like to join departments which provide ample scope for the full utilisation of their talents. This would be particularly true of the departments that have been upgraded with the assistance of the Government of India and where extra facilities in terms of staff, equipment and research-aids are available. The department shall have to evolve sound guidelines in this behalf, in order that the preferences of individual teachers and the requirements of institutions could be reconciled, to mutual benefit.

10.21 The need for training of officers at the higher levels of the hierarchy hardly needs emphasis. The district and regional officers are expected to discharge responsibilities largely of management orientation and with stress on leadership and coordinated team-work. General administration and financial control are other key spheres of their duty. Over and above these, they shall also have to strive to keep their professional interest alive and knowledge, upto date. Training courses of officers of this level should therefore serve a dual purpose, to equip them with the know how of administration and inform them of recent development in the science, and technology of medicine. Brief courses at the training institutes and professional seminars could take care of both these facets of senior level training.

The top level personnel are primarily executives and their training needs are thus highly specialised. Management seminars and short courses developed for those manning senior managerial positions should be availed of for the purpose. At the state level, it would be useful to arrange common programmes for senior

heads of departments, so that special problems of organisation under government, could be duly highlighted and studied in depth.

10.22 During the course of the Committee's discussions with different groups of officers of the Health department, the question of writing annual confidential reports was raised, repeatedly. The Committee could sense that there were serious misgivings about the existing procedures in this behalf, especially among the medical teachers. In the normal course, the Committee would have been reluctant to enter the realms of internal administrative policy and make any observations on issues that are best left to be decided with reference to the general traditions in the State administration. However, the functional inter-relationships, within the organisational structure are of special significance, in the context of effective supervision, control and coordination for successful team-work. Towards this end, the writing of confidential reports must be viewed as no more than an instrumentality, but, the possibility of its capricious exercise cannot however, be underestimated. A properly devised scheme of reporting and review, can go a long way towards promoting the positive aspects of such a periodical assessment of performance, and neutralising the effect of the none too objective merit ratings.

In theory of course, there can be no doubt as to who should write and review the confidential reports of officers at various levels. The accepted norm is that the reporting officer should be the immediate superior of the officer reported upon, since he has had the best opportunity of seeing him at work and of assessing his capabilities. The reviewing officer should normally be the head of the organisation, either at the top or at the unit level. A proliferation of reporting levels or piece meal reporting by different authorities should be clearly avoided.

10.23 Basic issues relating to the present arrangements for writing and reviewing of the confidential reports were canvassed before the Committee, especially in so far as the cadres of the medical colleges and the cadre of District Health Officers are concerned. In the case of the medical colleges, the reports on the medical teachers from Tutors to Professors are initiated by the Dean of the college and the review is made by the Director of Medical Education and Research. The specific objection raised by the medical teachers was, that the Dean has no intimate knowledge either of the calibre of teaching or the quality of clinical or research work put in by the medical teachers and is therefore not in the best position to make a first hand assessment

of their performance. The Heads of the Departments on the contrary are ideally equipped for discharging this responsibility.

The Committee feels that there is strong justifications for a rethinking of the present system, in the light of the objections voiced by the medical teachers. The Head of the Department is closely associated with the programme of teaching and research work in the department and thus has an excellent opportunity to know the worth of the medical teachers of the department and assess their potential realistically. It would therefore be meet, to let them initiate the reports and submit to the Dean in the first instance for his views. The Director should be the reviewing officer in the case of the Assistant Professors and Professors, since the promotions, long term appointments and transfers of these officers are matters of special concern for him. The Dean's role in this scheme should be distinguished from that of the regular reviewing officer. He should in fact be designated as the Senior Reporting Officer and his report should broadly cover the same features as of the first Reporting Officer. As for the Tutors, the reviewing authority should be the Dean, as it is likely that the Director will have no personal knowledge of the individual performance of the large number of Tutors and the heads of the teaching institutions are in any event better placed to review their working.

Since the Head of the Department is expected to be the reporting officer for all the Medical Teachers in the department, in the proposed scheme of writing confidential reports, it also becomes necessary to indicate a separate arrangement concerning the Heads of the Departments, themselves. The reports on the Heads of the departments should be initiated by the Dean and reviewed by the Director.

10.24 The other major poser relating to confidential reports was raised in the context of the District Development Officers assessing the work of the District Health Officers and the District Family Planning Officers. The argument advanced was, that the work of the District Health Officer or of the District Family Planning Medical Officer is mostly of a technical nature and the District Development Officer can therefore have no insight into the functioning of the district health organisation and he could thus not be well informed or objective in writing the confidential reports. The Committee has given serious thought to this question, since it impinges on the crucial aspects of the interaction of generalists and specialists in the administrative process. It is true that the District Health Officer or the District Family Planning Medical Officer does

have a large volume of professional responsibilities and undertakes programmes with a large technical content. However, these two officers function under the jurisdiction of the District Panchayats and form an integral part of the District Development Administration. As the head of the team of officers manning key positions in the development sphere, the District Development Officer will necessarily have to exercise broad supervisory and administrative control over them. Moreover, the task of putting into operation a massive programme of preventive and promotional health services in the rural areas, requires more than mere technical competence and the degree of success that the officer in charge would be able to achieve, would depend largely on the capacity for organisation and the quality of leadership that he can bring to bear on his exertions. In order to evoke sufficient popular response from the rural population, the health programmes should also have to be dovetailed to the entire scheme of rural development. It would thus be impractical to accept the plea that the District Development Officer should not have a definite say in judging the capacities of the Heads of the District Health Organisation.

This is of course, not to suggest that there is no need for a qualitative review of the technical component of the work of the District Health Officer or the District F. P. Medical Officer. The correct procedure would therefore be, to split up the confidential report form into two parts, one dealing with the broad features of the officer's general performance and capabilities and the other relating to the technical sphere of his activities. The latter part should be written by the Regional Assistant Director who can be expected to have acquired a sound knowledge of the working of the health organisation, in the field. The reviewing officer who should be the Director, should offer his comments on both the organisational and technical capabilities of the officer and incorporate them in his review.

10.25 The Committee has recommended the creation of several posts of specialists at the district hospitals and has also suggested that all the medical institutions at the district level other than the Primary Health Centres and dispensaries under the control of the Panchayats, should function under the supervision of the Civil Surgeon. This would mean that certain general powers of superintendence and administrative control must be vested in the Civil Surgeon, as the District Medical Officer. In keeping with this, it would be proper to authorise him to initiate the annual confidential reports of all the medical officers of the Junior and Senior levels including the Superintendents of the other Class I hospitals in the district. As a prerequisite for the

success of this arrangement a convention should be established, of posting senior officers in the cadre on the posts of Civil Surgeons in the districts, as compared to the Superintendents of the other Class I hospitals. The reviewing authority for such reports should be the Director of Health Services in the case of the senior level officers and the Regional Assistant Director for those at the junior level.

10.26 The structural changes proposed in the health services organisation and particularly its regionalisation would necessitate some broad changes in the scheme of reporting and reviewing of confidential reports.

The Committee's broad recommendations in this behalf are tabulated below :

Category	Reporting Officer	Reviewing Officer
Junior Level		
M.Os. in Hospitals	Head of the Institution	Regional Assistant Director
M.Os. in the field health services and family planning services	D.H.O.	-do-
Insurance Medical Officers ESI	Senior Medical Inspector	-do- Dean
Tutors of Medical Colleges	Head of the Department	
Senior Level		
D.H.Os.	D. D. O.	
D. F. P. M. Os	Regional Assistant Director on technical matters	D. H. S.
Civil Surgeons	Regional Asst. Director	D. H. S.
Superintendents of Gr. I, Hospitals and Senior specialists	Civil Surgeon	D. H. S.
Regional Asst. Director H'Qrs. Asst. Directors Deputy Director Deans Additional Directors	D. H. S.	Secretary of the Health Department.

In the set up of the Employees State Insurance Scheme, the officer reporting on the senior specialists, should be the head of the institution they are working in, and the review should be at the hands of the Deputy Director E.S.I. For the other senior level officers like Senior Medical Inspectors and Superintendents of the hospitals the reporting officer should be the Deputy Director and reviewing officer, the Director of Health Services.

10.27 The working of technical officers will have to be viewed as the sum total of general administrative abilities and competence in the professional sphere. This would be especially important when promotions to higher positions in the department, entailing substantial supervisory responsibility, have to be decided. It would therefore be correct to device a new format for the confidential reports comprising of two parts, one very similar in coverage and content to the form currently in use and another, to supplement it, exclusively on the technical aspects of the work of the officer reported upon. The reviewing

authority should review both the reports and enter his own observations on the form of the report.

10.28 At the level of the Additional Directors, the Deputy Directors, Deans and the Joint Director of Administration the review of reports must be made by the Secretary of the Health Department and in the case of the Director of Health Services the reporting officer should be the Secretary of the Department and the reviewing officer, the Chief Secretary. In these instances the supplementary form for the assessment of the professional competence of the officers may be dispensed with.

11. Nursing Services

11.1 The nursing services in the hospitals of the State are distributed over various levels with the posts of staff nurses at the bottom and the superintendent of Nursing Services at the top. As mentioned elsewhere the Public Health section of the department and the E.S.I. organisation have their own nursing cadres with a Regional Nursing Supervisor at the head, on the Public Health Side and the Nursing superintendent under the ESI scheme. Both in regard to their absolute numbers and in relation to the number of beds at the different hospitals, the existing strength of nursing personnel in the State appears to be generally less than adequate. While the minimum standard recommended by the Indian Nursing Council and the Central Council of Health is one nurse for every three hospital beds in the teaching hospitals and one for every five beds in the non-teaching institutions the Committee learns that the prevalent

ratio is 1 to 5 in the teaching hospitals and generally 1 to 7 in the other institutions. The number of Nursing Sisters is expected to conform to a ratio of 1 for 25 beds at all the hospitals but this is not the case in most of the hospitals. The posts of Matrons and Assistant Matrons are also sanctioned in proportion to the number of beds. According to the information furnished by the Panchayats and Health Department the current operative ratio is 1 to 100 beds for Assistant Matrons (Non-gazetted) 1 to 150 for Assistant Matrons (Gazetted). At the teaching hospitals and other hospitals having more than 500 beds posts of Gazetted Matrons (Class I) and gazetted Assistant Matrons are authorised at the rate of 1 for 500 beds. The following statement sets out the deployment of nursing staffs of different categories in selected teaching and non-teaching institutions in the State. (Table 11.1).

TABLE 11.1

Sr. No.	Name of the Institution	No. of Beds	Posts of											
			Matron Grade I	Matron Grade II	Asst. Matron Gazetted	Matron Non-Gazetted	Asst. Matron Gazetted	Night Super	Sister	Health Visitor	Staff Nurse	Tutor	Warden	P.H. Ng. Tutor
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Civil Hospital, Ahmedabad.	1339	1	4	..	..	..	2	63	4	286	8	1	2
2.	S.S.G. Hospital, Baroda.	924	1	2	..	1	..	1	35	1	178	7	3	2
3.	I. G. Hospital, Jamnagar.	770	..	2	..	..	..	..	34	..	123	4	..	1
4.	Civil Hospital, Surat.	530	..	..	..	..	..	..	19	..	101	4	..	1
5.	Sir T. Hospital, Bhavnagar.	559	..	..	1	..	..	..	17	..	94	3	..	1
6.	Govt. Hospital, Rajkot.	467	..	1	1	..	1	..	22	..	61	5	..	..
7.	B.M.R. Hospital, Porbandar.	231	..	1	1	..	1	..	8	..	38	1	..	..
8.	Civil Hospital, Godhra.	203	..	..	..	1	..	..	3	..	34	1	..	..
9.	R. Z. Hospital, Rajkot.	150	..	1	1	..	..	..	2	..	14	..	..	..
10.	Civil Hospital, Mehsana.	175	..	..	..	1	..	..	3	..	29	1	..	1
11.	S. S. Hospital, Petlad.	102	..	..	..	1	..	..	3	..	13	1	..	..
12.	Referral Hospital, Dakor.	50	..	..	..	..	..	..	..	..	10	..	..	..
13.	S. L. W. Hospital, Devgadbaria.	55	..	..	..	1	..	..	1	..	9	1	..	..
14.	K. T. Children Hospital, Rajkot.	90	..	..	..	..	..	..	4	..	14	..	..	..
15.	Mental Hospital, Ahmedabad.	317	..	1	..	..	..	..	4	..	16	..	..	..
16.	Mental Hospital, Baroda.	155	..	..	..	1	..	..	3	..	12	..	..	..

11.2 The position disclosed by the tabulated statement is really disquieting. Considering that the norms referred to above have neither been fully adopted nor applied uniformly at all the hospitals the Committee feels that this situation requires to be remedied, soon, since the availability of qualified nursing personnel, in adequate numbers is one of the important pre-conditions of any scheme of improved patient care. However, the Committee is aware that substantial augmentation of the nursing cadres in the near future may not be feasible on account of the high costs involved. There may also be the problem of finding the required number of qualified nurses within a short span of time. As an interim arrangement therefore, the Committee would suggest that the strength of nursing staff in the teaching hospitals of the State be raised to match the ratio of one for every three beds. At the district and other hospitals the nurses bed ratio should be progressively adjusted to approximate one to five. In the case of the smaller hospitals also efforts shall have to be made in a suitably staggered fashion to achieve the same ratio in the not too distant future.

11.3 Even apart from the need for attaining the minimum norms laid down by the Indian Nursing Council, urgent attention has to be given to the provision of nursing staff in areas other than the indoor wards. The Committee understands that there is no uniform practice in vogue in this regard and variations from one hospital to another do exist. The requirement of trained nurses at the operation theatres, the intensive care units, burns wards, psychiatric wards and speciality outpatient departments shall have to be standardised so as to facilitate uniform application all over the State. Similarly, the pattern of staffing at the special hospitals should be laid down with reference to the specific needs of such institutions.

11.4 Another feature of the organisation of nursing services that attracted the Committee's attention was the multiplicity of designations in the higher nursing services. Assistant Matrons, Matrons Grade II, and posts bearing the same designations in the non-gazetted ranks, are all fitted into the existing hierarchical structure without any semblance of rationality. While the Committee would normally have been reluctant to recommend any detailed reorganisation of nursing services including the distribution of posts at various levels, it has been felt that the situation as exists today, requires to be set right, if proper incentives are to be made available to the nursing staff.

11.5 The Superintendent of Nursing Services also invited the attention of the Committee to the restricted opportunities of promotion available to the

lower nursing personnel. The Committee is aware that the position could be aggravated further with the ingress of numbers to attain the recommended nurses to beds ratio. The need for a rationalisation of the structure of nursing services and the provision of additional avenues for promotion have both to be kept in view while formulating the future pattern of organisation. The categories and number of nursing personnel in the hospitals are as follows :-

TABLE 11.2

Category	No. of Posts
A. Gazetted.	
(i) Matron Gr. I	5
(ii) Matron Grade II	5
(iii) Asst. Matron Gr. II	7
B. Non-Gazetted.	
(i) Matron	28
(ii) Asst. Matron	7
(iii) Tutors	45
(iv) Public Health Nurse	8
(v) Wardens	10
(vi) Health Visitor	5
(vii) Sisters	317
(viii) Staff Nurses	1519

The nursing staff under the ESI and the Public Health section of the department are not shown as a part of this hierarchy.

Next above the posts of staff nurses, should be the cadre of Sisters. At the next higher level should be the cadre of Assistant Matrons, comprising posts of Junior Matrons at hospitals with 50 beds or less, Departmental Supervisors at the District Hospitals and other hospitals with more than 200 beds, the Night supervisors at the hospitals of the same category and Head nurses in charge of wards at the teaching hospitals. Further up there should be two grades of matrons, (a) matron for hospitals with more than 50 but less than 200 beds, and (b) senior matrons for hospitals with 200 and more beds. At the teaching hospitals the nursing personnel should be placed, under the overall control of a Chief Matron assisted by a Senior Matron and two Matrons. Special hospitals like the children's hospital, the mental hospital, Ophthalmic hospital and the T. B. hospital should have posts of Senior Matrons in charge, if the bed strength is 100 or more. In addition, the senior teaching staff of the Nursing College should be of the status of Chief Matrons. The posts of Assistant Directors of Nursing Services should be declared to be promotion posts for Chief Matrons. As recom-

mended by the Committee elsewhere there should be four posts of Assistant Directors respectively in charge of the Hospital wing, the Community health wing, the ESI wing and Nursing education. The Principal of the Nursing college should be the ex-officio Assistant Director of Nursing Education.

11.6 The Committee would also like to make the following recommendations relating to the nursing services in the State :-

(i) Posts of Junior Matrons should be sanctioned for all hospitals with 50 beds or less. In the hospitals with bed strength above 50 but below 200, should be posts of Matrons.

(ii) Posts of departmental supervisors should be created at all hospitals with 200 beds or more in the ratio of one for every hundred beds, in addition to the posts of Sisters. At the teaching hospitals similar posts designated as Head Nurses may be created on the same scale. The proportion of the posts of sisters to beds should be one to twenty five.

(iii) Posts of Night Supervisors are required to be authorised for all hospitals. One, in case the bed strength is 200 or more, but under 500 and, two, where the number of beds is in excess of 500.

(iv) The requirements of extra nursing staff for the speciality OPD, operation theatres, paediatric department, and particularly the neonatal unit, the blood bank, the X-Ray department and the special wards, should be worked out separately, keeping in view the limited relevance of generalised staffing norms in these situations.

(v) Sanction of special allowances to the nursing staff at the operation theatres and the ward sisters in charge of paediatric, psychiatric and T. B. Wards should be considered. The nursing staff posted at mental hospitals or T.B. or leprosy hospitals may be sanctioned a similar allowance.

(vi) In order to equip the lower nursing staff with adequate knowledge of modern trends in nursing and train them for shouldering higher responsibilities it would be desirable to make it obligatory for staff nurses to undergo a brief course on ward administration on promotion as ward sisters and pass a departmental test failing which the right to continue on the higher post should be forfeited. Similarly on promotion to the posts of Assistant Matrons ward sister should be put through a course on hospital administration and allied subjects.

(vii) "The current trend in health care systems is to adopt the health team approach. This involves a change in the role of the nurse from the traditional one of assistant to the physician, to that of partner in the planning, implementation and evaluation of health programmes. In keeping with this concept and in order to ensure the systematic and rational preparation of a comprehensive plan for nursing within the context of the national health plan, it is essential for greater attention to be given to the training of nursing leaders who, in cooperation with leaders from other health disciplines can re-examine and redefine roles, identify unmet nursing needs, survey resources available to meet them and establish realistic and attainable goals."

12 PARA-MEDICAL SERVICES

12.1 While examining the structure of Para-Medical services in the hospital sector, the Committee came across a bewildering variety of posts carrying different designations and pay scales and it was evident that the creation of these posts and their distribution over the various medical institutions has not conformed to any logical pattern. To illustrate, there are six different categories of para-medical personnel in the sphere of X-Ray, termed variously as Radiographers, Radiologist, X-Ray technicians, X-Ray operators, Radio-therapy technicians and X-Ray assistants. To make matters more confusing, there are different salary grades for posts carrying the same designations. The same is the case with pharmacists and laboratory technicians as well. It needs no emphasis that a standardization of categories of para-medical personnel and their salary grades must be undertaken soon, in order to ensure that there is the necessary uniformity in staffing and a hierarchical placement of personnel.

A broad idea of the different categories of para-medical staff sanctioned at the different teaching hospitals can be had from the table below:—

TABLE 12.1

Name of the post	C.H. A'bad	SS G.H. Baroda	C.H. Surat	Irwin Hos. Jamnagar
1	2	3	4	5
Gazetted				
Jr. Scientific Officer	1	..	..	..
Sr. Scientific Officer	2	..	..	..
Pharmacist	1	1	..	..
Chemist	1	1	..	..
Physicist	1	1	..	..
Med. Record Officer	1	1	..	..
Bio-chemist	4	1	..	..
Radiographer	..	4	..	1

1	2	3	4	5
Non-gazetted				
Dietician	1	1	..	..
X-Ray Technician	9	3	4	2
Lab. Technician	24	3	4	2
X-Ray Asst.	3	1	1	2
Lab. Asst.	29	13	3	5
Sr. Pharmacist	2	1	..	..
Pharmacist	12	11	6	14
Compounders	5	4	3	1
Orthoptist	1	..	..	..
Optometrist	1	..	..	..
Contact Lens Technician	1	..	..	..
Jr. Kidney Tech.	3	..	..	..
Electric Tech.	4	..	..	..
Sr. Physiotherapist	4	11	..	1
Jr. Physiotherapist	1	..	..	..
Occupational Therapist	3	2	..	..
Pharmacologist	1	..	..	..
Jr. Scientific Asst.	7	..	..	..
Photographer	1	1	..	..
P.M.A.s & Ortho. Tech.	..	1	..	..
Dental Hygienist	..	1	..	1
Dental Mechanic	..	1	..	..
Dental Technician	..	1	..	1
X-Ray Operator	..	1	..	..
Masseuer	..	..	..	1

In the case of the non-teaching institutions the posts sanctioned are mainly of compounders, X-Ray technicians and laboratory technicians. The following table illustrates the position in hospitals of different bed-strengths. (Table 12.2)

TABLE 12.2

Sr. No.	Category of Paramedical Staff	No. of sanctioned posts									
		Sir. T. Hospital, Bhavnagar Beds 559	Civil Hospital, Rajket Beds 467	Civil Hospital, Junagadh Beds 384	Civil Hospital, Limbdi Beds 212	Civil Hospital, Mehsana Beds 175	Civil Hospital, Dangs Beds 94	Referral Hospital, Wankaner Beds 50	Govt. Hospital, Dhoraji Beds 33	Govt. Disp., Upleta Beds 8	
1	2	3	4	5	6	7	8	9	10	11	
1.	Pharmacist	..	11	8	7	5	2	2	..	..
2.	Jr. Pharmacist	..	..	..	..	..	..	..	..	..
3.	Compounder	..	3	9	12	6	2	2	4	4	2

1	2	3	4	5	6	7	8	9	10	11
4. X-Ray Technician ..		3	1	1	1	1	1	1	1	..
5. X-Ray Assistant	1	1	1	..	1	..	..	..
6. X-Ray Operator ..		1	1	..	..	..	..	..	..	..
7. Lab. Technician ..		4	4	2	2	2	1	1	1	..
8. Lab. Assistant ..		3	5	1	1	..	..	..	..	..
9. Masseurs ..		1	1	1	..	..	..	..	..	..
10. Assistant Masseures	1	..	..	..	..	..	..	..
11. Dental Mechanic	1	1	1	1	1	..	..	..

In response to the Committee's request the Panchayats and Health department furnished information on the yardsticks adopted for sanctioning the posts of para-medical personnel. It appears that no norms have been fixed for the two important categories of X-Ray and laboratory technicians. In the case of compounders the standard laid down is 1 post for every 120 patients. The strength of laboratory servants is fixed on the basis of one post for 150 patients. Ward servants including Ayahs are to be provided on the basis of one for 5 beds.

As can be seen from the two pregoing tables, the availability of para-medical staffs is well below the general requirement. Even major district hospitals and two of the teaching hospitals do not have posts of Dieticians. The same is true of Physiotherapists and Occupational Therapists. The complaint of many of the Civil Surgeons was that the existing staff is inadequate in the face of the steadily mounting work load at the district hospitals. The situation in the teaching hospitals also needs to be improved by augmenting the present strength and sanctioning new categories of posts as may be necessary.

12.2 The Study Group on Hospitals has in its report recommended a standard staffing pattern for hospitals of different bed-strengths on an all India basis. The Committee has elsewhere recommended the pattern of staffing in relation to the number of beds at the hospitals based on the requirements of the State and specially with reference to the present level of staffing. In the case of para-medical personnel, the Committee has closely followed the pattern suggested by the Jain Committee both in regard to the nomenclature and the number of posts appropriate to hospitals of different sizes, with the addition of the posts of physiotherapists and occupational therapists wherever considered necessary. The creation of a post of Dietician in all hospitals with a bed strength of 500 or more is also considered essential.

12.3 It is likely that a considerable stepping up of the induction of qualified staff of the appropriate categories may become necessary, in consequence of the revised staffing pattern outlined by the Committee. The Committee would strongly recommend that a phased programme of implementation of these norms may be worked out immediately and set in motion without any loss of time. This would also entail a well chalked out programme of pre-service and in-service training on a large scale. Standard courses for the training of different categories of para-medical personnel are already available in the country and organising the necessary training programmes within the State with the resources available at the medical colleges should not therefore pose any major problem. Besides catering to the requirements of the Government medical institutions, these training programmes would also provide trained manpower to the non-governmental medical institutions within the State. The requirements of the public health side where a large number of para-medical posts have been sanctioned under the different national health programmes would also have to be kept in view. The expanding frontiers of the E.S.I. organisation within the State would also generate demands for trained personnel of these categories, thus necessitating a well organised training schedule to bridge the gap between the growing demand and the supply of trained para-medical workers.

12.4 Building a large corps of para-medical workers would also make it necessary for the Government to think in terms of improving the career prospects of the recruits. Most of them have no opportunities for promotion and with the addition of numbers consequent to the adoption of the staffing norms recommended by the Committee, the problem would become even more serious. The fact that such personnel are divided into distinct groups under the health, medical and ESI wings need not deter the Government from attempting to provide minimal

incentives in the form of advancement to higher grades. The Committee noted that the State Pay Commission has recommended the creation of a selection grade, covering 20% of the posts of the Sanitary Inspectors group, as also the cadre of the Malaria Surveillance inspectors. The position of the para-medical staff of the hospitals and the PHCs is no better and there is thus full justification for giving them a similar benefit. The Committee would therefore strongly recommend appropriate selection grades for atleast 10% of each category of para-medical workers. It is possible that some of the personnel already in position may not fulfil the standard qualifications prescribed for the posts which they hold. In their cases, it would be necessary to organise refresher courses and in-service training courses to ensure that they measure up to the expected standards.

12.5 Before leaving this subject, the Committee would also like to recommend that a departmental Committee may be set up by the State Government to rationalise the existing structure of para-medical services both in relation to the distribution of posts over several grades and also their spatial distribution, so as to bring about the much needed rationalisation of the cadre structure.

12.6 *Non-medical Staff.*—The maintenance and operation of several facilities at the hospitals, necessitate the deployment of a large contingent of non-medical staff. While it may be possible to regulate the strength of these categories of staff with reference to the indoor admissions in some cases e.g. cooks, ward-boys, nursing orderlies and ayahs and barbers, there are many others that cannot be so controlled. Posts of carpenters, plumbers, blacksmiths, electricians and mechanics shall have to be created in relation to the general needs of various institutions. The Jain Committee has included some of these posts in the model staffing pattern recommended for hospitals of

different sizes and these could be taken as generally adequate. Since the Committee has already recommended an internal engineering organisation in the Directorate of Health Service, the requirements of operating and maintenance staff could be precisely worked out and general guidelines determined.

12.7 *Lay administration.*—The major problem that confronts the large numbers of non-medical personnel who man ministerial posts under the health Directorate is that of very limited opportunities of promotion to the officer level posts. The Committee has pointed out elsewhere that an attempt to provide avenues of advancement to these categories of staff to the top non-medical posts, is conditioned by the need for introducing officers with management skills on such positions. In that context the Committee has suggested that the posts of Chief Superintendent of Stores and Chief Administrative Officer to the Director, should be among the highest promotion posts to which the ministerial staff could be elevated. At the intermediate levels the Committee feels that a rationalisation of the hierarchical structure of the lay administration should be attempted, to bring about broad parity in status and emoluments at comparable levels of responsibility. Accordingly, the Committee recommends that at the Gazetted levels, there should be two groups of posts, the lower (Class II) group comprising the Personal Assistants to the Civil Surgeons, Deans, the Director of Health Services and the Administrative Officers attached to the District Health Officers. These posts should be designated as of Junior Administrative Officers. The posts of Administrative Officers under the Regional Assistant Directors should also be included in this group. At the Class I level should be, promotion posts of Senior Administrative Officers at the Directorate, one each under the Deputy Director of Community Health Services, Family Planning, ESI, Medical Education and Policy Planning and Evaluation.

13. OUT PATIENT DEPARTMENT

13.1. The working of the out-patients department is at once the index of the quality and efficiency of the working of a hospital. It is here that a patient steps in first and forms an impression of the type of service he should expect to get in the hospital. Besides, the value of an efficient out-patient department in treating minor illnesses and avoiding unnecessary admissions to the hospital wards, is really enormous. It is, therefore, essential that the OPD should have adequate facilities for the reception and treatment of patients.

During the visits to the various hospitals the Committee found that almost all the out-patient departments, particularly at the teaching hospitals, face the problem of overcrowding of patients. The existing arrangements appear to be inadequate to cope with the rush of patients and the facilities available at the OPD and the services offered, are in need of substantial improvement.

13.2. The procedures relating to the administering of patient care commence from the moment a patient steps into the portals of the hospitals. The reception counter at the OPD will be the first point of contact and has thus a pivotal role to play. It should be located at a prominent place and within easy reach of the main entrance of the hospital and manned by specially trained staff. At the teaching hospitals and the major district hospitals, the reception counter should also function as an enquiry office round the clock. The receptionist on duty should be able to guide the patients in making proper use of the services provided by the hospital. Movement within the OPD would also be considerably facilitated if a judicious use of charts, symbols and coloured cards is made, to direct the patients to the various sections. The services of voluntary organisations could be gainfully enlisted to provide necessary assistance to the patients during the OPD hours, especially, (a) to guide the patients to the units according to the nature of their complaints; (b) to help the hospital staff in routine clerical duties like the filling of various forms (c) to run the canteen services for the use of the out-patients. During the time of registration of patients it should be desirable also to have a medical officer or sister on duty, to direct patients to the appropriate place for post-registration examination and to handle expeditiously, cases requiring urgent attention.

13.3. The system of allocating separate hours for seeing new and old patients also deserves to be adopted in order to reduce the congestion in the out-patient

departments. Overcrowding can also be minimised by establishing poly-clinics to be run at two or three strategically located centres in the larger cities. These poly-clinics should have a small complement of core personnel for general organisation. The services of local general practitioners of high standing can also be utilised for running these poly-clinics. The success of such satellite OPDs would, however, depend on the support provided by the hospital in terms of staff, equipment and diagnostic and specialist services and above all, expert supervision.

13.4. In order to eliminate the time lag in dispensing medicines in the out-patient department, it is necessary that the fast moving drugs are kept pre-packed for quick dispensation. As far as possible pills/tables instead of stock mixture may be used.

13.5. The OPDs are run at present only during the morning hours. The Committee recommends that the OPD should be organised in the afternoons as well, at selected hospitals, particularly in the major towns. This would help relieve the overcrowding and also be convenient to some of the out-station patients and shift workers of industrial establishments.

13.6. Each out-patients departments should have fully equipped X-ray and laboratory facilities. It should be the constant endeavour of the hospital to investigate and treat as many patients as possible in the OPD in order that the hospital beds could be better utilised. It is a common experience at our hospitals to admit a large number of patients merely for carrying out investigations. These investigations could conveniently be handled in the OPD and valuable bed-space in the wards, released for better uses. Similarly, some patients have to be detained as inpatients for minor treatment or follow up. In such cases the principal problem is of providing suitable alternative accommodation for the out-station patients. A hospital inn (Dharmashala) located close to the hospital and run by a voluntary organisation would be proper solution in such a context. Patients could also be encouraged to pursue such routine treatment at the Primary Health Centres or other dispensaries nearer their homes.

13.7. The Hospital as a part of the social organisation intended to meet the medico-social needs of the community, has been obliged to adjust its facilities to the present requirements of the society. The most outstanding event has been the new approach by which the hospital should no longer live in isolation but open

its doors to the community and adjust its functions towards preventive and social medicines, in addition to its traditional restorative functions. The first report of the expert Committee of the WHO on Organisation of Medical Care, lists the following functions of a hospital to serve preventive health needs:

- (a) Supervision of normal pregnancy and child-birth.
- (b) Supervision of normal growth and development of child adolescent.
- (c) Control of communicable diseases.
- (d) Prevention of prolonged illness.
- (e) Prevention of invalidism, mental and physical.
- (f) Health education.
- (g) Occupational health.

The Committee envisaged that the out-patient department should become the medium for the promotion of health and prevention of disease through antenatal and post-natal clinics, industrial health and school health services. It should form the link between the hospital wards, the organised local health services and the community and become the meeting place where cooperation between the clinician and the health officer develops for the benefit of the individual.

13.8. *Well Baby Clinics and Obstetric Consultants.*—Paediatricians have long since realised that the best way to keep children in good health is to undertake a periodical examination and take advantage of these opportunities to educate the mothers in health and nutrition. It is a well accepted principle of maternal and child health organisation that following the delivery in a maternity ward, where certain immunisations can be given to the new-born, medical supervision of the child should be continued at intervals varying from two weeks to two months until the end of the second year of life.

In any general hospital therefore, carrying a well organised paediatric department and also possibly a maternity wards, the counterpart of these in-patient services should be organised in the outpatient departments, in the form of clinics for the supervision of pregnancy and the control of the health of children. Additionally, inoculations should be given at the proper time to prevent the most common communicable diseases of the child. A paediatrician should be in charge and ultimately be responsible for the supervision and control of the diseases of children. It is obvious that such a service would be really effective towards the health care of the child.

13.9. *School Health Clinics.*—As the logical continuation of the above mentioned clinics, the school health clinics become a useful device in an out-patient department of a general hospital and a worthwhile contribution towards the public health services in the community.

13.10. *Control of Communicable Diseases.*—It is to the hospital wards and sometimes the outpatient department that the great majority of cases of communicable diseases go in the first instance. It will be of great benefit to the public health organisation if an easy reporting system is organised linking the out-patients department of the hospital with the public health agency, in such a way that any case of communicable disease diagnosed either in the outpatient department or in the wards would be reported promptly to the public health authority.

13.11. *Tuberculosis Case Finding.*—Early diagnosis of tuberculosis is one of the most important factors for its proper and successful treatment. It is in the outpatient department of the general hospital that such an opportunity is best encountered and it would be possible for any outpatient department to undertake examination of different groups of the population to detect tuberculosis and so contribute to the control of the disease by the health authorities. The sections of the population most likely to be thus covered are (1) hospital admissions for other causes, (2) medical nursing and other students, (3) hospital personnel, (4) industrial workers, and (5) school children.

Out of the examination of these groups a certain number of active cases are likely to be discovered and in an epidemiological sequence the next step should be to undertake the examination of their contacts. It may happen that amongst the contacts there are children who are non-reactors to tuberculin tests. In such cases, the nurses of the outpatient department may well practise their tuberculin test, read the results and eventually give the BCG vaccination if so indicated.

13.12. *Detection of Chronic Diseases.*—Like in the case of tuberculosis, the success of the treatment of chronic diseases depends in many cases on early diagnosis. Therefore, the early detection of such cases becomes of importance. The medical machinery of the outpatient department of a hospital can assist in furthering an organised campaign against chronic diseases.

13.13. *Psychiatric Disorders.*—A great deal of the work of early detection and treatment of psychiatric cases can be done in the hospital outpatient department in a much easier way than in specialised mental health clinics where patients are reluctant to go. It is a well

known fact that the early treatment of psychopathic cases may in many instances prevent the development of more serious psychiatric illnesses.

13.14. *Health Education of the Public.*—This is possibly the field in which the hospital's outpatient department can make the best contribution to public health services. There are plenty of opportunities to develop a health education programme at a time when the patient and his family are especially conscious and are receptive to the implications of health and disease.

Even in the best organised outpatient department and despite the most efficient system of appointments, delays in medical consultations very often occur and patients have to sit in a waiting room sometimes for a few hours before they can see the doctor. This time can be easily used for health education purposes either by nurses or a social worker who picks up a conversation with the patient and eventually develops some kind of a programme of instruction on health topics, or by means of specialised demonstrations with the help of visual aids or films.

13.15. *Nutrition and Dietetics.*—Dieticians in the hospital wards can be spared to work under a rotating system in the out-patient departments, to teach patients nutrition habits and dietetic methods and eventually

give a list of menus in accordance with any special diets indicated by the doctor to an individual patient. Such system might be especially useful for the control of nutritional diseases and diseases like diabetes.

13.16. *Rehabilitation Services.*—The rehabilitation of a patient should start as soon as possible in the hospital wards but it would be illogical to keep a patient for a longer time only with a view to applying rehabilitation measures. This is a work that can be easily done in the outpatient department and in some cases can even be applied to the ambulatory patient thus avoiding hospitalisation. The adjustment of chronic patients or cripples to their new physical conditions both from the mental and physical points of view, is of the greatest importance in re-establishing the working capacity of many patients as well as encouraging them into normal human relations within the family and the society.

13.17. *Teaching of Preventive and Social Medicine.*—The use of the outpatient department and domiciliary medical care services for teaching purposes, means a complete shifting of emphasis from the bed-ridden patient in a hospital ward, with the laboratory and X-ray facilities next door, to much more realistic conditions of work with the patient in his own permanent environment.

14. LABORATORY AND RADIOLOGICAL SERVICES.

14.1 The Committee noted that there was a considerable backlog of radiological work both in the diagnostic and therapeutic departments particularly in the larger hospitals. This was largely due to the inadequacy of X-Ray equipment and trained technicians. According to the information made available in the Committee 94 out of 131 government hospitals have X-Ray equipment. Presumably, all the hospitals with 50 beds or more have been provided with X-Ray machines. However, at a number of places the Committee learnt that the equipment on hand was not in use for want of repairs. At a few hospitals the existing equipments had for long been due for replacement, but were still being pressed into service. Also, no attempt appears to have been made to standardise the supply of X-Ray units in relation to the bed-strength or the specific needs of the hospitals, with the result that hospitals of comparable bed strength and work load, have completely divergent scales of equipment. The creation of the posts of X-ray technicians and other support staff does not also appear to be based on any uniform yardstick.

14.2 The Study Group on Hospitals has recommended that the regional hospitals (Teaching hospitals) should have four X-Ray plants one of 300 to 400 M.A., the second of 100 M.A., the third a portable plant of 35-50 M.A., and the fourth, a dental X-Ray plant. Besides, they should have plants or machines for diathermy and lamps for ultraviolet and infrared therapy. In the district hospitals with 200 or more beds, there should be one 200 M.A., one 100 M.A., one 35-50 M.A., portable set and one for the dental care unit. The taluka hospitals should have one X-Ray plant of 50 M.A. The Committee agrees that this may be adopted as the uniform standard for sanctioning new X-Ray equipment for the various hospitals or for the replacement of existing plants.

The Committee has already indicated the pattern of staffing of the X-Ray departments of hospitals of different sizes. The needs of teaching hospitals will, however, have to be separately assessed and corresponding augmentation of staff authorised.

14.3 *Laboratory Services.*—A good health care programme at any level needs to be supported by a reliable investigative services. The standard of the laboratory service virtually determines the quality of patient care dispensed by a hospital. In a teaching hospital the departments of pathology, microbiology and

biochemistry should be directly involved in the organisation and the provision of such services. The hospital service programme should have the same emphasis in the work of these departments, as in any clinical department. These departmental laboratories should also function as referral laboratories.

Two central clinical laboratories should be established in every teaching hospital—one for the inpatients and the other for the outpatients department, each one competent to carry out routine laboratory tests in clinical pathology, haematology, microbiology and biochemistry. These should be headed by trained pathologists supported by qualified technical staff. The inpatient laboratory should provide pathology service round the clock. It would be desirable to have a special post of Resident Pathologist to be on duty at night, and he could be rotated with the day-staff.

Each ward should have a clinical side-room (ward laboratory) where the house staff and the students could carry out investigations on their cases. Each side room should be manned by a trained technician, and should have direct links with the central inpatient laboratory for maintenance.

The entire sphere of laboratory services of the hospital should be under the Professor of Pathology. Besides supervising their functioning, he should also periodically evaluate the standard of performance. The four medical colleges of the state should have their departments of pathology designated as Zonal Referral Laboratories to which the district hospitals could turn for reference and investigations specially, in histopathology and cytology, and some sophisticated tests. These laboratories should also supply the necessary reagents and organise the training of technicians.

14.4 Each district hospital should have a laboratory equipped to perform routine pathological bacteriological and biochemical investigations. These laboratories should be preferably manned by a trained pathologist and trained technicians. The taluka level hospital should have a clinical side room manned by a technician trained in laboratory technology, who should be able to carry out routine clinical tests. The taluka hospital laboratory should be linked with the district hospitals laboratory where more detailed investigation could be carried out. The Committee understands that out of 131 government hospitals 96 have laboratory

facilities. The creation of minimal laboratory facilities at the remaining hospitals needs to be attended to urgently.

14.5 Each P.H.C. should also have a clinical side room where a trained technicians should be able to perform routine tests, like stool, blood and urine. This should also be linked to the district hospital laboratory for advanced tests. The staff sanctioned for the malaria

eradication work could be deployed at the PHC to attend to the work of the laboratory.

14.6 The maintenance of laboratory equipment and arrangements for repairs and replacements should be taken care of on priority. The Committee understands that adequate facilities for training laboratory technicians are available in the State.

15. ACCIDENT AND EMERGENCY SERVICES.

15.1. The types of emergency that a hospital has generally to cater to are—

(a) Accidents,

(b) Emergencies of illnesses, the common types being cardio vascular diseases, acute respiratory diseases, coma and surgical emergencies,

(c) Obstetrical emergencies—Emergencies on a large scale that may occur unexpectedly have to be dealt with on a different footing.

15.2. The types of emergency services and their organisation should be related mainly to the size and population of the town, the nature of hospital facilities available and the extent to which specialist services are developed at the various institutions. The broad features of the organisation of emergency services are however common for all hospitals though for a city of the size of Ahmedabad, special arrangements shall have to be thought of, to make emergency services operationally efficient and effective. In view of the network of hospitals in the city, run by the Government on the one hand and the Municipal Corporation on the other, there would be a natural tendency to organise multiple independent emergency services, under each one of these hospitals. The Committee feels that organising a central emergency service would serve the requirements of the city better since it has the following obvious advantages;

(i) With a minimum of outlay on ambulance services, which will be busy during most of the hours of the day and night, maximum utilisation may be had.

(ii) This will substantially reduce, emergency transport and personnel being idle over some periods and overworked at the other times, which would be the case if their activity is only confined to a small geographic area around a hospital.

(iii) It is not an uncommon experience for a seriously ill patient, to be refused admission due to the non availability of beds and having to be transferred to other hospital. This could be avoided, if a hospital where beds are available, is known to a central agency and the emergency staff could be informed and alerted to receive the emergency case.

(iv) All the hospitals are not well developed for handling all types of emergencies. It should be possible with a central emergency organisation to direct such emergencies to centres where adequate facilities for specialised treatment of such illnesses exist so that the best possible attention is given to the patient.

15.3. The successful implementation of the scheme would entail the following organisational arrangements;

(i) There should be Central Control room, manned round the clock and easily accessible by road and telephone. The control room should be posted with upto the minute information on the number of beds available to take casualties and emergencies at the different hospitals.

(ii) The officer in charge of the control room should have the authority to direct a hospital to take casualties and make special arrangements, should need arise;

(iii) The control room should have a few ambulances available with doctors and nurses, so that they can be rushed to any area to collect a patient and with instructions as to which hospital the patient should be taken;

(iv) The officer in charge of the control room should be in close contact with the police and fire fighting services, so that in case of large scale emergencies, all the hospitals may be alerted to gear themselves up for handling them;

(v) All the ambulance vans should have a trained male nurse, each and at least a third of the total number should have a doctor in addition. The ambulances should have facilities for injections, administration of oxygen and other procedures of immediate care;

(vi) In the event of an emergency any person should be able to establish contact with the control room either directly or through a police station or the fire service station. The control room should be able to make arrangements for:

(a) Attention of the sick or injured on the spot,

(b) Immediate resuscitative measures during transport,

(c) Transporting to a suitable casualty station, that would have been alerted early.

15.4. The casualty station of each hospital should be prominently placed, well lit with suitable boards and coloured lights. There should be lighted direction finders to the casualty centre from all entrances of the hospital. It should be possible to drive in vehicles and unload them comfortably even in the inclement weather. There should be a comfortable waiting hall for anxious relatives and friends.

15.5 A properly organised casualty department should have the following arrangements:

(i) Sufficient number of trolleys and chairs to move patients from the vehicles to the examination and unload them comfortably even in the inclement weather. to the hospital wards or operation theatres;

(ii) Suitable staff and sufficient medical and para medical personnel who will be available in the casualty department. All X-ray, pathology, blood transfusion etc. personnel should be available to the casualty department;

(iii) An observation ward with adequate nursing and other personnel;

(iv) All material required for simple diagnosis and resuscitation should be on hand;

(v) The casualty department should be connected by telephone to the various areas of the hospital e.g. operation theatres, pathology and microbiology departments, X-ray department and the specialists' rooms;

(vi) A satisfactory record service and following of rules and regulations meticulously. Due attention to medicolegal formalities, should be given;

(vii) Adequate arrangements should be made for the reception and disposal of patients either brought in dead or dying soon after. In cases of death within 24 hours of being brought in, autopsy should be made obligatory.

15.6 The organisation of an emergency service in a small town has to be mostly intramural. As and when emergencies arrive in the hospital either from the town or from the surrounding villages, the hospital must be in a position to receive the emergency case and give the best medical care that is possible. Where there is very limited staff, it may not be possible to keep trained personnel round the clock on duty at the emergency station. The situation however can be retrieved by having all the essential staff living within the campus of the hospital, so that they are available at short notice.

15.7. Once the patient has been brought to the hospital, the available facilities including the services of the laboratory, the radiology department or of any specialist present, should be mobilised and used to the best possible extent. Where an emergency cannot be handled satisfactorily, after first aid and resuscitation measures have been given, the patient should be shifted to a nearby well equipped hospital either by ambulance if one is available, or by police vans which are often present in a medium sized town.

15.8. It is also worthwhile to consider the possibility of equipping a mobile emergency van fully equipped both with diagnostic equipment and trained personnel and stationed in a large hospital, that can be called upon and render high class diagnostic and professional service at the request of a medium sized hospital. The efficiency of moving personnel and equipment to the patient rather than bringing him to a large hospital has much to be commended.

15.9. *Disaster Plan.*—Emergencies occurring on a large scale are capable of throwing the hospital apparatus entirely out of gear unless the hospital administration has been conditioned to adapt itself to such situations and act according to a predetermined schedule of working. This implies a Disaster-Plan being prepared and rehearsed so as to invoke instant response in the face of mounting tensions.

15.10. The types of disaster that a hospital may be called upon to face can either be internal or external. Hospital fires, explosions or any large scale break-down of facilities threaten the hospital, its personnel and patients by creating an internal crisis. On the contrary, external disasters in the hospital areas like floods, major fires, mass food poisonings, earthquakes and the like, impose severe strains on the resources of the hospital. External aggression or large scale riots pose special problems and require more detailed plans of action.

15.11. Primarily, the disaster plan of a hospital should be fitted into and coordinated with the city and the State Plans. A clear demarcation of responsibilities and dissemination of information on the details of the plan, to the concerned staffs, are vital to the successful implementation of the plan. The committee feels that all the teaching hospitals and district hospitals must prepare their own disaster plans along uniform guidelines issued by the Directorate of Health Services on consultation with the Police, Fire and Civil Defence authorities of the State.

15.12. The key features of a 'Disaster Plan' are outlined below:

(i) *Organisation.*—The Chief Executive of the hospital should be the principal coordinator of the plan. All medical and para medical staff will be in charge of their respective departments. Plans should be made to expand essential facilities to adjunct areas.

(ii) *Receiving centre.*—Arrangements should be devised for receiving a large number of patients, identify them, evaluate treatment needs and move them to the concerned sections of the hospital.

(iii) *Bed spaces.*—A plan should be drawn for the substantial augmentation of beds and their location. Shifting of in patients to other hospitals near about, may also be necessary.

(iv) *Morgue.*—Expansion of the morgue to take care of a large number of the dead will have to be provided for.

(v) *Communications.*—Notifications of personnel, should be accomplished with the minimum loss of time. Alternative channels of communication shall also have to be improvised.

(vi) *Transport.*—Augmentation of the ambulance fleet and equipping mobile first aid and medical relief teams for deployment in the disaster area, should be organised.

(vii) *Assignment of personnel.*—All medical personnel should be given standing assignments for specific jobs. Substantial reserves would also have to be maintained.

(viii) *Supplies.*—Building up stand by reserves of essential medical and non medical supplies and determination of the sources of extra supplies, in case of need, are crucial to the entire operations. Arrangements for the uninterrupted flow of perishable supplies must also be made.

(ix) *Information.*—A control room-cum-information room should be planned to be run around the clock.

(x) *Drill.*—Practice runs of the 'Disaster Plan' are necessary from time to time to ensure its smooth operation

16. ANCILLARY SERVICES.

16.1 All the hospitals require the assistance of a well equipped, efficiently organised and smoothly running ancillary services, without whose support the hospitals would be handicapped in rendering efficient service to the patients, whatever be the standard of professional work.

The table below (Table 16.1) depicts the availability of ancillary services districtwise at the various Government hospitals at present.

TABLE 16.1

Sr. No.	Name of District	Total No. of Government Hospitals	Anti-Rabic vaccine Service	Ambulance	Kitchen	Laundry	Blood Transfusion Services
1	2	3	4	5	6	7	8
1.	Ahmedabad ..	9	2	4	7	4	4
2.	Amreli ..	11	4	3	3	..	2
3.	Banaskantha ..	5	5	5	2	1	2
4.	Baroda ..	11	5	7	11	3	1
5.	Bhavnagar ..	6	5	6	4	3	3
6.	Broach ..	..	5	4	5	2	1
7.	Bulsar ..	7	2	5	5	4	1
8.	Dangs ..	3	1	1	1	..	..
9.	Gandhinagar ..	1	1	1	1	1	1
10.	Jamnagar ..	6	3	2	5	2	1
11.	Junagadh ..	7	6	4	4	2	3
12.	Kaira ..	4	4	4	4	1	1
13.	Kutch ..	11	7	6	5	2	3
14.	Mehsana ..	8	7	6	6	3	2
15.	Panchmahals ..	8	8	8	7	3	2
16.	Rajkot ..	13	8	6	10	2	4
17.	Sabarkantha ..	4	4	4	3	1	1
18.	Surat ..	8	5	6	4	2	1
19.	Surendranagar ..	4	4	3	4	..	2

131

16.2 *Dietary and Food Services.*—The Committee after its visits to several hospitals in the State, got the impression that dietary services are not given due attention in most of the hospitals and the kitchen facilities are outmoded. Usually the kitchens are located far away from the wards, with the result that the food as it reaches the patients, gets cold and becomes unpalatable. The possibility of contamination of the food also cannot be ruled out. The menu generally lacks variety and the same fare is repeated, day in and day out. The wastage both in the kitchens and the wards, in the kitchens due to the unsatisfactory working conditions and in the wards due to the unpalatable food, is generally high. Seldom, if at all are the food handlers

medically examined to determine if they harbour any active infection.

16.3 These defects can easily be remedied at the initiative of the hospital authorities. Provision of exhaust fans in the kitchen and minor structural modifications in the old kitchen blocks could make the kitchens largely smoke-free and the working atmosphere congenial. The Committee during its visit to the K. J. Mehta T. B. Hospital at Amargadh was gratified to see the kitchen using diesel oil as the main fuel in the kitchen ranges. Apart from providing a clean atmosphere in the kitchen, the Committee learnt that the fuel

cost per meal was significantly lower than at the neighbouring Government Hospital of Bhavnagar. The use of diesel or cooking gas or the smokeless chula deserves to be encouraged at all the hospitals.

16.4 The premises of all the units of the dietary department should be kept clean and free from litter and rubbish. Space for storage of perishable and non-perishable food articles should be adequate. The fly proofing of the kitchen and arrangements for anti-pests and rodents-treatment are also essential. Periodical medical checks of the employees handling food supplies and cooked food should be arranged.

Serving food in the wards requires special care. Each ward should preferably have a food trolley, properly insulated, to carry hot food from the kitchen to the ward, so that the patients should be able to get hot food at their bed side. Stainless steel utensils should advisedly be used for serving food to the patients.

16.5 Wastage in the kitchens can be avoided by analysing the past data and working out a suitable formula to estimate number of different kinds of diets that may be required the next day. A ready-reckoner indicating the quantity of different supplies needed for the preparation of the menu, can be worked out in advance, thereby reducing the labour of those incharge of diet planning. The services of dieticians wherever available should be fully utilised to work out the menu for one week at a time, which should be displayed in the kitchen so that those responsible for indenting and issuing of food supplies and those in charge of cooking, are fully aware of the week's menu. The purchase of perishable foods also requires special care so as to ensure the quality of purchases made and to avoid wastage. A proper check of issues and actual use should constantly be made to avoid pilferages. The Committee recommends that in due course, chinaware and glazed enamel-ware which are often chipped and cracked, harbouring infection, should be replaced by stainless steel utensils.

16.6 *Linen and Laundry Services.*—The linen used in the hospitals comprises of bed-sheets, draw sheets, counter panes, pillows and pillow-covers, blankets, towels, mattresses, aprons and clothing for patients and the ward staff. Each hospital is left to its own devices to procure them or tailor them. The Committee is of the view that a certain measure of centralised procurement and supply to all the hospitals in the State, may be advantageous. In this connection, the Committee felt that the exclusive use of Khadi may have to be reviewed in the light of the cost and durability advantages.

16.7 Each hospital should have a proper scale of linen worked out with reference to the bed-strength and with a percentage of reserve.

16.8 All the hospitals generally avail of the services of dhobis for running the laundry services. The Committee was given to understand that the teaching hospitals at Baroda and Jamnagar have power laundries. The Committee is of the view that in the long run it may be economical to install power laundries at all the major hospitals. The experience at Baroda and Jamnagar may be carefully evaluated before extending similar arrangements to the other hospitals.

16.9 *Pharmacy Services.*—In the large hospitals, the daily turn over of drugs in the wards and in the out-patients departments is very high. This is also the area where wastage, pilferage, and unauthorised use of drugs occur. The wards and out-patients departments are therefore very sensitive areas from the points of view of verification and accounting of drugs and medical stores. Proper control and strict supervision are most essential in these areas to minimise unauthorised loss.

16.10 *Central Sterilisation Supply Department.*—The teaching hospitals of Baroda and Ahmedabad have central sterilisation units but the Committee found that all other hospitals each department was carrying out sterilisation of needles, syringes, instruments etc. on its own. The standard of sterilisation could not also be upto the mark under such circumstances. The Committee strongly feels that at least in all the teaching hospitals it is essential to set up a central department for sterilisation, storage and supply of all the sterilised material and their upkeep, including the dressings and instruments used for various departments of the hospital. This will reduce cross infection and minimise the work load of the departmental staff.

The Committee is not unaware that the organisation of a central sterilisation supply department will entail a heavy initial expenditure, but it will prove to be a sound investment in the long run. This is the experience of all the hospitals that have established such a service department. The Committee also noted that the blankets, bed sheets, mattresses etc. used by infectious cases are not always properly disinfected or sterilised. Such sterilisation should be obligatory.

16.11 The Committee also suggests that at all hospitals the bacteriological sterility of supplies from the sterile supply source should be constantly and regularly checked to ensure proper standards. It would be advisable to set up a Standing Committee for the preven-

tion of infection at each of the teaching and principal district hospitals and particularly at the former, consisting of the chief of surgery, chief of medicine and the microbiologist to regularly review the sterilisation of equipment. The problem of cross infection and its elimination should be constantly under its scrutiny. The Committee should issue necessary instructions to the staff of the operation theatres, wards, dressing rooms and the visitors to the post operative recovery wards, from time to time.

16.12 *Ambulance Services.*—In most of the hospitals the ambulance service is none too well organised and there are frequent complaints of non availability of ambulance cars. Several of the Civil Surgeons expressed concern at the inadequacy of the number of vehicles at their hospitals and in the district generally and non-replacement of the vehicles that have outlived their utility and repairs. As can be seen from the table (Table 16.1) only 85 out of the 131 government hospitals, have the services of ambulances available to them.

16.13 The organisation of the ambulance service at any large hospital should consist of a Control Room available for contact all the 24 hours a day. The telephone number of the Control room should be widely publicized. The officer incharge of the control room should record in a register the time of the call and time of despatch of the vehicle. The Control room should have direct link with the Accident and Emergency Services Department. There should be 4 stretcher orderlies trained in first aid duties, on the staff. Each ambulance car should be provided with one stretcher orderly, when sent out on duty. Each ambulance car should also have a first-aid box as part of its equipment. In the major towns and cities like Ahmedabad or Baroda pooling the ambulance services of the various government and non-government hospitals would provide for maximum utilisation of the fleet.

16.14 The regular maintenance of the ambulance cars, including preventive maintenance and the organisation of a break-down service is of utmost importance. There should be a phased programme of replacement of old vehicles and those which are beyond economical repairs. The Committee learns that the State has a wide net-work of workshops run by the State Transport Corporation. The P.W.D. also has a few mechanical workshops at selected centres. The facilities afforded by both these sources should be availed of to the maximum and both these organisations should be instructed to assign the highest priority to the repairs of the ambulances. The heads of the hospitals should also be given full powers to incur expenditure within liberal limits to carry out urgently needed repairs through approved garages, locally.

16.15 *Mortuary.*—The present arrangements at the mortuaries and their functioning not only in the State but in the rest of the country as well, leave much to be desired. Several Committees have pointed out that the dead bodies are not given the sanctity due to them. More often than not they are left in hot and illventilated rooms and many factors contribute to the delays in their disposal.

The minimum requirements of properly organised mortuary services have been spelt out exhaustively in the Jain Committee's report. The Committee suggests that these should be adopted uniformly at all the hospitals.

Another important requirement is the provision of transport facilities to carry the dead bodies for cremation or burial, particularly in the cities. The Committee is strongly of the view that each district hospital should be provided with a hearse.

16.16 *Medical Audit.*—In order to evaluate the standard of medical care in the hospitals the Committee recommends that all the major hospitals and particularly the teaching hospitals, should institute a system of internal assessment by qualitative analysis of clinical records. The Health Survey and Planning Committee had earlier recommended that such medical audit should be introduced in every hospital/institution. Such a process throws light on the standard of administration of the hospital, inadequately equipped physical plants, lack of essential services needed to support care for patients, lack of competent personnel for purposes of supervision of the patients needs and deficient personnel policies affecting morale. The Committee found that this measure, which will ensure the practice of scientific medicine and serve as a specific check on the standard of professional work performed at the hospital, had not been adopted in the hospitals in the State. The Committee therefore recommends that Medical Audit Cells be formed at the hospitals under the respective Superintendents, with a Pathologist, Physician and Surgeon, as members. The officer in charge of medical records at the hospital should also be on the Cell. The Cell should analyse objectively the available data, to ascertain whether the diagnosis and treatment given were proper, whether laboratory and X-Ray investigations were adequate, whether physical facilities and equipment available in treating a case were sufficient and whether any unnecessary and unrelated investigations were done, causing wastage of the hospital resources. The basic data required for this type of *post-facto* study, is to be forthcoming from the clinical case documents. It is, therefore, of utmost importance that clinical records should be carefully prepared in each case.

16.17 The internal medical audit system will also bring out, if patients are being kept in the hospitals longer than actually necessary. Specifically, the following items can be fruitfully gone into as part of the medical audit:

- (i) Average bed occupancy;
- (ii) Average length of stay of a patient;
- (iii) Average daily out-patients admissions;
- (iv) The gross results of patient care;
- (v) The fatality rate;
- (vi) Consultations;
- (vii) Infections;
- (viii) Complications occurring in clean surgical cases, obstetric cases and medical cases;
- (ix) Unnecessary and incompetent surgery;
- (x) Autopsy rate;
- (xi) Average cost of medicine per patient for major disease groups;
- (xii) Cost of daily diet.

16.18 *Workshop facilities.*—The Committee noted with great concern that a large number of equipments both the ordinary and sophisticated variety, are lying in the hospitals unused for want of repairs. Most of the repairs are of a minor nature, whereas some are more complicated and need elaborate workshop facilities to be attended to. It would be desirable to have small workshops attached to the teaching hospitals and all the larger district hospitals, to handle the routine repairs. The Committee feels that the minimum complement of staff for these workshops should be one electrician, one mechanic, one plumber, one blacksmith and one carpenter. These workers should be given basic orientation training in hospital repair work.

16.19 *Work study, work measurement, and waiting time in hospitals.*—During the visits to the various hospitals the Committee came across long queue of patients at the O.P.Ds, the X-ray departments and the hospital laboratories. Some of the medical staff admitted that there are several instances of considerable delay in the diagnostic procedures but blamed the inadequacies of staff and equipment for creating such situations. The Committee considers it necessary to have the situation carefully investigated, to devise suitable remedial measures. It is therefore recommended that studies be carried out in work measurement and utilisation of facilities and waiting time at these three departments. Such a study will give a clear idea of the manpower and equipment utilisation and requirements, and the allocation and possible rescheduling of responsibilities. Similar studies should be carried out also in

regard to the pharmacy and the ambulance services so as to derive the best advantage out of existing facilities and plan for a systematic expansion in future.

16.20 A variety of indicators to measure the efficiency of the hospital complex have been evolved and are currently in use. A few of these are indicated below;

(i) Bed occupancy ratio. $\frac{\text{Number of patient-days during the year}}{\text{Number of bed-days during the year}}$

This ratio indicates as to how far the available bed capacity has been utilised. A value equal to 100 would be ideal. A value less than 100 shows unutilised capacity and a value more than 100, would show over crowding.

(ii) Turn-over interval $\frac{\text{The total vacant bed-days during the year}}{\text{The number of in-patient admissions during the year}}$

The index shows the number of days on an average per patient, for which a bed has remained vacant. In the case of a large hospitals, it will be worthwhile to work out this index for individual departments or wards.

(iii) Average duration of illness $\frac{\text{The number of inpatient-days during the year.}}{\text{Total number of in-patient admissions during the year.}}$

The index is complementary to the other index "average turnover interval." This is more useful if computed for individual diseases.

(iv) Average daily out patient admissions. $\frac{\text{The total number of new out-patient admission during the year.}}{\text{The number of working days during the year.}}$

The index shows the average work load at the O.P.D.

(v) The average out-patient attendances per patient. $\frac{\text{The total number of out-patient attendances during the year.}}{\text{The total number of out-patient admissions during the year.}}$

The total number of out-patient admissions during the year.

This shows the average duration of a spell of illness treated in the out-patient department.

(vi) Average cost of medicines for a patient.	Total cost of medicines for in-patients for the year

	Total number of in-patient admissions.

The index should be computed separately for individual diseases.

(vii) Cost of daily diet.	Total expenditure on diet during the year

	Total number of in-patient days.

(viii) Autopsy Rate	No. of autopsies performed $\times 100$

	No. of inpatient deaths

(ix) Fatality Rate	No. of inpatient deaths during a specified period $\times 100$

	No. of discharges during the same period.

The Committee recommends that the statistical wing of the Directorate should compile these ratios as part of a regular programme and periodical analysis based on the data should be brought out, in aid of a proper planning of the strategy of future expansion.

16.21 *Hospital Standing Order.*—The Committee noted that by and large the hospitals did not have any manual or compendium of orders defining the duties and responsibilities of the various categories of hospital staff, with a result that the spheres of authority are not clearly demarcated and accountability for action becomes difficult to enforce. Such manuals also have an educative value especially for the new recruits to the various cadres in as much as they highlight the assigned roles of different functionaries and impliedly underscore, the interdependence and complementarity of the different hospital services. The Committee, therefore, recommends that each hospital should have a set of standing orders, detailing the functional areas of the different levels of the hierarchy from the Superintendent downwards. The collection of standing orders should be reviewed from time to time and updated suitably. A departmental Committee should be set up to frame the standing orders in keeping with the service regulations of the State.

16.22 In addition to the above, it will greatly benefit the hospital administrators and staff at various levels, if hand books enumerating limits of financial and administrative powers are compiled and made available.

These hand books should cover a wide range of rules and regulations relevant to the numerous aspects of hospital administration. The Committee would commend the two volume 'Hospital Administration Manual' in use in the State of Maharashtra as a model to be followed. The first volume serves as an excellent source of reference, replete with practical hints and instructions on procedures to be followed. The companion volume is a compilation of important orders embracing every sphere of hospital activity.

16.23 *Public Relations.*—All the good work done at a hospital, can be marred by poor public relations. Lack of attention to popular complaints, an unsympathetic attitude towards patients and their relatives on the part of the staff, particularly the nurses and the junior staff, are the main factors, which project a bad image of a hospital. There are certain areas of the hospital where the public relations potential for good or bad is especially strong. Such areas would include the emergency department, the hospital switch-board, the information desk and the pharmacy. The Committee, therefore, recommends that the hospital administration should pay special attention to these sensitive spheres.

16.24 The Committee further recommends each hospital should have a suggestion and complaints box, at a prominent location. The Superintendent of the hospital should ensure that each complaint is brought to his notice. The Hospital Advisory Committee should also be apprised of the complaints and action taken thereon, during their sittings. It would be a healthy practice also to hear in person the complaints, if the complaints are specific or, are of a serious nature. There will no doubt be many complaints of a trivial nature and many suggestions whose implementation may involve a fair amount of expenditure, but the Superintendent and the Advisory Committee would do well to make sure that the complaints are properly sifted, analysed, and remedial measures initiated. The Committee also suggests that the Directorate should have a small unit in charge of public relations under the general control of the Joint Director Administration. A conscious policy of promoting public relations should be formulated at the Directorate level and programmes for improving the facilities presently available at hospitals and dissemination of information on the performance of hospitals should be dovetailed into a well-knit public relations exercise.

16.25 The public relations unit at the Directorate should keep a sharp look out for grievances against the health administration voiced through the medium of the press. Instances of adverse press publicity on the handling of emergencies, shortages of essential medical supplies and the lack of facilities at hospitals

are not lacking and with the new awareness on the part of the public of their health needs, the demands on the hospital system are bound to grow and the standards of service expected, become more exacting. The press in such a context is certain to highlight the shortcomings of the health delivery processes and comment on the inadequacies of the administrative apparatus. The public relations programme in this situation has partly be defensive while the accent should be on being informative and educative of public opinion.

At the level of the individual hospitals, attention is required to be given to the following points;

(i) All the teaching hospitals and the larger district hospitals should have a central reception and enquiry for in-patients, located in the casualty block, providing round the clock service;

(ii) All the teaching and district hospitals should have a booklet giving essential information for the guidance of patients;

(iii) Large hospital complexes should have a lay out map of the various departments displayed at a prominent place near the entrance;

(iv) Provision of canteen facilities for the patients at the O.P.D. and the attendants and visitors of indoor patients is essential;

(v) Arrangements for the accommodation of the attendants and visitors from outstations must be made near the campus of the hospitals. The best solution would be to encourage the construction of dharamshalas by private charitable agencies.

(i) Choose the objectives (with particular reference to the problem under consideration); specify its dimension and value;

(ii) Isolate all of the variables that are pertinent to the attainment of the objective value, i.e. the relevant independent variables;

(iii) Develop the relationships that exist between the independent variables;

(iv) Distinguish controllable variables (which can be part of the strategy) from non-controllable variables (classifying the later as either states of nature or competitive strategies);

(v) Develop forecasts and predictions for the non-controllable variables, which should be treated as states of nature. These variables which have (rational) intelligence behind them must be treated separately by game theoretic methods;

(vi) Determine whether the forecasts and predictions are based on stable process. This determination can be intuitive but powerful methods of statistical quality control are available to assist;

(vii) Develop the function that relates the independent variables to the dependent objective variable;

(viii) State the restrictions that limit the possible values of controllable variables;

(ix) Choose those values of the controllable variables (i.e. that strategy) which promise to maximise the degree of attainment of the objective, within the limits set by the restrictions.

16.26 Operations Research in Health Administration.—Operations research is a scientific approach to problem solving for executive management. Its application involves; “(i) Constructing mathematical, economic and statistical descriptions or models of decision and control problems to treat situations of complexity and uncertainty; (ii) Analysing the relationships that determine the probable future consequences of decision choices, and devising appropriate measures of effectiveness in order to evaluate the relative merits of alternative actions.”

Briefly, operations research is essentially a planning effort, that enables the regulation of the processes and formulation of the rules for action. According to Miller and Starr the steps through which this is organised are as follows;

In the sphere of health services operations research can be a valuable aid to perspective development of facilities for the delivery of health services. The identification of programmes, allocation of resources, the choice of the best suited strategy and the integrated deployment of available inputs and the monitoring of the various programmes are the principal areas of potential application of the techniques of operations research.

Even in the sphere of short-range planning the scope for operations research is really vast. Planning for the location of facilities, estimation of the need and the demand for resources and developing effective systems of optimal use of men and materails in a given situation, fall within the ambit of operations research.

16.27 A government of India task force has identified a large number components of the health services

system as suited for purposeful operations research. The task force categorised the following as micro studies with respect to the understanding of the processes involved in and the development of better designs for sub-systems at the institutional level;

(i) Activity analysis of various categories of workers in the health care system;

(ii) Studies towards determining the norms of work-load, in terms of quantum and range of services to be provided, population to be covered etc., for different categories of health personnel at all levels;

(iii) Studies on rationalization of staffing patterns keeping in view the work-load;

(iv) Utilisation and maintenance of physical facilities, equipment and vehicles in all the institutions of health care system;

(v) Utilization of hospital beds;

(vi) Studies on waiting time problems in hospitals and health centres;

(vii) Studies for development of systems for indenting storage and retrieval of medicines and drugs (inventory control and materials planning);

(viii) Studies for optimal scheduling and deployment of vehicles (net work) for rural health services;

(ix) Studies for scheduling and deployment of vehicles for emergency services;

(x) Scheduling of patients in outpatient departments of hospitals and health centres;

(xi) Scheduling of operation theatres;

(xii) Inventory control system for X-ray, laboratory materials, shoe stores, blood bank etc. in hospitals;

(xiii) Diet planning in hospitals;

(xiv) Studies on allocation of resources in terms of beds, nurses, operation theatre time etc. to different specialities;

(xv) Cost analysis of health care activities;

(xvi) Cost analysis of different hospital services;

(xvii) Cost of training of different categories of health workers including professionals;

(xviii) Economies of scale in hospitals, medical colleges and schools for nursing and other categories of health workers;

(xix) Cost-benefit analysis and cost-effectiveness analysis of hospital services;

(xx) Cost-effectiveness analysis of different training programmes;

(xxi) Studies towards development of suitable management information systems for individual hospitals and health care institutions;

(xxii) Feasibility studies for introducing performance budgeting;

(xxiii) Studies in quality of health care services towards development of standards for quality of health care;

(xxiv) Studies in quality of medical care in hospitals;

(xxv) Patterns of private expenditure on health care services by the population;

(xxvi) Studies on optimum span of control for different levels of health services organisation.

16.28 The studies enumerated above are of special interest to the state both from the point of view of maximising the returns on the investments made in the health delivery complex and gearing up its constituent units to optimum operational efficiency. The Committee is of the view that the Deputy Director of Policy Planning and Evaluation should have a small organisation under him equipped with the necessary expertise to undertake studies of a micro nature. In addition a few micro studies into the principal problem spheres of health administration could also be usefully undertaken. Some of these are listed herein below:

(i) Development of a system of referral services;

(ii) Cost-benefit analysis and cost-effectiveness analysis of community health care;

(iii) Cost-benefit analysis and cost-effectiveness analysis of disease control/eradication programmes;

(iv) Studies towards development of a suitable management information system for the total health care system;

(v) Patterns of behaviour in seeking health care by the people;

(vi) Attitudes and perceptions of the people towards health services (formal and private);

(vii) Existing status of private practitioners (of all systems) in the provision of medical care; their location, quantity and quality of services provided etc;

(viii) Studies of supply and demand for different categories of health manpower;

(ix) Studies on training needs of different categories of manpower, technical and managerial.

17. MEDICAL EDUCATION AND RESEARCH

A. Undergraduate Medical Education

17.1 With the change of the concept of health delivery to comprehensive health care, the later has formed the operative basis of a national health programme. The core content of this programme is the establishment of a network of primary health centres covering the entire rural population and linked with hospitals for referral and specialised services. The most obvious impact of the extensive health care programmes of the government has been on the demand for more doctors. This has had to be met both by increasing the intake in the existing institutions, and establishing new ones. The number of medical colleges in the country has increased from thirty in 1950 to a hundred and five today, producing about 12,500 medical graduates every year. This has inevitably led to a situation in which medical education is facing the challenges of mass production, staff shortages and overflowing lecture theatres.

17.2 In spite of the increased production of doctors, the doctor population ratio is still not much lower than 1 : 5000. This ratio does not reflect the true picture in as much as the range of the fluctuation could be 1 : 800 to 1 : 1000 in the large towns and only 1 : 30,000 in the remote rural areas. The Health Survey and Planning Committee had set a target of one doctor for every 3000 or 3500 population, to be reached at the end of the fourth plan period. To achieve this goal and more particularly, to ensure a fair rural-urban balance in the distribution of medical manpower, even by the end of the fifth plan appears to be a none too sanguine prospect. The primary objective of carrying the benefits of modern medicine to the predominantly rural community is thus very far from being achieved.

17.3 The medical profession in the country has been placing great emphasis on specialisation and improved technology, rather than orienting its objective towards making available comprehensive health care to the community. In addition, the absence of physical and professional facilities in the rural areas and the reluctance of doctors to exchange their urban way of life for the physical discomfort, cultural isolation, and the lack of incentives in the rural areas, are factors to be reckoned with, before any plan to extend the health care services in the rural areas can become fully operational.

17.4 The present frame of medical education does not prepare the doctor to serve the community, neither

does it equip him to adapt himself to the changing medical and health needs of the society. The tendency of the medical colleges to compete with one another in providing post-graduate medical education and producing medical specialists, is unfortunately inconsistent with the basic strategy of future development of community oriented health services. The cornerstone of this edifice will have to be the 'Basic Doctor'. The Royal Commission on Medical Education underscored the idea of the 'Primary Physician' in these words:

"Present day thinking on the relationship between disorders of different systems of the body and on the importance of the patients' material and social environment, points to the continuing need for a first-time preventive, diagnostic and therapeutic service which can deal in general terms with the total medical needs of the patient and when necessary guide him towards the appropriate specialised services; moreover this function needs to be available to individuals and whole families as far as possible in the area where they live." The Commission went on to say: "The aim of medical education should be to produce, at graduation, a person with two essential qualifications; he should have first, a knowledge of the medical and behavioral sciences, sufficient for him to understand the scientific basis of his profession and to permit him to go forward with medicine as it develops further; and secondly, a general introduction to clinical method and patient care in the main branches of medicine and surgery, together with an introduction to social and preventive medicine. We hope he will be taught throughout in such a way as to inculcate in him a desire to continue learning not only during the post-graduate training which we hope he will undertake, but throughout his professional life."

Commenting on the pattern of courses, curricula, teaching and training schedules in the medical colleges, in the context of the need for producing medical graduates possessed of the necessary knowledge, skill and aptitude for functioning as "Primary Physicians" the Bihar Committee on Medical Education said "Traditional patterns continue to be followed, without any attempt to assess how far they are useful and effective in practice. Diseases that are extremely common and about which students need adequate training and instru-

tions, appear to be neglected. The emphasis is very much on uncommon disease, specially diseases which require prolonged hospital care. Courses and curricula do not reflect the needs of our society. The importance of health education, community medicine, preventive health education, community medicine, preventive health care and health promotion, is largely neglected."

17.5 The medical education conference held in July 1970 has evolved a definition of the basic doctor. The W.H.O. inter-regional conference on medical education has also defined the objective of undergraduate medical education appropriate for developing countries. Stated in general terms, the essential attributes of a Basic Doctor or Primary Physician should be as follows:—

(i) Ability to manage common emergencies and wisdom to recognise what is beyond his own competence, either due to lack of facilities or due to the serious and complicated condition of the patient;

(ii) Practice of preventive medicine and community health measures, at the level of the rural community;

(iii) Leadership in training and proper utilisation of para-medical and auxiliary workers;

(iv) Implementation of effective family planning and family welfare programme;

(v) Handling of communicable diseases and organising mass campaign against them;

(vi) Ability to recognise and manage common diseases which occur in the community and institute steps for their prevention;

(vii) Maternity and child health care including systematic immunization against common communicable diseases, against which highly effective preventive remedies;

(viii) Sufficient competence to recognise diseases that require specialised care so that proper and timely reference to specialists can be made;

(ix) Sympathetic appreciation of the local cultures and resources and the innovative ability to develop a community health programme based on them.

17.6 The present type of hospital-based training has been a major limiting factor on health services.

First, it does not provide enough opportunities for health care. It is not to be forgotten that the background of a patient, social, economic and environmental, is equally important to make a total assessment of his ailment and to suggest such curative measures as will ensure adequate follow up at his home, family and immediate environment. Second, the very specialised nature of the work done in the hospital militates against training for medical practice in the community. The Committee feels this has been the most important factor in generating an imbalance in the delivery of health and medical services in the rural and urban areas.

Besides exposure to rural medicine, a direct involvement of the student in community health care programme utilizing the peripheral health services, including training with general practitioners, is considered an essential development to motivate young graduates to serve the rural communities.

This expanded clinical training of undergraduates, from the beds of the teaching hospital to the district hospital and the peripheral health centre and their involvement in community health programme are important components of a need-based curriculum that medical colleges in India are trying to adopt. In addition, it helps to develop in the students, a deep social concern for the health and welfare of the population.

17.7 The teaching hospital as defined today will soon be a misnomer. It should consist of a complex made up of the college hospital, the district hospital and peripheral health service components, of the National Health Service. Indirectly this will help augment the efficiency of the district hospital which being a component of the teaching complex will have to be certified to conform to certain standards recognised by the Medical Council of India.

17.8 It is essential that the various categories of health personnel, doctors, nurses, pharmacists, etc. should work as a team, with the doctor as the team leader. It is increasingly recognized that the team approach to the provision of health care is the only way to ensure successful implementation of a nationwide health delivery programme. The traditional faculties of medicine that previously trained only doctors, are now training paramedical and auxiliary workers to ensure the team approach and, indirectly training the doctors to be team leaders.

17.9 In the present context of our society, if the Indian doctor has to serve the predominantly rural community he should be as much aware of the problems of the rural community as of the urban popula-

tion. The role of peripheral services is attaining more and more importance. What we need is to be clear in our minds regarding the objectives, and the significance of expanding teaching to smaller service units, either through primary health centres or mobile service and training hospitals.

Such a concept may necessitate a complete revolution in our thinking on medical education, but there should be no hesitation to face the issue squarely, in order to initiate the required modifications. The State can no longer ignore the demands of the health-conscious society, and urgent steps are called for to overcome the inadequacies and insufficiencies in delivering health care. Medical education has a responsibility to provide the necessary manpower and leadership, thereby re-defining its involvement on a broader social scale. Acceptance of such a role will greatly influence the organisation, quality and direction of health care.

17.10 The role of internship, in promoting the consolidation of skills and the knowledge of the science of medicine, is undoubtedly important. In the words of the Government of India Group on medical education and support manpower, "the period of internship which enables an undergraduate to acquire experience and mature from a fledgling to a fully grown medico is absolutely necessary". Medical educationists all over the country have however expressed serious misgivings about the practical utility of internship as it is organised to-day. So long as the interns themselves and the medical teachers continue to treat internship as the chrysalis in the evolutionary process of a medical graduate, the situation is not likely to improve. In any event the position of interns in a teaching hospital abounding in house-surgeons and post-graduate students is very tenuous.

The quest for infusing a new sense of purpose into the internship programme and enhancing its fruitfulness and relevance to the scheme of medical education, has inevitably led away from the traditional concept of hospital oriented training. The Group on Medical Education and support manpower, underscoring this basic reorientation of approach said "We recommend that the training of the interns should not be carried out in the teaching hospitals of the medical colleges but in the district, sub-divisional and taluka/Tehsil hospitals which should be used as the out-reaches of the medical colleges for entering into the Community. The Group went on to say that at the end of the formal under-graduate course (in fact even before it ends), groups of undergraduate students should be earmarked for being trained at selected taluka/tehsil/sub-divisional and district hospitals where proper facilities are known to exist. Such hospitals should also take on selected

communities within their catchment areas whose care would be the responsibility of the interns under the supervision of that particular hospital. The doctor in-charge of such a hospital, the interns attached to that hospital, along with staff of the department of community medicine of the medical college, should practice community medicine in such selected communities. In addition, the interns should be given practical training in curative and hospital practices under the guidance of the taluka/sub-divisional/district hospital doctors. For this purpose, the facilities available at such hospitals should be strengthened where necessary. This linkage should not involve all the departments of the medical college at once. It should first be tried at in the department of community medicine. Once these links are established, in respect of the department of community medicine, they can later be strengthened and also developed in respect of other specialised departments and faculties.

In the Groups view, "the internship period should be fully spent in the district/sub-divisional/taluka hospitals with occasional forays into the community through the primary health centres. We also think that internship training should focus on the doctor as a member and leader of the health team, the importance of continuous care, handling of emergencies, the use of combined preventive and curative services to the individual, the family and the community, the MCH and family planning care, the identification of entry points for family planning community involvement and the role of the physician as a health educator."

The Committee is in full agreement with this view. The involvement of the area level hospitals in the training of interns will cater to a dual purpose. Apart from bringing about a general improvement in the quantum and content of health care and referral services at the peripheral regions this would serve to emphasise the de-urbanisation of medical education and imparting to it the necessary community orientation. The Group has rightly stressed in this context the desirability of associating general practitioners of high standing and experience in the training of undergraduates.

B. Postgraduate Medical Education

17.11 The Health Survey and Planning Committee identified the purpose of post-graduate medical education as follows:—

"(i) To afford further facilities for the general practitioner to keep himself up-to-date in his field (This is of the utmost importance for it is on the general practitioners that the duty will largely devolve, of caring for the health of the patients entrusted to his charge and for the prevention of diseases by suitable advice to his client etc. and for the early detection of those diseases).

(ii) To enable the graduate; (a) to obtain proficiency by practice and study in the larger fields of surgery, medicine, obstetrics and gynaecology and social medicine, (b) to specialise in any of the fundamental specialities in medical or surgical fields, and (c) to equip oneself by specialized training and study with a view to pursue a career of research in medical services.

(iii) To train persons thus equipped either in general fields of medicine or in the specialities thereof to discharge the duties of the teaching profession in the faculty of Medicine."

17.12 One of the criticisms against the current system of medical education is that it does not equip the medical graduates for the three important functions that they have to perform: (1) patient-care (2) teaching of medicine and (3) medical research. Today a physician, be he a general practitioner or a specialist has to make use of intricate investigative procedures and complicated chemical preparations. Qualitative biophysical and biochemical findings do not satisfy him any more and he turns increasingly towards quantitative analysis. He therefore seeks the assistance and co-operation of non-medical scientists of different disciplines e.g. chemists, mathematicians, zoologists, and sociologists. This also requires a broad-based theoretical knowledge and understanding, not only in the sphere of biological science but also in the realms of pure sciences and social sciences.

The existing post-graduate teaching programme in most of our institutions is not geared to meet the new challenges of the rapidly expanding frontiers of knowledge. At present there is a tendency for colleges to vie with one another in starting departments of post-graduate study with inadequate facilities, with the teaching personnel deficient in number as well as in experience, and with little of the necessary technical know-how and scientific equipment available for a proper training of the post-graduates. Post-graduate medical education is essentially in the nature of in-service training, with the post-graduate students partaking of the responsibility for patient care and availing of the opportunity for treating patients or performing operating procedures independently. If the level of post-graduate instruction is to be improved, the institutions recognised for post-graduate education must satisfy more stringent standards.

17.13 Post-graduate education as structured today does not bear any relationship to the requirements of the health care system of the State. The production of a large number of degree and diploma holders neither related nor relevant to the developmental needs

and the schemes in different branches of medical practice, does not subserve any larger social purpose. Moreover, the present system has not led to the production of a balanced output of fully qualified, properly trained and professionally competent body of specialists in the different branches of medical sciences, needed for the specialised services within the community. The State's needs of qualified men with specialised skills in subjects like Radiology, Anaesthesiology, Psychiatry, E.N.T. and Paediatrics are far from fulfilled and many of the sanctioned posts of specialists in the health services as also in the teaching cadres, are vacant.

A perspective view of the problems of medical education shall have to be taken at the State level if problems like these are to be effectively resolved. The fact that the medical colleges of the State are attached to four different Universities and there is substantial variation in admission procedures, examination systems and the modalities of post-graduate registration add a new dimension to the problem.

During the Committee's visits to the Surat and Jamnagar medical Colleges, the issue of the inadequacy of facilities for post-graduate studies at these centres was raised by the students and the medical teachers alike. The Committee also learnt that the entry of medical graduates from these two colleges into the Ahmedabad and Baroda medical colleges, on the posts of Registrars and Housemen has got enmeshed in controversy over the question of preference for the graduates of the local colleges. The best solution to the problem would no doubt be, to encourage the development of all the specialist sciences in the various medical colleges. This might be also in the larger interests of patient care, since, modern facilities for investigation and therapy would become available at the attached hospitals. However the constraints on such a programme of expansion cannot be lost sight of. An interim arrangement shall have to be organised so as to make the optimum use of the resources on hand.

17.14 The Committee feels that the creation of a state level Council of Medical Education could provide the frame-work within which issues such as the one outlined above could be sorted out. The Council should be presided over by the State Minister in-charge of Health and have all the Vice-Chancellors of the Universities to which the medical colleges are affiliated, as members. One or two medical educationists of high standing (from outside the state) may also be nominated as members on the Council. The Additional Director of Medical Education should be the Secretary of the Council. There should also be a standing Committee on Post-graduate education and Research with the Additional Director as Chairman and the Deans of all

the medical colleges in the State as members. The Standing Committee can also have one senior professor from each of the medical colleges to represent the teaching fraternity. The main function of the Committee would be to help unify the post-graduate teaching programme, rationalize the process of selection for the resident posts at the teaching hospitals, review periodically the progress of the research efforts and evaluate concurrently the standards of post-graduate instruction.

17.15 Another major area of responsibility of the Committee would be, the selection of centres of excellence and coordinate their functioning. Earlier in the chapter on teaching hospitals, the Committee had adumbrated the need for synthesising the creation and expansion of super speciality departments as between the two teaching complexes of Ahmedabad City so as to derive the best deployment of scarce material and manpower resources. The same scheme has to be operated on a wider canvas, in so far as the other medical college centres are concerned.

In this context, the Committee would recommend that centres of excellence be created for teaching, research and patient-care specially in the superspecialities at selected medical colleges, where the resources in terms of staff and equipment, could be concentrated. For example, a department of neurosurgery or urology in a selected medical college, staffed with highly trained personnel and furnished with all the sophisticated equipment, would provide the people of State much more satisfactory service than at present and to the student, a high standard of post-graduate education. This will not be possible if all the medical colleges in the State were to compete in organising such departments, with the resultant dispersal of resources and dilution of standards of instruction and service.

17.16 At the medical college level, there should be the College Council of Postgraduate Education, consisting of the heads of the departments and 3 to 4 representatives of other categories of postgraduate teachers, to (a) screen the applicants for admission to postgraduate courses following strictly the Medical Council of India directives (b) formulate training programmes (c) ensure interdepartmental cooperation in teaching and research and (d) approve the subjects of thesis or dissertation.

17.17 The success of the entire programme of undergraduate and post-graduate medical education depends in a large measure, in the constant reassessment of the techniques of instruction adopted, in relation to the receptivity of the students. Involving the students in such a process could be fruitful. In fact, this is but a small part of the scheme of participation

of students in the entire sphere of activities of the College. It would therefore be proper that students find place on some of the important sub-committees of the College Council, like the curriculum, library, hostel and gymkhana committees.

Postgraduate Education in Public Health :

17.18 With seventy to eighty percent of the population of India living in rural areas, it is essential that all the national health programmes are so planned that the community remains the principal focus. The provision and management of health services have acquired new characteristics due to the adoption of the concept of 'comprehensive health care' with the Primary Health Centre as the operational base. Preventive medicine has come to occupy an important place in this reoriented concept. Medical education needs to be radically reorganised to encompass in its fold, the whole gamut of health personnel education including post-graduate education in public health so that they would be able to serve the present and future needs of the society.

17.19 The State has no Institute of Public Health but the departmental personnel could join the post-graduate courses in public health, organised by the Schools of Public Health in the other States in the country. The departments of preventive and social medicine could also organise these postgraduate courses and suitably formulated refresher courses. These courses will be organised for physicians involved in the public health service and administration, especially in the sphere of health planning, management and evaluation. Postgraduate education in public health will also be required for many other health personnel including non-medical personnel e.g. sociologists, economists, who are being more and more involved with the public health services.

Continuing Education :

17.20 The Royal Commission on Medical Education emphasising the need for Continuing Education said, "The great changes which have taken place in medicine and medical practice during the careers of doctors now retiring may well be exceeded by those which will be experienced by doctors now entering the Medical Register for the first time, who can reasonably expect to be still engaged in medicine in the twenty first century. All doctors, in whatever branch of medicine, must have the opportunity and the time for continuing education in order to keep up-to-date in his own field and to remain reasonably well acquainted with developments in others".

In the words of the Group on Medical Education and Support manpower of the Government of India the objective of continuing education is the "Training of a physician, not with a view to gaining additional degrees or diplomas, but with a view to assisting him to maintain and extend his professional competence throughout his life." Medicine is a life-long study. It is not possible for a general practitioner in private practice or a doctor employed in the peripheral health services to keep the scientific content of his medical knowledge abreast of modern developments. The doctor should be however equipped to handle competently the myriad problems arising in consequence of the ever increasing specialisation of professional knowledge and the changing ecological balance and social ethos of contemporary society.

17.21 Changes in the modes of health delivery would make a continuous process of education for the doctor and his health team imperative. It is not only a question of the provision of facilities for continuing education, but also a personal commitment on the part of the doctor to a life of learning. This would need a transformation in our basic educational technology at the undergraduate level to provide the student with curricula which would not only train him to be a doctor for a vocation but also infuse in him concurrently a love for learning and knowledge so that he remains for ever a student and a researcher.

The usual methodology such a programme should adopt is the organisation of refresher courses with as much personal involvement of the physician as possible e.g. workshops, seminars, symposia and clinical activities. Such training programmes are best arranged by the teaching institutions.

17.22 To make the programmes of continuing education successful the concerned authorities will have to take into consideration the constraints under which the general practitioners work, and offer suitable incentives that might be necessary to attract adequate response. While it may be comparatively easy for the doctors in the government service to attend such training programmes, the general practitioner who has obligations to his patients may find it difficult to leave his practice for any length of time. The monetary loss on account of the absence from practice and the extra expenditure on attending a course of training, may be the other consideration against his joining the refresher courses. It would be advisable to subsidise such training programmes. This idea should be acceptable to the government if it is realised that ultimate benefit of continuing education is the improvement in the quality of health care available to the society.

The Committee would also emphasise that such continuing education programmes should not only be confined to physicians, but also cover other health professionals e.g. nurses, para-medical workers. These should also be organised as multi-disciplinary programmes to improve the quality of comprehensive health care delivered by the whole team of health workers.

Training for Research:

17.23 The demand for research workers far exceeds their supply in the country. Because of the fact that most training programmes in the colleges are designed to meet the university requirements for graduation, with practically no attempt to provide experience in the field of pure research, the shortage of serious research workers is understandable. The situation is further complicated by the migration of talented and trained personnel to the more developed countries—the 'Brain drain' that has become the bane of scientific advancement of the country. There are a multiplicity of 'Push' and 'Pull' factors operating at any given time, the irrelevance of medical education to the health needs of the country, the imbalance between the production and utilisation of medical manpower, inadequate remuneration, professional and intellectual isolation, and insufficient equipment and supplies for effective functioning both in the community and the laboratory. Slow moving and rigid administrative procedures, have disheartened those in pursuit of higher research and considerations of lucrative job opportunities abroad combined with the social and institutional prestige of foreign degrees have driven many an aspirant towards yonder pastures.

17.24 Staff in the medical colleges have to engage themselves to a larger degree in hospital service, teaching and research programmes. The integration of teaching and research is thus desirable, and the adoption of this concept not only enriches teaching, but helps in increasing the country's research potential and the selection of future research workers. To achieve this objective, the training in research methodology should start at the undergraduate level and continue through post-graduation education programmes, to the teachers' career. The undergraduates should be encouraged to participate in research programmes of the department. This, however, presupposes a faculty keenly interested in research. It is, therefore, important to ensure the production of doctors with the correct attitudes towards medical research, and our educational programmes should be reoriented to help in the accomplishment of such an objective. A well defined policy for medical education is thus the basic need if medical researcher in the country is to make a meaningful impact.

17.25 The Committee is of the view that training in research methodology and engagement to a research project should be obligatory for the award of a post-graduate degree. The results should be embodied in the form of a thesis or dissertation. It would be desirable that postgraduate education should be imparted on a whole-time basis, so that the students could be associated in the departmental research programmes. In the case of in-service training programmes, the students could actively participate in research projects as technicians during the vacation for which they should be paid a stipend.

The permeation of the right atmosphere for research and the creation of institutional facilities will ultimately depend upon the attitudinal orientation of the staff, and the top-level support at the medical college e.g. a well equipped and staffed Division of Experimental Medicine and the quality of research programmes of the department. This can be further supplemented by the organisation of research conferences and problem-oriented seminars.

The introduction of a research-bias in postgraduate education is likely to play an important part in all fields of medical education including teaching, research, general and specialist practice. It will pay to emphasise that medicine is a life-long study.

Medical Research

17.26 The process of economic and social change during the last two decades have brought about a metamorphosis of the health and disease pattern in the community calling for redoubled efforts to provide and expand the facilities for medical research in the country. The need for the widening of the scope of medical research realised and entering hitherto unexplored avenues of study was to some extent met by the creation of institutes of postgraduate education and research under the Government and the Indian Council of Medical Research, and by encouraging research in the medical colleges. The factors which deterred the smooth progress and expansion of medical research in the country in the earlier decades such as lack of trained personnel, absence of governmental initiative in providing incentives and funds, and the apathy of medical colleges and the universities in the development of research, have to an appreciable extent, been overcome, though much more has yet to be done. Those responsible for the organisation of medical research have yet to realise that effective research, whether fundamental, applied or developmental ensuring the fullest utilisation of limited resources, can only come out of medical colleges with their well equipped laboratories and trained personnel.

17.27 In any comprehensive consideration of medical research the question which inevitably arises is of the distinction *inter-se* and relative importance of basic research, applied research and developmental research. The Committee feels that all the three facets of the quest of knowledge are vital for the welfare and happiness of mankind. However, a balance has to be struck keeping in view the realities of the situation including the availability of funds, equipment and manpower.

17.28 The Committee after visits to all the medical colleges in the State and discussion with the staff has come to the disappointing conclusion that by and large a research atmosphere has not been generated in the State. There are no doubt, some teachers who are doing excellent work and have made useful contributions towards the advancement of knowledge but that is a far cry from an integrated and objective-oriented programme. The Bhore Committee had mentioned two important reasons for the apathy of colleges towards research (a) ignorance on the part of authorities of the importance of research in relation to the maintenance of a high standard of teaching and development of the right attitude of mind in the student and (b) insufficient personnel of the right type. These two constraints are as valid today as at the time of the Bhore Committee's Report. It should be impressed on the staff of the medical colleges that besides expanding the horizons of knowledge research offers solutions to a host of new problems of relevance to the administration of health care systems.

The Committee recommends the formation of State Council of Medical Research under the chairmanship of the Additional Director of Medical Education and Research with members drawn from all the five medical colleges. The council should establish linkages with the ICMR, CSIR, ICAR and the Defence Research Council. The Government would do well to make specific budget allocations for medical research and place grants at the Council's disposal to support research projects in any of the recognised institutions in the State. The Council could also create a permanent cadre of research technicians who could be allotted to various projects.

17.29 The College Council of Postgraduate education as suggested elsewhere could be expanded into a College Council of Postgraduate Education and Research. The Council should act as a catalyst to stimulate research and critically scrutinise all research projects submitted by the teachers of the institutes to the State and national research councils for support. The financial support to the institutes could be in the form of funds for *ad hoc* research projects—individual or

collaborative, and setting up of semi-permanent units creating the nuclei of research and training in specialised subjects for which there is need but facilities are unavailable. These are established to enable the study in-depth of a specific problem over a number of years. The units are located in institutes with the requisite expertise and interest in the subject which could be augmented by further support. One such area of excellence could be the "metabolic diseases research" unit in the department of medicine of the B. J. Medical College, Ahmedabad.

17.30 The Committee feels that to augment the research effort of the State and to meet the necessary manpower demand there is need for an appreciative understanding of the point of view of a research-scientist. These researchers are disenchanted with the present work environment and feel that the

rewards of research are niggardly. Some of their problems could be high-lighted; unattractive salary grades to research workers which deter aspiring young men primarily groomed for lucrative clinical careers from selecting research as their pursuit, rendering them ineligible for jobs needing teaching experience, inability to avail of any foreign research fellowships because of the non-permanent nature of the research job. General improvements of salary scales and the provision of incentives, both monetary and non-monetary would help overcome the reluctance to take to a career in medical research. It might be further helpful if the wholetime research workers attached to the University departments are given the status equivalent to the medical teachers and prestige, so that any lack of a sense of security and uncertainty of future prospects may not act as a deterrent to the choice of research as a career.

18. MATERIALS MANAGEMENT

18.1 The principal sources of drugs and medical supplies to the hospitals are (1) The Medical Stores Depot, Bombay (2) DGS & D Rate Contract Firms (3) The State Rate Contract Firms (4) The Vaccine Institute at Baroda (5) Emergency local purchases by the heads of the different hospitals. The purchases by various hospitals are not centralised and the role of the Directorate of Health Services in the process, is restricted to the fixation of rate contracts, release of grants and general supervision. In addition, the Director has been empowered to make local purchases upto a limit of Rs. 50,000/- per year per item when rate contracts are not operative.

In the case of the Employees State Insurance Scheme the purchases of medical supplies are centralised at the ESI directorate and stocks made available to the hospitals and dispensaries run under the scheme. The Government of Gujarat have done well to constitute a separate medical stores purchase committee under the chairmanship of the Director of health services with the Director of the Drugs Control Administration, the Joint Director, (Stores Purchase) of the Commissionerate of Industries and the Financial Adviser (Stores Purchase) among the members. The committee is expected to attend to the following functions particularly;

(i) Preparation of detailed lists in consultation with the Director, Drugs Control Administration, of items and of manufacturers capable of ensuring the supply of quality goods. The Director is expected to constantly review the production capacities and the quality of goods manufactured by all the licensed pharmaceutical units in or outside the State and the list is to be revised from time to time by the committee;

(ii) Consideration of the question of entering into long term arrangements for supply, in order to encourage small scale units which are capable of ensuring consistently good quality;

(iii) Ensuring that the small scale and medium scale manufacturers are not excluded at the time of preparing the list of competent manufacturers;

(iv) Not encouraging unduly, large scale manufacturers who are subsidiaries of foreign concerns and maintain their prices higher than would be justified in relation to the costs of production;

(v) Reviewing the packing specifications for different products and ensuring economy in packing requirements.

18.2 The general experience in regard to the supply and availability of medical stores at the various hospitals cannot be said to be satisfactory, despite the procedures outlined above. Predictably, the main complaint is of the inadequacy of budget grants. The other major cause of dislocation of supplies was stated to be the dependence on the medical stores depot at Bombay, which takes an inordinately long time to honour the indents and is more often than not, unable to meet the requirements. In the case of the rate contract firms also, the problem frequently is, of delayed deliveries, defaults and intermittent supplies. The situation was stated to be really serious in the case of some of the small scale units within the State.

18.3. The result has been an indiscriminate resort to the powers of local purchase and the mounting pile of audit objections. Complaints from the public, of hospitals running out of supplies and even every day items like gauze and gloves not being available, however persist and the situation at the major hospitals appears to be getting out of hand. Most of these maladies can be remedied under an efficient system of materials management, the basic objectives of which are two fold; firstly to evolve an arrangement of supplies that will ensure that there are adequate stocks, but not too much at any given time, properly stored and easily retrievable and distributed to the points of use according to needs; and secondly, to make sure that available resources are used optimally and purchases are made at the most competitive prices, for the required quality of supplies. In operative terms this has to be concretised through several steps;

(i) To estimate as accurately as possible the types and quantities of materials required and to specify the quality;

(ii) To organise supply from different sources on the most economical terms;

(iii) To ensure that deliveries are according to predetermined schedules, and quality specifications are fully met;

(iv) To arrange for proper receipt, storage, issue and accounting;

(v) To establish sound inventory control procedures and;

(vi) To devise safeguards against pilferage and malpractices in ordering supplies and distribution to the user institutions.

18.4 *Central Stores Organisation.*—The Committee is of the view, that in order to ensure that the requirements of all the medical institutions are met in time and the flow of supplies is properly regulated, it would be desirable to think in terms of a central organisation for provisioning, procurement and distribution of stores.

While this would essentially be in the nature of a non store holding purchase organisation, it could effectively coordinate the demands from various hospitals, primary health centres and dispensaries, institute rate enquiries and establish rate contracts with the manufacturers directly. This organisation should consolidate all requirements, large or small from all the medical institutions, district wise and arrange for direct supplies to the District Medical Officers and the District Health Officers from where supplies would flow to the peripheral institutions. This would on the one hand facilitate bulk orders being placed and economies of scale being derived therefrom and provide for centralised control on the movement of stores, on the other.

18.5 The Committee noted with some measure of concern that there was no uniformity in the procedures of purchase of medical stores adopted by the District Panchayats. The powers to purchase drugs, medicines and equipments for all the PHCs, and rural dispensaries vest in the District Panchayats, but there appears to be no common system of purchase of drugs and medical stores and each District Panchayat have evolved its own methods. Some District Panchayats like those of Kheda and Bulsar have sub committees, which are responsible for regulating all the purchases. The indents are obtained from the various peripheral units and then tenders are invited. These tenders are scrutinised by the members of the sub-committees which include the medical officers from the primary health centres and dispensaries. Other District Panchayats have given the power to the District Health officers, who decide the purchase in consultation with the District Development Officer. The working procedures and the pattern of delegation of the powers also vary from one District Panchayat to another. The Committee strongly feels that the District Panchayats should also avail of the services of the central stores organisation and obtain their requirements of medical stores through it. Apart from helping in the process of standardization of drugs and equipments used, this would be economical also. The possibilities of malpractices that always exist when a large number of agencies are dealing with purchases, could be eliminated under the centralised arrangement.

18.6 The central purchase organisation should issue guidelines to all constituent units on indenting stocking, accounting, stores verification, write off of

losses, accounting of short-life items and stores preservation, from time to time. This organisation in collaboration with the State Drugs Control Administration should ensure the quality of drugs supplied to the hospitals, by arranging for the supplies being tested at regular intervals. Periodical inspections and stores audit should also be undertaken by this organisation.

18.7 The Committee has recommended elsewhere, the pattern of staffing for the section dealing with medical stores, at the Directorate. The head of the unit should be a senior medical officer and he should be assisted by a senior pharmacist. He should function as the secretary of the medical stores purchase committee. The purchases wing of the ESIS should also become a part of this organisation. The Committee is aware that several details of the new scheme require to be worked out and feels that it may be worthwhile to appoint a departmental Committee to prescribe the detailed working arrangements.

18.8 *Medical Equipment Scale.*—The provisioning action to be taken by the medical stores organisation can be greatly simplified if the medical equipment scale for medical units of different sizes, dispensaries, primary health centres laboratories and specialist centres and departments, are drawn up. The scale should include all items and their quantities, representing the general requirements of the units concerned. Anything outside the scale applicable to the institution, can however be procured after special authorisation. Laying down such an equipment scale will ensure that each category of institutions is uniformly equipped and supplied. Package indents for the smaller hospitals can also be usefully adopted.

18.9 *Vocabulary of Medical Stores.*—To facilitate the assessment of requirements, provisioning, procurement and accounting, it is necessary to have a catalogue of all items of stores which represent the regular requirements of the various institutions. This catalogue can be divided into different groups, each representing a particular class of medical stores and equipment. It should, however be ensured that items which are required sparingly and in very small quantities do not form part of the catalogue, as their central provisioning will be uneconomical. The vocabulary will show the accepted terminology of different items, their accounting unit, specification, packing requirements and rates.

As far as possible, pharmacopocial nomenclature or generic names should be adopted, to allow for wider competition among the suppliers. Whenever it becomes necessary to have proprietary products, efforts should be made to list other equivalent proprietary products be acceptable; in lieu. As a necessary corollary, doc-

tors at the Government and Panchayat medical institutions should be dissuaded from prescribing branded, patent and proprietary medicines which, if supplied inflate the drug bill. The basis of treatment of the hospital should appropriately be the national formulary. The treatment should also be prescribed by the pharmacopea or the generic name, except under very special circumstances.

18.10 *Medical Stores and Equipment Panel.*—A Committee of professional experts in various fields should be constituted as the Medical Stores and Equipment Panel. The function of this panel will be to periodically review and revise the vocabulary of medical stores and the medical equipment scale for various units. Another important sphere of action of the panel will be to recommend the introduction of newer and more effective drugs and improved equipment and the deletion of items which are obsolete or have been replaced by better products. Only the items recommended by the panel should be purchased and supplied, to the various hospitals.

18.11 *Procurement of Medical Stores.*—The Medical Stores purchase Committee which will be the main guiding force behind the entire medical stores organisation, will depend for its success, on the preliminary work done by this agency. Collection and scrutiny of indents, determination of the quantities of supply drawing up specifications and delivery schedules shall have to be attended to meticulously and the processing of tenders and placement of orders and follow up of the actual flow of supplies, also would need to be streamlined. While the open tender system and the procedures of scrutiny and acceptance of tenders are essential safeguards, the Committee feels that due attention has also to be paid to the capacity of the tenderers and their past record of performance. The State Drug Control Administration, as the licensing authority would be in a position to arrive at realistic estimates of the capabilities of the different manufacturing units, located inside the State. In the case of parties from outside the State, detailed enquiries would have to be instituted to ensure that supplies at contracted rates would be regular.

In this connection the Committee feels that a policy of preference to the small scale manufacturing sector should be pursued with the utmost circumspection. The procedures for locating alternative sources of supply being subject to serious delays, the consequences of default by one of the small scale units could be serious, for the hospital supply system. In this context the Committee learns that some of the States of the country have adopted the practice of direct purchase from the public sector drug manufacturing units. Apart from the benefits accruing from the standard quality

of such products, the public sector units being more advantageously placed, in regard to raw material availability could perhaps be expected to adhere to delivery schedules with greater regularity.

18.12 The Committee learns that the Indian Standards Institution has developed standards, for a large number of items of medical equipment. The Committee also understands that the Gujarat Government has already issued instruction to the effect that goods bearing ISI certification, should be preferred. During the Committee's visit to the ISI, it was pointed out that in a number of cases, the ISI certified products had to face undercutting of prices by the rival manufacturers and competitive price advantage was thus against them. The Committee feels that a certain definite margin in terms of price, may also be allowed in favour of the ISI certified items, in order to make the policy of preference for products conforming to the ISI standards, operative.

18.13 *Stores Inspection and Quality Control.*—Elementary precautions taken at the time of taking deliveries, can go a long way in avoiding losses to the Government. Scrutiny of shortages, breakages and other damage should be insisted upon. On receipt of stores from the rate contract firms or local suppliers, it would be essential to check that the specifications have been fully met. Periodically, samples will have to be taken and sent for testing and verification of the ingredients. The date of expiry of short life drugs should be checked to ensure that at the known rate of consumption, the items would be used up before the dates of expiry, indicated. Action will also have to be initiated in cases of late supplies, non-fulfilment of specifications or unauthorised staggering of supplies. It will be ideal if the State can build up in course of time its own inspection organisation so that purchases of large value could be subjected to prior laboratory examination before final acceptance of stores. Till such an organisation is established, it will be advisable that the purchases are made only from reliable suppliers and visual inspection is carried out by a panel of professional experts before the goods are accepted. Drugs could be considered for acceptance only on the production of a certificate of the quality from one of the recognised laboratories in the country.

18.14 *Storage.*—Great care requires to be taken regarding the storage of medical stores, at all the larger hospitals which hold large stocks of drugs. The stores should have two cold rooms one with a temperature range of 35°-50° F and the other with temperature between 60°-80° F. Items like sera, vaccines, X-ray films, ether, chloroform etc. should be kept in the former and most of the injectables, vitamins, rubber goods etc.

are to be stored in the latter. Poisons and dangerous drugs should be kept under special scrutiny precautions.

The stores should be arranged in groups according to dates of time expiry. The batch nearest to the date of expiry should be placed in the front row to be picked up first. Care should be taken that the stores are protected from the adverse effect of heat, light and moisture.

18.15 *Provisioning Procedure.*—The system of central provisioning is conducive to economy and lends itself to proper quality control. The provisioning process should be so designed that the provisioning action is initiated approximately one year in advance with a suitable cushion of three months requirements in stocks. The supplies for items having a limited life of two to three years should be procured in convenient instalments in order to avoid accumulation and time expiry.

So far as the expendable stores, drugs and chemicals are concerned, there can be no scale and these are used on an "as required" basis. Great care has to be given to the level of stocking, both in the depots and hospitals and medical units. Over insurance is uneconomical and at the same time, this causes damage and deterioration. It is at the same time necessary that certain procedures are evolved for holding stocks in hand in order to avoid being overtaken by shortages. There are certain items which are fast moving and the others are slow moving and the life spans are also different. An intelligent appreciation has, therefore, to be made taking into consideration the actual and anticipated consumption levels and the time lag involved in procuring the supplies. Based on this appreciation, stocking can be done to cover a period of one month for some stores as x-ray films, two months for items having a life of two years or less and four to six months in the case of other items.

A periodical review should also be carried out of holdings in all medical units with a view to ensure timely disposal of stocks. Large surpluses should be moved to needy areas if necessary.

18.16 *Indenting Procedure.*—All medical units should submit their indents to the medical stores organisation regularly on fixed dates. The quantities asked for should be based on past experience and there should be no tendency to accumulate medical stores in the respective stores.

It will be a good rule to submit indents every two months for x-ray films, medical gases, transfusion fluids and items having a life of not more than three years. For other items indents may be placed twice a year.

18.17 *Inventory control.*—General guide lines can be no substitute for proper inventory management. Scientific inventory control procedures should be adopted with a view to maintain investment at the lowest level consistent with consumption levels and the financial provisions. The cardinal principle of inventory control is, that items of high annual consumption are ordered more frequently so that the inventory holdings are as low as possible. In the case of items whose annual consumption value is comparatively lower, orders could be less frequent and stocks can be maintained on hand.

Two of the generally recognised systems of inventory control are (i) the cyclic system and (ii) the 2 Bin system. The essence of the first of these two systems is, that the stock situation is reviewed at definite time intervals with regard to the availability, rate of consumption etc. in order to place orders. The quantity ordered on each occasion will vary in relation to the stock on hand and future requirements. Under the 2 Bin system, purchases are made when the stock reaches a predetermined level and the quantity ordered is more or less constant. Generally, the cyclic system is well suited to the supplies from medical stores depots and the 2 Bin system can be adopted in the event of rate contract purchases. For each item of purchases there should be the ABC classification supplemented by the V.E.D. analysis, so as to establish control procedures valid both on the basis of consumption and vitality. The fixation of lead time, safety stock, reorder level and economic ordering quantity are the other key features of the inventory control system.

18.18 A related issue is that of stock turnover. Special efforts are need to ensure that items are not left over beyond expiry dates. Expiry dates entered on control sheets, to keep track of the flow of such items should be insisted on and if the stocks on hand are large, they should be diverted to other institutions. Some items become non moving on account of obsolescence, deterioration or date expiry. Care should be taken at the stores to reduce this occurrence. A list of such items should be annually compiled and a committee of doctors should go into the reasons for non use and suggest ways and means of bringing them into use wherever possible. Encouraging and promoting their use in the OPD or the wards or disposal to non governmental medical institutions by inviting tenders from outside buyers may have to be thought of.

18.19 *Store Accounting.*—Great stress should be laid on stores verification and accounting. Medical stores and equipment in the larger hospitals should be held in the charge of a full time officer. The officer-in-charge of the medical store should be responsible

for the safe custody, proper storage, maintenance, preservation and turn-over of stores.

Issues of medical stores from the main store should be made to the hospital dispensary in small bulk for supply to the wards and departments. The flow, therefore, is from main store to the dispensary and from dispensary to the various indentors in the hospital. Issue of stores from the main stores to the dispensary should be done once or twice a month and charged off from their ledgers. It is in the dispensary where daily transactions take place with a large number of customers, and it is here that proper vigilance is needed. A 'Day Book' should be maintained in the dispensary which will show details of issues supported by indents, which are serially marked. The indents should bear the signatures of the issuer and the receiver. A regular check of a certain percentage of the issues should be carried out by the Deputy Superintendent of the teaching hospital or the RMO of the district hospital. Frequent surprise checks by the higher authorities will also have a salutary effect. Internal audit and physical verification of stores periodically will also supplement the efforts at proper stores accounting.

18.20 Pilferage of drugs is one of the major problems spheres of materials management at the hospitals. This can be held in check by reducing the variety of items stored, proper labelling of containers and marking the drugs supplied for the hospital with special distinguishing marks. Pilfer proof caps for liquid orals and strip packings with special inscriptions such as "for government use only" may also be arranged. The use of printed indent forms for indenting stores from outside as for distribution within the hospital, should be insisted upon. Out-patient prescriptions should be serially numbered and the full names of the doctors issuing them should be asked to be written thereon.

18.21 *Local Purchases.*—The Committee is aware that local purchases of medical stores are not entirely avoidable, but feels that they should be resorted to sparingly. Such purchases could be justified only when a particular item is out of stock and is needed urgently or when an item is not available from the medical stores and is not also on any rate contract and is required for day to day operations. In the State, the Superintendents of hospitals have powers of local purchase upto Rs. 2,500/- per year and the Superintendents of teaching hospitals upto Rs. 10,000/- per item per annum. The DHS has also similar powers of local purchase upto a limit of Rs. 50,000/- per items per year. These powers are exercisable subject to the condition that no rate contract for the same item is in force. The Committee feels that these powers are ade-

quate but is of the view that local purchases should be avoided to the utmost, by taking care to place indents through the medical stores or through the rate contract sources well in time. When local purchases become inevitable they should be made through reliable agencies or from the manufacturers themselves. A list of approved suppliers may be drawn up for each hospital in consultation with the State's Drug Control Administration. It should also be incumbent upon the authority taking recourse to local purchases, to furnish details, of the item, date, quantity, mode, source and price of purchase and the reasons for purchase to the Director of Health Services as soon as possible after the purchase.

18.22 *Repairs and Maintenance of Medical Equipments.*—During the visit to several medical institutions, the Committee frequently heard complaints of inadequate facilities for the maintenance of hospital equipments and instruments. Normal maintenance apart, even arrangements for repairs were insufficient and the heads of the hospitals did not have sufficient powers to order repairs to be carried out locally. The position appears to be even more serious in the case of the rural institutions. It is estimated that a capital investment of the order of Rs. 30/- crores has been made by various international agencies and the Government of India, on the supply of equipments to the medical institutions in the State. The PHCs, the Referral hospitals and other health institutions that have been supplied with these equipments are scattered throughout the State and the problem of their maintenance and repairs is therefore very real. Once out of order, the equipment remains out of use for weeks on end and in the intervening period the inconvenience caused to the user public is enormous.

The Committee feels that the problem has to be tackled on two fronts. In the urban centres where facilities for regular maintenance of different equipments are available, service contracts should be entered into either for a large number of hospitals together or regionwise as may be convenient. Sometimes the manufacturers and their authorised distributors would themselves undertake to provide maintenance services of sophisticated equipments.

18.23 The difficulty experienced by some of the outlying medical institutions can not however be solved in this fashion. It would therefore be necessary to organise a central workshops at Ahmedabad and regional workshops at the various medical college centres, to cater to the maintenance needs of medical institutions in the region and to undertake minor repairs to equipments. The Committee understands that an electronic workshop has been set up at the Civil Hospital,

Ahmedabad in 1972 and this workshop attends to the repairs of electronic equipment received from all the district hospitals. This is a good beginning and with the experience gained over the last three years, it should be possible for the Government to expand the workshop and the scope of its activities and strengthen its organisational set up.

Government has sanctioned two pilot projects comprising mobile teams, for servicing and maintenance of equipment at the peripheral institutions. It is however clear that two teams would not be able to cover the entire State and if the services provided by such units are to be timely and comprehensive there should be at least one such unit working in each region attached to the medical college.

The central workshop should have a regular system of indenting spare parts and particularly components of imported equipments and spares not locally available.

18.24 The problems of maintenance and repairs of the large fleet of vehicles also deserve special attention. Here again the requirements of the PHCs and the rural hospitals merit high priority since their working should be seriously impaired, in the absence of the vehicles or the ambulances available with them. The Committee feels that the regional workshops should have their own transport wings working under specially trained staff and generally under the control of the transport officer of the Directorate of Health Services. The following important issues should also be borne in mind in connection with the management of a large fleet of vehicles.

(i) A clear policy of replacement of unserviceable vehicles is necessary. It seems that vehicles supplied by the Government of India or the International Agencies are to be replaced at the cost of the State Government and a large proportion of the fleet is nearly due for replacement;

(ii) The ceiling limits on maintenance have been fixed several years ago and are in need of suitable revision;

(iii) A scientific programme of inventory holdings in spares and accessories should be worked out;

(iv) Purchases of spares and materials for repairs should not be subject to procedural rigidities. Direct purchases from manufacturers at prices notified by them may be permitted;

(v) The heads of medical institutions should have sufficient powers to authorise emergency repairs to ambulances and essential vehicles;

(vi) Medical Officers of the PHCs may be authorised to incur an expenditure not exceeding Rs. 100/- on each occasion, on emergency repairs to the PHC vehicles without any insistence on tenders or quotations. A certificate of the emergency nature of the repairs may be asked to be furnished and an annual ceiling on such expenditure may also be fixed;

(vii) As recommended elsewhere, the workshop facilities available with the State Transport Corporation and the Public Works Department may be availed of, fully, and both these authorities may be approached to assign top priority to the repairs of ambulances and essential vehicles.

It would be of advantage to constitute a small departmental committee consisting of the Hospital Engineer, the Transport Officer and the Financial Controller of the Directorate to advise on the most economical methods of purchases of stores and spares and deal with selection and quality control of supplies, modes of payment and authorisation of purchases of an urgent nature.

19. HEALTH STATISTICS AND DATA PROCESSING

19.1 The Committee would strongly urge the need for organising a dependable system of compiling and reporting of health statistics as the meaningful basis of electronic data processing. This is of particular significance to the hospital sphere, since, crucial decisions on the creation and expansion of hospital facilities have to be taken, keeping in view the most economical dispersal of available resources and the potential to derive the potimum advantage of their actual employment.

19.2 Hospital statistics can be grouped under two broad heads (i) those relating to the institution and the services it offers and (ii) those based on the patients. The former could be sub-divided further, into (i) statistics of hospital resources, (ii) statistics of the utilisation of the facilities of the hospital, which will include data on patients flow and turnover, days of care and details of the use of professional services like operations, deliveries, out-patient visits-X-Rays, laboratory investigations and ancillary services; and (iii) administrative and financial information.

The position regarding the collection of statistics, their processing and analysis as it is today, gives rise to serious misgivings about the reliability of the reported figures and the authenticity of the analysis based thereon. To cite the Committee's own experience, the data furnished in response to the Committee's requests, on different occasions by the Directorate, on the number of hospital beds, the number of dispensaries, the nature of services available at the various institutions, the authorised strength of staff of different categories, was found to be lacking in clarity, consistency and coverage. The fact that some medical institutions are managed by the health section has perhaps contributed to the prevalent confusion.

19.3 The Committee would impress upon the Government the vital necessity of a concerted attempt to obtain bench mark data on the hospital services and the resources available at different medical institutions in the State. The Committee has observed that a large number of non-government medical institutions have sprung up in several parts of the state. Some of them are under some measure of government superintendence for purposes of grant-in-aid. A large number, the Committee learns, are not in receipt of any government assistance and are thus entirely outside the department's purview. Planning the future programmes of expansion

of hospital services can not be undertaken with the necessary objectivity and purposefulness, unless the department has a clear picture before it, of the nature and extent of institutional medical aid available in any local area. This, besides ensuring avoidable duplication of facilities in any area, can also help in achieving their most beneficial distribution.

Statistics of the utilisation of different hospital services would constitute a valid basis for the planning of space, staff and equipment and the evaluation and improvements of the standards of patient care. Administrative and financial data, comprising information on the numbers of personnel, their categories and working conditions, facilities for training available, income and expenditure figures, are vital for an appreciation of the hospital's requirements in terms of men and materials.

19.4 Statistics involving the patients would lie at the core of any plan for achieving a proper spread of hospital services in the Community. In addition to the allocation of beds and staff, organisation of specialists services and an identification of community health problems could be scientifically handled with reference to such data. The important items to be covered are (i) cases and days by residence of patients; (ii) cases and days by diagnosis; (iii) operations by diagnosis; (iv) cases at the OPD by diagnosis and (v) movement of patients, covering (a) the number in the hospital at the beginning of the year, (b) number of admissions/births during the year, (c) total under care during the year, (d) number of discharges during the year, and (e) number in the hospital at the end of the year.

19.5 The Committee is of the view that the statistical section of the Directorate requires to be strengthened in order to do full justice to the demands of the future. One of the first tasks to be taken on hand, is the framing of appropriate proforma for reporting and streamlining the flow of information from below. Brief orientation training of the personnel concerned with the posting of data entries and compilation of information at the hospitals should be organised in collaboration with the State Bureau of Statistics. The Committee expects that the Deputy Director of Policy planning and Evaluation should bestow priority attention on this important matter.

19.6 *Electronic Data Processing.*—Electronic data processing is a valuable management aid and the system

has the following capabilities that could be gainfully utilised in relation to the specific needs of health administration to evolve sound parameters of perspective development.

(i) *Data base capability.*—With its inherent capacity for storing a large mass of data, in a relatively small storage area, on tape, disc, or drum, the data bank system serves as a powerful technique of building up information, updating it regularly and making it available to the user.

(ii) *Time capability.*—Processing speed being extremely high, the computation of information can be done almost instantaneously.

(iii) *Selective processing.*—Selective processing of data can also be resorted to, oriented towards specific areas of decision making. For example, the rejection of a stores indent can be brought to the attention of the management, when the minimum stock level for that item has been reached, with a simultaneous report of the stock position.

(iv) *Capability in dealing with changing conditions.*—This system has a major significance in providing the management with flexibility, to deal with changing conditions.

(v) *Capability in dealing with interrelated variables.*—The system can evaluate various inter-related factors for management decisions.

19.7 Electronic data processing involves, systems analysis, feasibility study for modification of the system of inflow of information, and programming for desired outputs, at predetermined intervals speedily and accurately. For the State's health services the potential areas of electronic data processing are outlined in the following paragraphs.

(i) *Health Intelligence.*—The State Bureau of Health Intelligence collects a large volume of health statistics which are recorded and processed for further use. E.D.P. can be employed in recording and processing information on total deaths and births in each village, taluka and district. Mortality figures can be further classified according to diseases, age, sex and religion. Similarly infant mortality rates, maternal mortality rates, cause specific death rate etc. can be computed.

(ii) *Family Planning Statistics.*—The whole range of family planning statistics can well lend itself to being computerised. Recording of information on (a) Target couple register (b) fertility

rates (c) number of infant deaths (D) number of families practicing F.P. methods (e) number of acceptors (f) knowledge aptitude and practice. (KAP) studies etc. can be recorded under the E.D.P. system. This information can be further classified and reprocessed for getting more detailed information.

(iii) *Hospital Morbidity Statistics.*—The number of hospital admissions, discharges and deaths in all the hospitals of the state can be recorded. Similarly the out-patient attendance in all the hospitals classified age, sex and diseases-wise can be recorded. Further cross referencing in relation to the areas of residence, occupation and income groups could also be undertaken.

(iv) *Hospital Activity Analysis.*—Information regarding the number of laboratory examinations done, number of X-Ray films used and the other investigative procedures utilised, can be recorded and analysed to study the pattern of professional activity and the utilisation of various services in the hospitals. The data can be analysed to evaluate the application of resources, in qualitative and quantitative terms. Reduction of excessive patient days in the wards and overworking of the hospital services can be detected and corrective measures, taken.

(v) *Medical Records.*—Clinical records of patients discharged from hospitals are now stored in almirahs/racks at all the hospitals. Such records should really be kept in manila envelopes and placed in racks in a systematic way giving serial identification, numbers and arranging them in a proper chronological sequence. This information can best be stored in the computer. Case sheets of all patients discharged from the hospital suffering from particular diseases can be quickly and efficiently retrieved. This is an important requirement for follow up and for research. At a later date salient clinical features of important diseases treated in hospitals can be stored directly on the computer. It is essential however that hospitals record the diagnosis strictly in conformity with the international classification of diseases and causes of death. The nomenclature and coding number must invariably be used in all cases.

(vi) *Medical Stores.*—Medical Stores are required to stock a large number of drugs and a constant check has to be maintained to hold a minimum stock level. An efficient inventory control system should therefore be developed and

various policies/criteria laid down in stocking of drugs, based on computerised inventory analysis and forecasting. The determination of minimum stock levels and reorder quantities will be greatly facilitated by adopting these methods.

Periodical evaluation of the expenditure on medical stores can also be carried out with the following objectives:

(a) expenditure pattern of certain specific drugs, dressings and X-Ray films.

(b) Variations in expenditure according to the size of the hospitals;

(c) determining the scope for economy.

(vii) Inventory control of spare parts for different equipments and the large fleet of vehicles can also be introduced. Such a system will help in avoiding shortages and give a clear picture of the total inventory in stock. The system can further be extended to prepare various inventory manage-

ment reports like (i) ABC analysis, (ii) Cost-Centre-wise issues, (iii) Purchase order follow up, (iv) Indenting of orders and (v) vendor performance reports.

Information on the various assets of each of the hospitals like beds, wheel chairs and scientific equipment like X-Ray machines can be stored on a computer file along with their values and expected life spans. This will help in devising a rational policy of distribution of assets. It would also be possible to devise a cogent schedule of replacement of equipment, vehicles and durable supplies with reference to their active life span and the known rate of deterioration.

(viii) In the sphere of personnel management the department can adopt the personnel inventory system, compiling computer data files of the bio-data of medical officers of different categories including specialists and medical teachers. The file will have to be updated periodically and can prove to be an excellent aid in the sphere of personnel administration.

20. ACKNOWLEDGEMENTS

The Committee would like to express its gratefulness to His Excellency the Governor for his encouragement and interest in the Committee's work. The officers and staff of the Health Department at the Secretariat and at the Directorate have provided willing support and cooperation and have rendered all help to the Committee in its work. The Committee is grateful to all of them. The Committee also thanks the large number of officers and staff members of the district health organisation who made the necessary arrangements for the visits to various medical institutions in the State. The discussions the Committee has had with various professional groups and prominent individuals have

been of invaluable help in formulating the recommendations in the report. The Committee is beholden to all of them for sharing their thoughts with the members. The Committee would also like to thank the Liaison Officer of the Gujarat Government at Delhi and the staff of the Gujarat Bhavan for the courtesies extended by them.

(Sd/-) S. N. Chatterjee.

(Sd/-) P. N. Wahi

(Sd/-) M. J. Bhatt

(Sd/-) V. Krishnamurthy.

APPENDICES

APPENDIX I

Committee on Hospital Administration

GOVERNMENT OF GUJARAT
PANCHAYATS AND HEALTH DEPARTMENT
Resolution No. MCG, 2574/686-N,
Sachivalaya, Gandhinagar, dated the 30th January, 1975.

RESOLUTION

Government has had under consideration the need for a complete overhaul of Hospital Administration in the State as also the restructuring of the State Directorate of Health Services. For this purpose, Government is pleased to appoint a Committee with the following composition:—

Lt. Gen. S. N. Chatterjee (Retd.),
PVSM, MC, FAMS,
Former Director General,
Armed Forces, Medical Services ... Chairman

Dr. P. N. Wahi,
M.D., D.Sc., F.R.C.P. (Lond),
F.C. Path, (Lond), F.A.M.S.,
F.I.A.C., F.N.A.,
Former Director General,
Indian Council of Medical Research ... Member

Dr. M. J. Bhatt,
M.B.B.S., D.T.M. MPH (USA),
Former Director of Medical Services
(ESIS), Gujarat and Former Medical
Commissioner, E.S.I. Corporation. ... Member

Shri V. Krishnamurthy, I.A.S.,
Deputy Secretary to Government of
Gujarat, Panchayats and Health
Department ... Member-Secretary.

2. The terms of reference of the Committee will be as follows:—

(i) To study the existing structure and functioning of hospital administration and hospital services in the Teaching and Non-Teaching Hospitals in the State and to suggest ways and means of

streamlining the same so that the hospitals in the State can render effective and efficient service in the cause of the public;

(ii) To examine the present set up of the Directorate of Health Services—both Medical and Public Health Wings and to indicate suitable steps for reorganisation and rationalisation of its structure and working in order to ensure its effective and dynamic functioning at the helm of Health and Medical Services in the State;

(iii) To prescribe suitable principles for recruitment, training and placement of personnel with a view to ensure optimum utilisation of available manpower resources;

(iv) To suggest ways and means of making the medical services in the State need-based and rural oriented, especially with reference to the Minimum Needs Programme of the State;

(v) To advise the Government on the question of priorities to be adopted in regard to the creation and extension of hospital services (Diagnostic and Therapeutic) especially in specialised fields such as T.B., Cancer, Diabetes, Heart Diseases, Ophthalmic Services, etc.,

(vi) To advise Government on the scope and methods for integration of medical research on health problems of special interest to the State with creation/expansion of field services to ensure perfect complementarity;

(vii) To advise the Government on the structure and organisation of para-medical services in the hospitals so that they are able to fulfil on their appointed role in the scheme of providing medical relief;

(viii) To review the current procedures of purchase of medicines, equipments, instruments and supplies for the hospitals and dispensaries as also for the maintenance of vital equipment and instruments, with a view to suggest improvements in the same to ensure better management of hospital inventories consistent with considerations of efficiency and economy.

(ix) To examine the scope for the application of electronic data processing in hospital administration and allied spheres.

3. This will be a State-level committee with its Headquarter at Ahmedabad.

4. The Committee will submit its report to Government at the latest by the 15th May, 1975.

By order and in the name of the Governor of Gujarat,

(Sd/-) T. H. GANDHI,
Under Secretary to the Govt. of Gujarat,
Panchayats and Health Department.

APPENDIX II

GOVERNMENT OF GUJARAT

Health Commission Questionnaire II

I. ADMINISTRATION :

1.1. Whether the Medical and Health Services should be integrated from the top to the lowest level or they should be separate ?

1.1.2 Whether Medical Services, Health Services and Medical Education should be under one head or under separate heads ?

If under separate heads, please specify how co-ordination can be brought about ?

1.2 *Teaching Hospital Administration.*—Should the Dean be also the superintendent of the hospital, or college and hospital administration be under separate heads ?

1.3 *District Hospitals.*—What are your views about the working of District Hospitals ?

Is the present division of administrative duties between the Civil Surgeons and District Health Officers satisfactory ?

If not what are your suggestions for improvement ?

1.4 *Recruitment.*—What is your view regarding the adequacy of the present system of recruitment of senior Medical Officers *e.g.* D.H.S., Dy. D.H.S., Principals, Deans, Superintendents, Professors, Associate Professors, Assistant Professors etc.

1.5 Are you satisfied with the present system of maintenance of hospital statistics ?

Give your views for further improvement.

1.6 *Casualty Services.*—Please give your evaluation of casualty services in the teaching and district hospitals and give your suggestions for improvement.

1.7 Whether the teaching staff should be full time non-practicing or part time practicing. If full time non-practicing what do you consider adequate scale emoluments ?

1.8 *Medical Stores and equipments.*—Are you satisfied with the present system of purchase, storage, inspection and distribution of stores including drugs, equipment, instrument etc. ?

If not what are your views for improvement of the system.

1.9 *X-Ray and Laboratory Services.*—Are you satisfied with the adequacy of X-Ray and Laboratory facilities in the Hospitals ?

If waiting period is long, what is your recommendation to minimise the same ?

1.10 *Minimising hospital congestion.*—Most of the hospitals suffer from over crowding by patients and relatives ?

Give your views as to how to minimise the same in (a) In-patients (b) Out-patients ?

2.1 Whether the services provided by hospitals at various level including teaching hospital are satisfactory ?

Please give your comments as to how this can further be improved ?

(a) In-patient Services.

(b) Out-patient Services.

2.2 Are there any voluntary organisations associated with the hospital for patient care ?

2.3 *Rural Health Services.*—Is the present organisation of Rural Health Services with Primary Health Centre as the base, serving a population of 30,000 to 80,000 satisfactory to enable the benefits to reach all the population in the area ?

2.4 Does the present system bring the benefits both of the preventive medicine and individual care to the population ?

2.5 Is there an order of priorities established ? If so, whether by the health department or the Community or as a joint effort ?

2.6 It is accepted that for a long time, it will not be possible to deliver the health care to the rural population by the medical graduates.

The Government is considering a scheme for training a cadre of medical assistants.

Do you think medical assistants will be able to deliver the basic health services, considering the prevailing socio-economic conditions of the rural population ?

2.7 What should be the working relationship between the doctor, health assistant, and auxiliary health worker ?

2.8 For efficient administrative and health services, a well organised, "Health Inspectorate Service" is a prerequisite ? How is it functioning in the State ?

2.9 Is there any system of exposing medical officers to general hospital administration before they are actually appointed to such a post ? Normally higher promotions are given by seniority irrespective of whether they have any administrative experience. If not give your views ?

2.10 Have the heads of hospital institutions been given any powers to incur expenditure over, minor works and purchase without reference to higher authorities ? What are your views on this and how much powers should be delegated to them ?

2.11 Are you satisfied with the present number of higher appointments available in the state Medical and Health Cadre ?

2.12 Do you think there should be a separate cadre for medical (general) health and teaching appointments or these should be a combined cadre, where interchange is possible ? If so give your views as how to operate it ?

2.13 Is there any incentive for doctors opting for rural health services ?

3. RESOURCES :

3.1 What proportion of State Revenue should be allocated for the Health Services ?

Do you consider the existing allotment in the Fifth-Plan adequate ?

Are you satisfied that resources allotted are used in the most effective way ?

3.2 Are the Health indices available ?

(a) Indices of resources (money, manpower, facilities, drugs etc.)

(b) Indices of health and diseases (morbidity and mortality etc.)

4. MEDICAL AND HEALTH EDUCATION.

4.1 *Selection of Students.*—Does the present system of selection of students purely on academic merits judged by the Pre-Medical Examination ensure that the

students selected are suitable to perform the functions of a doctor as needed by the community ?

If not, what additional Criteria would you suggest to ensure motivational involvement of would be doctor i.e. assessment of his personality and motivation ?

4.2 Should the Pre-Medical Course be taught in the University or as part of Medical College curriculum?

4.3 What do you think about "Nationally Organised clearing house" to deal with all those applying for entry into Medical College ?

4.4 Are you satisfied with the present method for assessment in the Medical Colleges ? Would you recommend semester system as an alternative ?

4.5 What do you think the cause of high attrition rate among the medical students and what remedial measures you would suggest ?

4.6 *Continuing Education.*—(a) Is there any programme for continuing education for teachers in the medical colleges, staff of non-teaching hospitals, and general practitioners.

(b) Auxiliary workers and members of Health Teams.

Please mention the salient features.

4.7 Health Education.

4.7.1. (a) Should health education form prominent part of under graduate curriculum ?

(b) Should there be special course for doctors in key position ?

(c) Should there be a special course for auxiliary health workers.

4.7.2 Give you views on the extent of development of health education component of health manpower development.

If minimum, give reasons why it is so, and suggest remedial measures.

4.7.3 Is there any research in educational methodology as providing data from which to build better programmes in future for health delivery system, and education of the health professions ?

If there any such project in any of the medical colleges of the state.

5. Any other suggestions.

APPENDIX III

Places visited

Ahmedabad District

1. B.J. Medical College
2. Civil Hospital
3. Municipal N.H.L. Medical College
4. V.S. Hospital
5. Dental College
6. Institute of Ophthalmology
7. Gujarat Cancer and Research Institute
8. Nursing School
9. National Institute & Occupational Health
10. Rural Health Training Centre—Bawla
11. T.B. Demonstration and Training Centre
12. Primary Health Centre, Bawla.

Baroda District

13. Baroda Medical College
14. S.S.G. Hospital
15. Vaccine Institute
16. T.B. Hospital
17. School of Physiotherapy.

Surat District

18. Medical College
19. Civil Hospital
20. Health Visitor's School
21. Municipal Muskati Hospital.

Bulsar District

22. Leprosy Control Unit
23. N.M.E.P. Malaria Control Unit.

Dangs District

24. Civil Hospital Ahwa.
25. Primary Health Centre, Kalibel.

Bhavnagar District

26. Sir Takhatasinghji Hospital
27. M.P. Shah Kushta Nivaran Dham
28. K.J. Mehta T.B. Hospital, Amargarh.

Jamnagar District

29. M.P. Shah Medical College
30. Irwin Hospital
31. T.B. Hospital
32. Referral Hospital, Khambhalia
33. Government Hospital, Dwarka
34. Gujarat Ayurved University.

Junagadh District

35. General and C.M.Z. Hospital, Junagadh
36. Municipal Hospital, Veraval
37. Primary Health Centre, Prabhas Patan.

Mehsana District

38. Civil Hospital, Mehsana
39. General Hospital, Patan
40. Janata Hospital, Patan
41. Cottage Hospital, Unjha
42. Jagudan Primary Health Centre
43. Unav Government Dispensary.

Kaira District

44. Primary Health Centre, Alindra.

Amreli District

45. Civil Hospital, Amreli.

Rajkot District

46. Civil Hospital, Rajkot
47. K.T. Childrens Hospital, Rajkot.

Kutch District

48. Bhuj District Hospital.

APPENDIX IV

Summary of Recommendations of the Health Survey and Development Committee (Bhore Committee) in respect of Medical Care.

(i) The main base of the recommendations of the Bhore Committee in regard to medical relief was in the form of the short and the long term plans built up on an integrated curative and preventive service manned by whole-time salaries staff. The Committee left to the Governments of the future to decide whether medical service should be given free to all or on a system of payment through insurance or by some other methods.

(ii) The short-term programme of the Bhore Committee proposed the setting up of primary health centers at the periphery catering to a population of 40,000 each. A 30 bedded hospital was intended to be provided to serve four primary health centres. A secondary health centre with an initial bed strength of 200, to be raised to 500 by the end of the tenth year, was another part of the programme. The secondary health centre was to cater to a population of 6,00,000 and serve as a supervisory coordinating and referral centre for the primary health centres in the area. It was visualised that the district level there would be 500 beds in the short term plan. It was anticipated that the bed population ratio would rise to 1.3 per thousand in the course of 10 years, and to 2 beds per thousand by 15 years. Mobile dental clinics and dental wings were also recommended and it was hoped that with improved communications and means of transport and telephone

and ambulance service, the best medical skill would be brought within the reach of the entire population through the system of primary, secondary and district health centres. Each primary health centre in the short term programme was to have 2 Medical Officers, 4 public health nurses, 4 midwives, 4 trained Dais, 2 Sanitary Inspectors, 2 Health Inspectors, 2 Clerks and 15 class IV employees.

(iii) In the long term plan the 3 million plan, the District Health Organisation was to have a Hospital with a bed strength of 2,500 at the district headquarters, 3 to 5 secondary Centres each with 650 beds, and 15 to 25 Primary Health Units with a bed strength of 75 each, catering to a population of 10 to 20 thousands. Each Primary Health Unit under a long term plan was to have six Medical Officers, 6 Public Health Nurses with the requisite nursing and other ancillary staff. An adequate number of Special Workers, Public Health Nurses etc. was to be attached to the institutions complete at the various levels to allow complete institutional and domiciliary medical coverage to the entire population. This plan was to take the bed population ratio to 5.6 per thousand. For this programme it would be necessary to have about 2.3 lakh doctors and 6.7 lakh nurses.

APPENDIX V

Summary of the Recommendations of the Health Survey and Planning Committee, 1961 (Mudaliar Committee).

(i) Free medical aid as visualised by Bhore Committee does not appear to be feasible in the near future. A system of graded charges for all hospital services except in the case of genuinely indigent patients in called for.

(ii) Extension of medical care through promotion of health insurance needs to be taken up. Scope of E.S.I. and CGHS should be extended to cover other sectors of population in the case of former and by bringing all government servants within the purview of latter, as early as possible.

(iii) Development of medical care facilities on co-operative lines, through suitable subsidies should be encouraged.

(iv) The programme of Primary Health Centre as it has developed bears no resemblance to that visualised by Bhore Committee. It needs to be radically revised and opening of Primary Health Centres should serve as population of 40,000 and should have full complement of staff as recommended by the Bhore Committee (2 medical officers, 4 Public Health Nurses, 4 Midwives, 4 trained Dais, 2 Sanitary Inspectors, 2 Health Inspectors, One Pharmacist, 2 Clerks and 15 Class IV staff). It should have 10 beds including 2 emergency beds attached to each of them. Existing Primary Health Centres should be upgraded by stage to reach to the full-fledged pattern.

(v) The Taluka Hospital should take over the routine medical, surgical, obstetrical and gynaecological needs of the area. Mobile teams of specialists should cover all areas of the district and should provide necessary supervisory and consultant facilities at the periphery. They should have a minimum bed strength of 50 and should have three medical officers with medicines, surgery and obstetrics and gynaecology. They should serve as referral hospital for routine cases from two or three Primary Health Centres in that area. Good clinical side room facilities should be available. One of the three medical officers should have had training in laboratory work.

(vi) District hospitals should occupy the key position in regard to medical care. They should be expanded and strengthened with specialists facilities. They should have 300 to 500 beds out of which 75 for maternity and 50 for paediatrics. Specialist services in Medicine, Surgery, Obstetrics and Gynaecology, Eye, Ear, Nose and Throat, Paediatrics, T.B., Dentistry and

V.D. should be provided. Specialists in Medicine, Surgery and Obstetrics should have a status of Civil Surgeon. There should be an Isolation Unit of 50 beds attached to the District Hospital. T.B. Clinic and Public Health Laboratory at the District Headquarters should work in close association with the District Hospital. There should be a chronic and convalescent hospital in order to relieve the congestion in the hospital and consequent strain on the staff. In each District Hospital there should be a Psychiatric Clinic and 50 beds should be earmarked for such cases.

(vii) A number of District Hospitals should be linked with the teaching hospital on a regional basis in order to get expert advice and assistance in the matter of investigation, diagnosis and treatment. In each district and teaching institution Blood Bank services should be available. The head-quarters of each state should develop a special Department for blood transfusion service. In planning Hospitals the basis of one bed for every 1000 population should be taken for each district.

(viii) The out-patient department should be outside the compound of the In-patient department with a separate entrance. The Casualty and Orthopaedic Departments should be attached to Out-patient Department. Certain Departments like Eye, E.N.T., should also safely be situated in the O.P. Department. X-ray, Laboratory Services, Medicines, anti-rabic treatment special clinics like diabetic clinic, boarder line mental clinic, chest clinic should also be located in the O.P. Department.

(ix) At the State level, there is also need for such side hospitals as Children's Hospital, Maternity Hospitals, Cancer Hospital, Leprosy Hospital requiring isolation, surgery and rehabilitation, Infectious Diseases Hospitals, Mental Hospitals, District Psychiatric Clinics, T.B. Hospitals with Physiotherapy, occupational therapy and other facilities.

(x) In each State there should be one Ophthalmic Hospital with 300 to 500 beds and centres for the rehabilitation of the audit blind should be opened.

(xi) At the district level there should be a fully equipped and staffed Dental Clinic. Besides, the Dental Surgeon there should be a dental hygienist and a dental mechanic. In addition, Dental Mobile vans should function in district to serve the interior on a carefully drawn schedule. At the Primary Health Centres, some orientation in dental care may be given to the auxiliary health worker.

APPENDIX VI

Summary of Recommendations of the Study Group on Hospitals (Jain Committee)

Chapter IV Organisation of Medical Facilities.

(i) In order to develop institutional facilities the following pattern is recommended to be attained by 1971 :

Teaching Hospitals :	500 (to be increased according to the number of students).
District Hospitals :	200 (May be raised up to 300 beds depending on population).
Tehsil/Taluka Hospitals :	50 (May be raised depending on population).
Primary Health Centres :	6 (may be increased to 10 depending on needs).

(ii) The bed strength of 125 districts which have at least one 200 bedded hospital may be raised to 300 depending on the population served. In the remaining 210 districts hospitals, having less than 200 beds, the strength should be raised to a minimum of 200 beds. Ordinarily the distribution of these beds should be as under:—

Medical	60
Surgical	40
Gynaecology and Obstetrics including Maternity	35
Paediatrics	15
Orthopaedics	5
Eye	10
E. N. T.	10
Skin	5
Emergency	5
Isolation	10
Psychiatry	5
	200

(iii) Since the district hospital is to serve as a referral centre it should provide specialist services in Medicine, Surgery, Obstetrics, Gynaecology, Eye, E.N.T., Paediatrics, Dentistry, Psychiatry, V.D., T.B. Clinic at the district headquarters, where it exists should work in close liaison with the district hospital and the medical officer of the clinic at the district headquarters, where it exists should work in close liaison with the district hospital and the medical officer of the clinic should work as T.B. specialist to the district hospital.

(iv) Each of the 947 tehsils/taluks, which do not have hospitals at present, should be provided with one hospital each with a minimum bed strength of 50. In other tehsil or taluqs, where the bed strength is less than 50, it should be raised to a minimum of 50. The distribution of beds should generally be; Medical—20, Surgical—15, Maternity and Gynaecology—10 and Isolation—5 beds. The tehsil/taluq hospital should be provided with three medical officers, one each for three basic specialities *i.e.* Medicine, Surgery and Gynaecology and obstetrics. The doctor-in-charge of Gynaecology and Obstetrics should preferably be a woman. She can also take charge of Maternity and Child Health work and Family Planning.

(v) At Primary Health Centres, of the six beds recommended 4 should be for maternity cases and the bed strength could be raised to ten depending on the needs.

(vi) The present number of beds *viz.* 3,18,000 should be raised to 4,20,000 in 1971 and to 6,30,200 beds in 1976, bringing the bed-population ratio from 0.61 per thousand of population as at present to 0.75 in 1971 and one bed per thousand of population by 1976.

(vii) A regular system of giving liberal grants-in-aid to voluntary and charitable organisations to open new teaching institutions and other institutions for giving medical care and service should be instituted on non-restrictive basis.

(viii) In order to make full utilisation of the beds available in hospitals/Primary Health Centres, the following measures are suggested:—

(a) When a patient no longer needs the specialised medical care of a regional or a district hospital

he should be sent back to the tehsil/taluq hospital or the Primary Health Centre, nearest to his residence for general treatment.

(b) Convalescent homes may be set up where chronic and incurable patients may stay on nominal payment and in case of indigent persons free of charge.

(c) Medical Inns may be set up in the vicinity of bigger hospitals, preferably by private bodies, where patients and their relatives from mofussil areas may stay on payment during the period of diagnosis; and

(d) Specialist, laboratory and diagnostic services as recommended by the Group, may be provided soon at smaller hospitals and Primary Health Centres in order to help create a climate of confidence and facilitate working of referral system.

(ix) In order to provide specialist services to the people living in rural areas all teaching hospitals should be treated as regional hospitals, each serving a specified area or hinterland covering, if necessary, two to three districts. District hospitals, in areas which remain unattached to the teaching hospitals, should be developed as full fledged referral centres.

(x) Cases from district hospitals should be referred to teaching hospitals, while cases from Tehsil/taluq hospitals and Primary Health Centres should be referred to District hospitals. Primary Health Centres should refer cases to their nearest referral hospital. The referring doctor, however, may in serious cases exercise his discretion and refer the cases to the teaching/special hospitals direct. Cases unless needing hospitalisation or specialised treatment should be referred back to the originating hospitals or Primary Health Centres with proper diagnosis and instructions for further treatment.

(xi) In difficult areas and in areas where distances are long and means of communication difficult such as hilly districts and difficult areas like Bastar certain tehsil/taluq hospitals should be developed as full fledged referral centres.

(xii) Mobile teams of specialists from district and teaching hospital should visit tehsil/taluq hospitals and Primary Health Centres at regular intervals to advise the doctors on cases being treated there or for the transfer of cases needing specialist care to referral hospitals.

Chapter V. Primary Health Centre.

(i) The coverage of 80,000 population by a Primary Health Centre is too heavy. In practice the

Primary Health Centre does not serve more than 30 to 40 thousand people living within a radius of two to four miles of the main centre and sub-centres. It is, therefore, suggested that by the year 1976 at least one of the sub-centres in the Block should be raised to the status of Primary Health Centre.

(ii) Medical Officers of the Primary Health Centres should be oriented in public health and training facilities for the type of staff needed should be augmented.

(iii) The lady doctor for the Family Planning work at the Primary Health Centre should always be in addition to the lady medical officer on health side.

(iv) In appropriate cases, wherever the need exists, the number of beds in the Primary Health Centre may be increased from 6 to 10.

(v) Full use of specialists visiting Primary Health Centres at regular intervals should be made and the Primary Health Centre doctor should keep such cases needing specialist treatment in readiness. Ambulance service should also be fully made use of to make the referral service successful.

(vi) The laboratory technician with a microscope provided at the Primary Health Centre under National Malaria Eradication Programme should be utilised to undertake simple tests like stool, urine, blood etc. of patients attending the Primary Health Centre.

(vii) The allopathic dispensaries functioning within jurisdiction of the Primary Health Centre should be continued as hitherto and be treated as sub-centres to the main Primary Health Centre. Blocks which do not have a Primary Health Centre, one of the existing allopathic dispensaries should be upgraded to the status of the Primary Health Centre and other dispensaries would function as sub-centres.

(viii) As an incentive to doctors to work in rural areas the provision of residential accommodation, grant of rural allowance and posting by rotation in rural and urban centres should be made a must. Efforts should also be made to improve working conditions at the Primary Health Centres to form a unified cadre of doctors in the State Government services and to provide regular training facilities to the doctors of the Primary Health Centres preferably at the district hospital.

Chapter VI. OPD and Emergency Services.

(i) The Out-patient Department should be planned to provide services for one percent of the population of the area to be catered for. It should be located at

suitable distance from the indoor wards, and the connected by a corridor to laboratory, X-ray and other diagnostic rooms. In smaller hospitals and other where sufficient accommodation is not available, the O.P.D. may be located on the ground floor and indoor wards on upper floors.

(ii) The out-patient Department should be sufficiently large so as to avoid congestion. There should be a reception-*cum*-information counter situated at a prominent and easily accessible place in the Central Registration Hall.

(iii) In order to help illiterate people coming from rural areas, out-patient Department cards issued to patients should be in different colours and if possible the symbols of speciality like Eyes, Ear, Nose, X-Ray may be printed prominently to identify concerned clinical Department.

(iv) There should be arrangements, in the vicinity of the hospital for stay of patients and their attendants seeking admission to hospitals for diagnostic purposes, either free or at nominal charges. Such facilities can be easily provided by charity minded individuals or organisations. Provision of a canteen for patients and their attendants should also be made.

(v) While planning out-patient Department provision for the treatment of at least 10 per cent of the total number of patients expected to attend the out-patient Department should be made for emergency cases.

(vi) An emergency ward should be added to every hospital where a patient needing emergency service should be admitted at once and kept for 24 hours before being transferred to a regular concerned ward.

(vii) Ambulance service to bring patients needing emergent service should be provided at the out-patient Department.

(viii) There should be separate doctors and other staff for the Emergency Department and they should work round the clock. Services of other specialists should be available at call. The services of a pathologist and radiologist should immediately be available to the Emergency Ward. In teaching hospitals there should be a separate set-up of these services.

(ix) The budget for drugs, medicines, instruments, equipment and dressings for the Emergency Department should be kept separate and be at least double of the needs of other corresponding Departments. Buffer stocks of drugs should be kept with the Medical Super-

intendent to meet the needs of the Emergency Department.

Chapter VII. Special Hospitals.

(i) To remove disparity in the distribution of special hospitals, preference should be given to the backwards States in the matter of establishment of new special hospitals and provision of additional beds in existing institutions.

(ii) Treatment in special hospitals should be restricted to referred cases and cases which need specialised attention of the highest order.

(iii) There should be no district without having at least one T.B. clinic with a minimum of 100 beds and those having less than 100 beds should be raised to 100 beds by 1976.

(iv) Domiciliary treatment of T.B. should be intensified. Admission of patients in T.B. hospitals should be confined to (1) Medical emergencies (2) surgery cases (3) sputum positive cases and (4) cases not responding to domiciliary treatment.

(v) District Tuberculosis Clinics/Hospitals should run in close liaison with Taluq/Tehsil and District hospitals and T.B. Centres should be in overall control of the Superintendent Tehsil/Taluq/District Hospital.

(vi) Regular supply of anti-tuberculosis drugs to the patients attending the Tuberculosis clinics should be ensured and agency of the basic health worker working at the Primary Health Centre should be utilised to make available drugs to the patients domiciliary.

Before the mother is discharged from the hospital the baby should be B.C.G. vaccinated. For this adequate provision of freedried vaccine should be made in maternity hospitals.

(vii) By 1976 the bed strength for mental cases should be raised to 1,15,000. Teaching hospitals should have a psychiatric clinic (Day Hospital) with 30 to 40 beds. District hospital should have a psychiatric clinic with a minimum of 5 beds. Regional Mental hospitals should be set up for a group of 8 to 10 continuous districts. Some of the existing mental hospital should be raised to the status of regional hospitals by increasing their strength to 300-400 beds. Initially mental cases should be treated in psychiatric clinics before being referred to teaching hospitals or to the mental hospitals.

(viii) The existing medical colleges should be expanded to train adequate number of doctors in mental sciences and teaching hospitals be utilised for training para-medical personnel.

(ix) The Indian Lunacy Act should be replaced by a suitable Mental Health Legislation.

(x) The maternity beds recommended by the Group, namely 70 beds in teaching hospitals, 35 in District Hospitals, 10 in Tehsil Hospitals and 4 at each Primary Health Centre have been made on the assumption that only such cases that need hospitalisation, would be admitted in hospitals and ordinary deliveries should be done in the homes of the patients by qualified midwives.

(xi) Facilities and equipment for applying advance practice in the field of obstetrics and for isolating septic from clean cases in labour and for special nursing care to treat cases of toxæmia, tetanus, puerperal psychosis etc. which are now very much lacking or missing should be made up.

(xii) Training facilities for Midwives, Auxiliary Nurse Midwives and for Dais should be made at the District Hospitals. The Dais should also be paid similar stipend during the course of training to Auxiliary Nurse Midwives.

(xiii) There should be one paediatric hospital in each State attached to one of the medical colleges. This hospital should have, in addition to general section, a number of specialised sections such as Paediatrics, Haematology, Endocrinology, Neurology, Surgical Paediatrics, Orthopaedic Paediatric and Dental Services.

(xiv) The existing four cancer hospitals at Bombay, Madras, Calcutta and Delhi should be upgraded to regional centres and operational areas attached to each of them. In addition, two more regional centres be opened one in Madhya Pradesh attached to Bhopal Medical College and another at Varanasi, or at some place in the State of Bihar.

(xv) Training of specialists in Ophthalmology and provision of more beds to reach the norms of advanced countries namely, one eye specialist and one ophthalmic bed needed for 10,000 and 5,000 population respectively is an ideal, which should be achieved. The work done by voluntary agencies in certain States in the field of eye relief is appreciated and suitable action be initiated in other places also.

(xvi) Mobile ophthalmic units, manned by the specialists of the district hospital, should hold periodic

eye clinics and camps at Primary Health Centres. Periodic check up of eye diseases should be included as an important item in the school Health Programme.

(xvii) Excellent work done for the control of leprosy by voluntary agencies and International Organisation is appreciated and they need further encouragement and financial help.

(xviii) Special emphasis should be laid on the detection of leprosy in the school Health Programme for this age group.

(xix) Leprosy programme should be integrated with the Primary Health Centre and sufficient stocks of sulphones should be maintained at the Primary Health Centres who should obtain the services of a specialist at S.E.T. Centre wherever required.

(xx) The health authorities should take serious notice of the deplorable state of affairs obtaining in Infectious Diseases hospitals. State Governments should take over the responsibility of running Infectious Diseases Hospitals in highly endemic areas. District Hospitals should have isolation beds where communicable diseases except smallpox be treated.

(xxi) Cities with a population of 5 lakhs or more should have an Infectious Diseases Hospital. Primary Health Centres should provide temporary shelter to Infectious Diseases patients.

(xxii) Fully equipped and staffed dental clinics should be set up at the District hospitals where they do not already exist. Besides the dental surgeon, the Dental Clinic should have a dental hygienist and dental mechanic. Dental care of school children should be included in the School Health Services.

(xxiii) Convalescent Homes should be set up in the vicinity of teaching hospitals for chronic and incurable patients.

(xxiv) Facilities for rehabilitation, consisting of Medical Physical therapy, Occupational therapy, Speech Therapy and Prosthetic Sections should be set up at each teaching hospital. At least one physiotherapist should be appointed at the District Hospital.

Chapter VIII. Integration of Medical and Health Services

(i) It is suggested that curative and preventive services, Family Planning and Maternity and Child Health work should be integrated from the highest to the lowest operational level under a single administrative authority.

(ii) There should be one single officer in the District responsible for curative, preventive and family planning work and he be designated as Chief Medical Officer, in place of District Medical Officer. He should have two deputies to assist him—(1) Deputy Chief Medical Officer (health) and Deputy Chief Medical Officer (Family Planning & Maternity). The present post of Family Planning Officer may be abolished. The Chief Medical Officer will be ex-officio Medical Superintendent of the District Hospital and all other medical institutions in the District will be under his charge. All Civil Surgeons should be given three months orientation training in public health so that they can work effectively as Chief Medical and Health Officer.

(iii) Medical Officer in-charge of the Primary Health Centre should be put in full administrative control of the entire health staff and be designated as the drawing and disbursing authority with powers to grant leave to his staff.

Chapter IX. Staffing Pattern and Requirements of Equipment.

(i) The standards for hospital appliances, equipment and instruments evolved by the Indian Standards Institute should be strictly followed and no departure from these standards should be permitted.

(ii) Staffing pattern for a Hospital with 50, 100, 200 and 300 beds have been recommended.

(iii) Private practice should be permitted to all Government doctors except in the case of doctors working on the health side, doctors working on laboratory and diagnostic services, doctors serving in teaching hospitals, Civil Surgeons of the Districts and Medical Superintendent of Hospitals and doctors working on research projects. Adequate non-practising allowance should be paid to the incumbents of these posts.

(iv) State Governments in the case of medical men working in Directorates of Health and Medical Services and Central Government in case of medical men working in Directorate General of Health Services should take their own decision in regard to payment of non-practising allowance depending on their resources and service conditions.

(v) Doctors working in difficult and remote areas should be granted a special allowance during the period of their posting at such places. System of honoraries should continue in places where whole time Government doctors and specialists are either not available or Government cannot afford to engage them for want of funds. The services of eminent persons who are known to

be devoted to their profession and are prepared to work as honoraries should be utilised. The honoraries should be subjected to same discipline as Whole-time doctors. Their terms for recruitment and conditions of working like hours of duty etc. should be clearly laid down.

Chapter X. Laboratory and Diagnostic Services

(i) Laboratory services in India vary from State to State and within the States at all levels. Efforts to strengthen the services at district and peripheral levels should be made. Any potential savings by way of space, equipment, personnel and funds need to be overlooked.

(ii) In teaching hospitals the set up of laboratory services should include Clinical Biochemistry including routine examinations, Haematology including Blood Bank Histopathology, Clinical Microbiology including stool C.F., Pleural fluids serology and Surgical Pathology, Autopsy including Cytology. Each of these sections should be under the charge of a competent and well trained officer with a complement of technical staff, but the responsibility for technical standards should rest with the patient department of the College.

(iii) The set up at the District Hospital may include Haematology including Blood Bank, Clinical Biochemistry, Urine and Stool C.G.F., Serology etc. and Microbiology. If resources do not permit, arrangements for such service may be made with the department of pathology and microbiology in a neighbouring teaching hospital. Laboratories at the District level should have 4 laboratory technicians, 2 laboratory attendants, a sweeper and a clerk on their staff. At the tehsil/taluq level there should be one laboratory technician and one of the doctors should, in addition to his other duties, look after the laboratory. This doctor should be deputed to a District Hospital for about 6 weeks training if necessary.

(iv) Non-medical graduates in Bio-chemistry or Micro-biology may be employed to do laboratory work.

(v) The departmental heads in a laboratory in large hospitals should be fully qualified medical man who in addition to general training in pathology should have sufficient postgraduate experience in the speciality of the department.

(vi) The number of the technicians in a laboratory should be fixed on the basis of 1000 tests per fully trained technical per month as the maximum.

(vii) The X-ray Department should be so sited as to be readily accessible to in-patient wards, the out-patient department and the accident and emergency department.

(viii) Teaching hospitals should have four X-ray plants one of 300 to 500 M.A., the second of 100 M.A., the third a portable plant of 35-50 M.A. and the fourth a Dental X-ray plant, besides plants or an infra red. In large and busy hospitals three machines for Diathermy and lamps for ultraviolet may be an additional miniature X-ray set.

(ix) In district hospitals with 200 or more beds there should be one 200 M.A. Unit, one 100 M.A. and one 35-50 M.A. Portable unit and one for dental care, besides having lamps for ultraviolet and infra red. The tehsil/taluq hospitals should have one X-ray plant of 50 M.A. and lamps for ultraviolet and infra red.

(x) Radiotherapy should be confined to a few selected hospitals and teaching hospitals.

(xi) Radio-isotopes should be limited to teaching hospitals only.

(xii) Supply of linen in a hospital should be the responsibility on an officer of the status Matron or Assistant Matron who should be in-charge of the service. Central linen room is recommended.

(xiii) Clothing supplies to patients should be simple, economical, durable, clean and suited to the climatic requirements of the place.

(xiv) Mechanical laundry for linen in hospitals where the quantity of linen is not less than 45,000 pieces per week is considered economical, quick and involving the minimum wear and tear and pilferage. For this purpose smaller hospitals may be grouped. Hospitals in the same city may combine to have central mechanical washing. Small domestic washing machines may be used in District and Taluq hospitals.

(xv) Hospitals with more than 200 beds should have a whole-time dietician. In other one of the sisters should be trained in basic knowledge of diets and put in charge of dietary and feed services. Trolleys insulated with saw dust and stainless steel thermo jars with a tap should be used for carrying food. Kitchen should be preferably on the ground floor and be neat, clean and spacious. Stainless utensil and gas or smokeless chullah should be used.

(xvi) Central Sterilisation Supply Department should be organised in all hospital with bed strength

200 or more. District Hospitals should supply sterilised materials including dressings to hospitals and dispensaries attached to them. Blankets must be thoroughly sterilised. The C.S.S.D. should be on the ground floor near the operation theatre and connected with telephone.

(xvii) Non-store holding purchases organisation should be set up in all States to coordinate the demands of medical stores and drugs from various hospitals. Rate contracts should be settled with suppliers/manufacturers and supplies received from them directly, in larger packings and sent to the District Hospitals from where the drugs and equipment be supplied to Tehsil/Taluq Hospitals and Primary Health Centres in the District. Medicines should be stocked for a period of six months. Quality control organisation should ensure quality of drugs received from suppliers and supplied to hospitals.

(xviii) Hospital pharmacies should be established in all teaching hospitals and tablets, injections, fluids and other common mixtures and ointments should be manufactured there.

(xix) To check over-medication, there should be a Committee consisting of specialists, who should meet periodically, examine cases of misuse and excessive use and prescription of medicine. A prescriber's Journal should be started by the Government of India to begin with.

(xx) The basis of treatment in hospitals should be the National Formulary and the treatment should be prescribed by pharmacopoeia or generic name and use of branded and patent medicines should be discouraged.

(xxi) In addition to Hospital Library, there should be a patients' Library having light reading and pictorial magazines, journals, and periodicals, as well as literature on dietary, nutrition and health education material. At the District Hospitals there should be a fairly good library and doctors working in other hospitals of the district should become members and borrow books. Medical and professional journals should be made available in all hospitals, and even in Primary Health Centres. A system of circulating medical and professional journals which are rare and published in foreign countries should be established. If possible extracts of important material may be got cyclostyled and circulated.

(xxii) One or more than one workshop, depending on the size of the State to repair machines and hospital equipments should be got up. Technicians attached to these workshops should periodically

vehicle for transporting donors, blood donation teams on the spot or bring them to workshop. Hospital authorities should send periodically a certificate to the Health Directorate that all machines and plants in the hospital are in working order and those out of order have been sent for repair. Hospitals with bed strength of 200 or more beds should have a repairing cell consisting of one Black-smith, one Painter, one Carpenter and one Electrician.

(xxiii) In teaching hospitals providing post-graduate medical studies records should be kept in a precise manner with indexing and preserved in bound volumes or in microfilms, where felt necessary. The cases to be recorded should be marked by the doctors. District Hospital should adopt a simple method of record keeping. Record should be maintained on the pattern of International Classification of Diseases. In teaching hospitals there should be one Medical Record Officer, 2 Medical Record Technicians and other complementary clerical staff; while in District Hospital one medical record technician and one of the Medical Officers in the hospitals should be made responsible for recordkeeping. More teaching centres should be opened to train Medical Record Technicians.

(xxiv) All hospitals with 200 or more beds should have a blood bank. Doctors should persuade friends and relatives of patients to donate blood. Blood Banks in Teaching Hospitals should supply blood to hospitals attached to them. These hospitals should have refrigeration facilities and dustfree accommodation for storage and equipment for blood transfusion. Blood Banks should be equipped with a utility van which should serve as a multipurpose

vehicle for transporting donors, blood donation teams and social workers, and when free for propaganda purposes and for blood collection. A small committee of experts to lay down standards for the collection repairing cell consisting of one Black-smith, one Painter, one Carpenter and one Electrician.

(xxv) Designs of mortuaries for different sizes of hospitals have been suggested. Cold storage arrangements should be available in district and teaching hospitals. Cold room chambers should keep a temperature of 40°C. Provision of ice in case of electricity or compressor failure should be made. The floor should be stain-proof and easily washable. Proper record for incoming and outgoing dead bodies should be maintained and whenever required the services of photographic and X-ray units should be available. Ground floor is the best location for a Morgue. It should have a suitable exit leading to a loading area concealed from the view of patients, and the public. On an average there is one death per hospital bed per year and facilities for the custody of bodies and post-mortems should be provided accordingly.

(xxvi) All out effort to inform the relatives, friends or persons who may be visiting the patient during his illness, about the death of the patient should be made before declaring a dead body as unclaimed. Unclaimed bodies may be sent to teaching hospitals for teaching and research purposes. Post-mortem need be done on legal and police cases or for pathological purpose for teaching and research. Delay in handing over the dead body on this account should be minimised to the maximum extent possible.

APPENDIX VII

Summary of recommendations of the Committee on Multi-purpose workers under Health and Family Planning Programmes.

(i) Multi-purpose workers for the delivery of health, family planning and nutrition services to the rural communities are both feasible and desirable.

(ii) A new designation is proposed for the multi-purpose workers—Health Worker (Male/Female).

The newly designated female Health Workers will be the present ANMs and the newly designated male Health Workers will be the present day Basic Health Workers, Malaria Surveillance Workers, Vaccinators, Health Education Assistants (Trachoma) and the Family Planning Health Assistants.

(iii) The programme of having multi-purpose workers should be introduced, in the first phase, in areas where malaria is in maintenance phase and small-pox has been controlled. The programme can be extended to other areas as malaria passes into maintenance phase or where small-pox is controlled. This will be the second phase.

The workers engaged in cholera control, filaria and leprosy programme may continue as such for the time being. Similarly, BCG vaccinators may also continue as such. However, all these workers will be made multi-purpose workers in the third phase of the programme.

(iv) There should be a team of two health workers, one male and one female, at the sub-centre level.

(v) After training in all programmes each health worker, male and female, should be given a first-aid kit and also some medicines for minor ailments, costing up to Rs. 2,000 per annum for each sub-centre. These medicines should be replenished at regular intervals.

(vi) The field visits of the male health workers should not be limited to the homes of the villagers but they should also go to the places of work of the villagers.

(vii) In order to reduce the existing shortage of the female health workers, ANMs whose job is confined to the PHC headquarters, and others posted at the district hospitals and at other places should be withdrawn and posted at sub-centres. The posts vacated by the ANMs should be filled by nurse-midwives.

(viii) *Jurisdiction for each health worker.*—As an ultimate objective it is recommended that when adequate facilities of men, material and money are made available the number of PHCs should be increased. It is felt that for a proper coverage there should be a PHC for 50,000 population. Each PHC would have at least two doctors one of them should be a female.

(ix) The population in each PHC would be divided into 16 sub-centres, each having a population of about 3000-3500 depending on topography and means of communications.

(x) Each sub-centre would have a team of one male and one female health worker.

(xi) Taking into consideration the existing number of male and female health workers, it is recommended that—

(1) A male health worker would have for the present to look after a population of 6 to 7 thousand.

(2) A female health worker (ANM) would have a population of 10 to 12 thousand. This population be divided in two zones—one intensive area of 3 to 4 thousand or an area of not more than 5 K.M. in radius from her place of stay, where she will be responsible for Maternity and Child Health and Family Planning services and the other 'twilight' areas where her services will be available for partial coverage on request only.

(3) During the interim period, it is suggested that the services of trained dais be increasingly used particularly in the 'twilight' areas. In order to make the trained dais reliable assistants of the female Health Workers, they may be given a suitable remuneration.

(xii) Emphasis should be placed in the 5th Five Year Plan on increasing the training facilities of female health-workers. The number of ANM schools should be increased particularly in the States that have an acute shortage.

(xiii) *Jurisdiction for each health supervisor.*—With an ultimate objective of a PHC for 50,000 population having 16 centres, the work of eight health workers

(4 males and 4 females) would be supervised by a group of two health supervisors, one male and one female.

(xiv) These supervisors should preferably stay in the area of the four sub-centres, they have to supervise.

(xv) With the existing situation of having a much larger number of male health supervisors as compared to the female health supervisors, it is recommended that for the time being one male health supervisor may supervise the work of 3-4 male health workers and the female health supervisor (LHV) may supervise the work of 4 female health workers.

(xvi) The present day lady health visitors now designated as female Health Supervisors should be withdrawn from all posts other than those of ANM supervisors. For example, lady health visitors at PHC headquarters, or at urban centres or in district headquarters, etc., should be withdrawn and posted for field work of the sector allotted. Nurse-Midwives may be posted in their place in urban centres and the District for static duties.

(xvii) Nurse-midwives with community health training or qualified public health nurses should be recruited to take up the deficiency in the number of female Health Supervisors.

(xviii) *Training.*—It is recommended that a small group consisting of health administrators, trainers and technical experts be constituted to go into the details of the training that is to be imparted to the future multipurpose workers and their supervisors. Such a group would also devise manuals, and prescribe curricula for the training of the present day uni-purpose workers in order to make them multipurpose workers. The course content and the duration of training for those who are to be recruited in future as multipurpose workers will also be indicated by this group along with the places where such a training can be imparted.

The same group should examine the existing curricula of the ANMs and LHVs and suggest ways and means to make the training of these functionaries more practical and job-oriented.

Pending the recommendations of the proposed group the Committee recommends:

(1) The existing uni-purpose peripheral male workers may be given 1-2 weeks orientation training followed by 6 to 8 weeks intensive training.

(2) The supervisory workers should receive 1 to 2 weeks orientation training followed by 6-8 weeks common training with the junior health workers plus 2 weeks of supervisory training.

(3) The duration of ANM and LHV training can be conveniently reduced by six months in each case.

(xix) The doctor-in-charge of a PHC should have the overall charge of all the supervisors and health workers in his area. He will be assisted by the Block Health Assistant for his headquarters' work.

(xx) The doctors of PHC during their visits to sub-centres will not only render health care to the population but will also check the work of the health workers and their supervisors.

(xxi) All the dispensaries in the jurisdiction of a primary health centre should be linked with the PHC and each dispensary doctor should render referral services to the cases referred by the health workers.

(xxii) The doctors at the PHC should divide the population on a geographical basis for their field visits. While one doctor attends to the out-patients and in-patients at the PHC, the other doctors should go out on field visits and extend integrated health, family planning and nutrition services to the population. Thus each doctor will be at the PHC for three days and will be away on field visits for the other three days of the week.

Wherever there is one lady doctor at the PHC, she should render specialist services for maternity and child health to the entire PHC population.

(xxiii) In order to bring about an effective integration of workers engaged in vertical programmes of health and family planning, the concept should be extended to the district and the State level. The division of work amongst the district medical officers should be on a geographical basis rather than on a programme basis.

(xxiv) The concept of medical colleges integrating all health, family planning, nutrition, and training programmes, has been put forward.

APPENDIX VIII

Summary of Recommendations of the Group on Medical Education and Support Manpower.

(i) *A nation-wide network of efficient and effective health services.*—A time has come when the entire programme of providing a nation-wide net-work of efficient and effective health services needs to be reviewed *de novo* with a view to evolving an alternative strategy of development more suitable for our conditions, limitations and potentialities. We recommended that Government should undertake the task of evolving a national consensus on the subject. The general principles stated in paragraph 2 of the report for the development of this net-work of health services may be taken as a basis for consideration in this effort.

(ii) *Para-professional or Semi-Professional Health Workers in the community itself.*— We recommended that steps should be taken to create bands of para-professional or semi-professional health workers from the community itself to provide simple promotive, preventive, and curative health services which are needed by the community. They will include dais, family planning workers, persons who could provide a simple curative service, and persons trained in promotional and preventive health activities, including the control of communicable diseases. They need not be multipurpose. The young persons in the community, elementary school teachers, and particularly educated and willing housewives would be the pool from which these workers could be drawn. There is no need to regulate their numbers nor to form them into a cadre and pay them a remuneration from public funds. It would be desirable to leave them to work on a self-employment and part-time basis. The responsibilities of Government in their regard will be to make careful selection, to provide training and re-training, and guidance and counselling (including periodical evaluation), and supply materials needed at reasonable prices. The Director General of Health Services should be requested to work out all the details of the programme during the current year and it should begin, as a centrally-sponsored scheme, in 1976-77. A fairly large part of the country should be covered by the scheme before the end of the Fifth Plan and the entire country should be covered by the end of the Sixth Plan.

(iii) *From the Community to the PHC.*—Between the community (and the local para-professional, semi-professional or professional health workers within) and the PHC, we should develop two cadres health workers and health assistants.

(i) At present, there is a male health worker for every six-seven thousand population and one female health worker for every ten thousand population. The proposed target for the Fifth Five Year Plan is to have a male and a female worker each for a population of eight thousand. We recommend that, by the end of the Sixth Plan, we should strive to provide one male and one female worker each for every 5,000 population. We also recommend that every health worker should be trained and equipped to give simple specified remedies (including proven indigenous remedies as well) for day-to-day illnesses.

(ii) Between the health workers and the PHC, there should be a new cadre of health assistants. We should strive to provide one male and one female health assistant for two male and two female health workers respectively. The existing multipurpose supervisors should be incorporated into this cadre after suitable training and it should, in future, be treated as an incentive and promotional cadre for health workers. The health assistants should be invariably located at the sub-centres and not at the PHC. Like the health workers, they should also be trained and equipped to give specific remedies for simple day-to-day illnesses. While they have a supervisory role, they should also function as health workers in their own areas and carry out the same duties and responsibilities, but at a higher level of technical competence.

(iii) The PHC itself should be strengthened by the addition of one more doctor, especially to look after maternal and child health services and one nurse. The existing allotment of Rs. 12,000 earmarked for the purchase of drugs at each PHC is inadequate and should be increased. The possibility of utilising the services of senior doctors at the medical college, regional, district or taluka hospitals for brief periods of work (say two years at a time) at the PHC level should also be explored.

(iv) *The Referral Services Complex.*—We recommend that the Primary Health Centres, as well as the taluka/tehsil, district, regional and medical college hospitals should each develop living and direct links with

the community around them as well as with one another within a total referral services complex. This linkage can best be secured through a properly organised internship programme. The way in which the internship programme is organised at present is wasteful. We recommend that, for purposes of training the interns, the district, sub-divisional and taluka/tehsil hospitals should be used as the out-reaches of the medical col-

leges for entering into the community and the programme itself organised on the broad lines indicated in paragraphs 7, 10-13. We attach great importance to the desirability of associating general practitioners of good standing and experience in the training of undergraduates. The desirability of continuing both the internship and the first year of the junior residency as organised at present also needs examination.

APPENDIX IX

Summary of Recommendations

1. Restructuring of the top echelons of the health services should be with reference to (i) the need for a unified authority frame covering the whole range of functional services and (ii) the need for ensuring perfect complementarity between medical education and operational health services. (6.3)
2. There should be a single Director of Health Services who would be in overall charge of health administration, including medical education. He should also be an Additional Secretary to the Health Department. (6.4; 6.5)
3. At the second-in-command position should be three Additional Directors in charge of Community Health Services, Institutional Health Services and Medical Education and Research, respectively. (6.6; 6.7)
4. The staff officers at the next supporting level should bear the designation of Deputy Directors. There should be one Deputy Director each looking after (i) Community Health; (ii) Family Planning and MCH; (iii) Institutional Health Services and (iv) Medical Education and Research. (6.8; 6.9)
5. Four posts of Assistant Directors with specific functional orientation should be created for (i) Communicable Diseases; (ii) Rural Health Services; (iii) Health Education and Training and (iv) Family Planning and MCH. (6.10)
6. The administration of the ESI scheme should be fully integrated within the fold of the health services of the State. The Additional Director of Institutional Health Services should be in charge of the ESIS also. A Deputy Director should be appointed to assist him. (6.11)
7. A Deputy Director of Policy Planning and Evaluation is necessary under the direct control of the Director of Health Services to look after planning, monitoring and evaluation of health care programmes. (6.12)
8. Dental Education needs special attention. For the present however the Dean of the Dental College may be additionally designated as the Deputy Director of Dental Education and Dental Services. (6.13)
9. The non-medical administration at the top level requires streamlining. A Joint Director (Administration) drawn from the State Civil Service, supported by a Financial Comptroller-cum-Audit officer and a Senior Administrative officer should be put in charge of (i) Personnel management; (ii) Budgeting and expenditure control, (iii) Purchases of stores; (iv) House-keeping. (6.14)
10. The Superintendent of Nursing Services redesignated as the Deputy Director of Nursing Services should be responsible for all the wings of nursing services including nursing education. At the supporting level should be Assistant Directors in charge of the hospital, ESIS and community health wings. The Principal of the Nursing College should be the ex-officio Assistant Director of Nursing Education. (6.15)
11. Chief Medical Stores Officer should function at the Directorate to handle the diverse tasks of organising and running a centralised non-stock holding purchase operation. (6.16)
12. A Hospital Engineering organisation is essential to attend to the maintenance and repairs of buildings and estates. A Hospital Engineer-cum-Chief Estate officer and sub-divisions at the teaching hospitals are recommended to be created. (6.17)
13. A regional organisation with broad authority for promoting coordination at the area level, general powers of direction, supervision and control over the technical aspects of rural services, is necessary. Regional offices of Assistant Directors are recommended for five regions of the State. There should be a liberal pattern of devolution of authority in favour of the Regional Assistant Directors. (7.1; 7.2; 7.3)
14. Standing Committees should be formed at the teaching hospital centres with officials and non-officials to assist in the process of planning and expansion of health services and post-facto evaluation. (7.4)
15. At the district level the Civil Surgeons should be in over-all charge of all medical institutions other than the Primary Health Centres. (7.5)
16. All hospitals in the district other than the principal district hospital should be designated as regional referral hospitals. (7.5)

17. A district level Committee of Direction, consisting of officers should be constituted. (7.5)
18. The District Health officer should be in full command of the entire rural health programme, including family planning. The DFPMO may be designated as the Additional District Health officer. (7.5)
19. The bed-strength at all the district hospitals should be brought upto 200. Increasing the strength beyond, may be taken up in a phased manner in relation to regional needs. (7.8)
20. In the immediate phase all district hospitals require to be provided with the services of specialists in Medicine, Surgery, Paediatrics, and Obstetrics and Gynaecology. Posts of Dental Hygienist and Dental Mechanics are required to be created at the dental clinics of district hospitals. (7.9)
21. Posts of R.M.O., Pathologist, Radiologist and Anaesthetist are essential for a district hospital. (7.10; 7.11)
22. There is need for standardising the staffing pattern of the district hospitals, particularly at the level of general duty medical officers and para-medical staffs. (7.12)
23. The replacement of Honorary Medical officers at district hospitals by full-time incumbents should be taken on hand after a careful assessment of the situation at various centres. (7.13)
24. The staffing of other hospitals in the district also requires to be standardised in order to bring about the much needed uniformity in their organisation and functioning. (7.14)
25. Talukas that do not have hospitals at present should be provided with one hospital each with a minimum bed strength of 50. At the taluka hospitals where the number of beds is less than 50 efforts should be made to raise the strength to this level. Priority has to be given to the needy areas. (7.15)
26. The taluka hospital, to be styled as the 'Regional Referral Hospital' should have three medical officers in the basic specialities of Medicine, Surgery and Obstetrics and Gynaecology and an Anaesthetist. (7.16)
27. A good pathological laboratory for carrying out investigations of routine specimens and X-ray facilities are essential for the taluka hospital. (7.17)
28. In order that the Primary Health Centres function as viable units and achieve greater functional cohesion among the medical and para-medical staff the population coverage of the centre and its sub-centres is necessary. (7.25)
29. An attempt to relocate the RFPCs could yield better service coverage in the rural areas. (7.26)
30. A mobile team of the Medical Officer of the RFPC and key para-medical staff to cover fixed medical aid centres in the remote villages could be organised. (7.26)
31. Upgrading of selected sub-centres into full fledged PHCs and linking sub-centres and the allopathic dispensaries run by the Panchayats, should be taken on hand. (7.27)
32. Medical officers of the dispensaries should also be assigned a few medical aid centres at focal points in the surrounding areas. (7.27)
33. The allocations for the supply of medicines to the PHCs are in need of a substantial revision. (7.28)
34. The problem of staffing of the PHCs and rural dispensaries requires to be tackled by providing monetary and non-monetary incentives to the staff posted to the rural centres. (7.29)
35. Association of private medical practitioners in the scheme of operation of rural health services may prove to be useful. (7.31)
36. A scheme of providing incentives to medical graduates to settle in practice in the rural areas also needs to be worked out. (7.32)
37. A liberal pattern of grant-in-aid to encourage voluntary agencies to run institutions in the needy rural pockets is called for. (7.33)
38. An efficient referral system from the periphery right upto the medical colleges and inter-communication between them should be established. (7.34)
39. The medical colleges and the attached hospitals should function under common control. The Dean of the medical college should also be the Chief-Superintendent of the teaching hospital. (8.3)
40. A Vice-Dean and a Superintendent should be appointed to assist the Dean-cum-Chief Superintendent

in running the college and the hospital respectively. Both these posts should be manned by senior professors, on a fixed tenure of two years. (8.4)

41. Deputy Deans and Deputy Superintendents drawn from the cadre of Assistant Professors may be inducted on the hierarchy of the administration of the college and hospital wings and assigned specific duties. (8.5)

42. The nursing services at the teaching hospital should function under a Chief-Matron. (8.6)

43. A non-medical 'Administration' belonging to the State Civil Service should be appointed to look after responsibilities of an administrative and financial nature. (8.7)

44. A judicious use of the devices of coordination is essential to the efficient functioning of the administration of the Hospital-College complex. A number of Committees should be constituted. (8.9; 8.10)

45. A basic rethinking of the concept of 'Full-time Non Practising' cadres of medical teachers is not called for. (8.11)

46. Induction of Sessional Consultants and the introduction of 'Geographical Practice' for full time medical teachers are recommended. (8.12)

47. Careful advance planning of every phase of the change over to the full-time system and the replacement of the Honoraries would be necessary. (8.14)

48. The evolution of 'Pay-clinics' and 'Group Practice' with arrangements for sharing of receipts between the participating medical teachers and the Government is a step in the right direction. (8.15; 8.16)

49. Improvements in the service conditions of medical teachers and a rational placement policy are positive incentives to be thought of. (8.18)

50. The two medical colleges of Ahmedabad should coordinate their efforts in creating and running departments of post-graduation in order to get the maximum utilisation of scarce physical and man power resources. (8.21)

51. A City Hospital Authority may be created in Ahmedabad and Surat to synthesise the activities of all the major city hospitals both in relation to teaching and patient care. (8.22)

52. Establishing a fully equipped record and reference and information service is an essential prerequisite of the scheme of pooling hospital services in the major cities. (8.23)

53. The medical college and the teaching hospital should play a three fold role—diagnostic, curative and instructional in the scheme of the two-way movement from and towards the community. (8.24)

54. The Mental Hospital Ahmedabad should be developed into a full-fledged regional hospital with at least 500 beds. The Mental Hospital at Jamnagar should also be developed to provide adequate coverage to the Saurashtra region. (9.2)

55. Development of out-door facilities at the mental hospitals deserves to be attended to. (9.3)

56. At district hospitals, organising psychiatric units with a few beds is necessary. (9.4)

57. A State level Coordination Committee should be set up with broad consultative and advisory jurisdiction. (9.5)

58. Each district hospital should have a dental centre, supported by trained staff. Periodical dental clinics may also be organised at the taluka hospitals and selected PHCs. (9.7)

59. Government should assist financially dental graduates to set up practice in semi-urban areas. (9.8)

60. The M & J Institute of Ophthalmology should be expanded to serve as the premier centre for specialised treatment of eye diseases in the State. (9.10)

61. In the rural areas ophthalmic services must be provided through mobile ophthalmic centres, under the joint sponsorship of the government and non-government agencies. (9.12)

62. In keeping with the emphasis on domiciliary treatment of T.B. opening of new hospitals and expansion of existing institutions should be carefully regulated. (9.15)

63. Closer links between the T.B. institutions at the district and taluka levels and Government hospitals must be established. (9.16)

64. Occasionally the services of experts may be obtained for the SET centres for Leprosy. Early detection of the disease among children should be emphasised. (9.18)
65. At least one major centre for undertaking reconstructive surgery needs to be developed in the State. (9.19)
66. The Cancer Institute at Ahmedabad should become the major centre for treatment and research in the State. (9.21)
67. Cancer diagnostic centres with minimal facilities for therapy may be started at all the medical colleges. (9.22)
68. Full fledged intensive care units with a minimum of 5 beds must be provided at all the teaching hospitals.
69. ECG machines should be available at all the district hospitals and other hospitals with more than 100 beds. (9.24)
70. The Diabetes Centres at the B.J. Medical College should be developed. The other medical colleges should also develop centres for diagnosis and treatment of diabetes and metabolic diseases. (9.26)
71. Fully equipped Burn Centres must be located at all the teaching hospitals. (9.29)
72. The medical colleges at Baroda and Ahmedabad should have 'Rehabilitation Centres' and the other two colleges should develop Physiotherapy and Occupational therapy units. (9.31)
73. There is a good case for establishing at least one Paraplegic Centre in the State. (9.33)
74. There should be full integration of the technical cadres of the preventive and curative health services into a new Gujarat Health Service with Junior and Senior levels, both under the Class I category. (10.1; 10.2)
75. Preference for post-graduate degree holders and age relaxation for them at the point of entry are recommended. (10.3)
76. Pooling of comparable senior level posts for purposes of promotion of the entrants at the junior level and the provision of a selection grade covering 15% of the junior grade posts are suggested. (10.4; 10.5)
77. Higher starting pay for the cadre of specialists and a selection grade for 20% of the posts are essential to attract suitable candidates. (10.7)
78. For the posts at the level of Assistant Directors, Deputy Directors and Additional Directors except the Additional Director of Medical Education and Research promotion of officers from the hierarchy should be considered and direct recruitment should be resorted to only in the event of non-availability of suitable candidates. (10.8; 10.9; 10.10)
79. The three year registrarship scheme may prove useful in the context of the staff shortages of the medical colleges. (10.13)
80. There is a case for maintaining a meaningful pay-differential between the posts of Deans and Professors. (10.15)
81. An intelligent advance planning of recruitment and purposeful deployment of manpower are essential to achieve a proper balance. At the junior level a system of rotation between rural and urban postings must be worked out. (10.17)
82. Training courses for officers at different levels should be periodically organised. (10.20; 10.21)
83. The system of writing confidential reports requires to be streamlined. (10.22 to 10.28)
84. The strength of nursing staff at the teaching hospitals should be raised to match the ratio of one for every three beds. At the district and other hospitals the ratio must be progressively raised to one to five. (11.2)
85. The pattern of staffing at special hospitals and the requirement of trained nurses in specific areas of hospital activity should be worked out. (11.3)
86. The rationalisation of the structure of nursing services and the provision of additional opportunities of promotion are essential. (11.5; 11.6)
87. The standardization of the pattern of staffing of para-medical personnel and their salary grades is considered essential in the interests of uniformity. (12.1)
88. Selection grades for at least 10% of each category, of para-medical staff at the hospitals and the PHCs, are recommended. (12.4)
89. At the intermediate levels a rationalisation of the hierarchical structure of the lay administration needs to be attempted. (12.7)

90. The OPD should have a reception counter, prominently located and manned by trained staff. At the major hospitals it should also function as the enquiry office, round the clock. (13.2)
91. Allocating separate hours for seeing new and old patients, running satellite O.P.Ds. in the larger cities and organising OPDs in the after-noon hours are suggested to reduce over-crowding at the hospitals. (13.3; 13.5).
92. Admission of patients indoors for carrying out investigations needs to be avoided. Hospital inns located close to the hospitals should be set up to take care of such cases as also cases of minor treatment and follow-up. (13.6)
93. The OPD should become the medium for promotion of health and prevention of disease and form a living link between the hospital wards, the organised health services and the community. (13.7 to 13.17)
94. The supply of X-Ray units and the creation of technical staff should be systematized. (14.2)
95. Strengthening of laboratory services at hospitals of different categories is suggested. (14.3 to 14.6)
96. For the city of Ahmedabad it would be beneficial to organise a Central Emergency Service. (15.2)
97. Improving the standards of service at the casualty department is essential. (15.4)
98. The organisation of the emergency service in a small town has to be intramural. (15.6)
99. Mobile emergency vans with trained personnel should be available at the larger hospitals so as to render assistance to cases reporting at smaller hospitals. (15.8)
100. All the major hospitals should prepare and rehearse their own 'Disaster Plans'. (15.9 to 15.11)
101. The use of diesel or cooking gas or the smokeless chula should be encouraged at all the hospitals. (16.3)
102. Periodical medical checks of personnel handling food supplies and cooked food, are necessary. Use of hot food trolleys and stainless steel utensils is preferable. (16.4)
103. The purchase of perishable food supplies deserves special care. Proper checks on issues and use of food articles should be constantly made. (16.5)
104. A certain measure of centralisation of the supply of linen to various hospitals might be desirable. A review of the policy of exclusive reliance on Khadi may be necessary in the light of the cost and durability advantages. (16.6)
105. Installation of power laundries at all the major hospitals would prove to be advantageous in the long run. (16.8)
106. Verification and accounting of drugs and medical stores in the wards and the OPD are essential. (16.9)
107. At all the teaching hospitals it is essential to set up a central department for sterilisation, storage and supply of all sterilised material and their upkeep. (16.10)
108. The bacteriological sterility of supplies from the sterile supply source should be subjected to frequent checks. A Standing Committee for reviewing the sterilisation of equipment is suggested. (16.11)
109. A control room manned round the clock is an essential adjunct of the Ambulance Service. (16.13)
110. Regular maintenance and speedy repairs of ambulance cars are essential.
111. The working of the hospitals mortuaries requires to be reorganised on sound lines. (16.15)
112. Medical Audit by a quantitative assessment of clinical records should be introduced at the hospitals and Medical Audit Cells formed for the purpose (16.16)
113. It would be desirable to have small workshops attached to the teaching hospitals and the larger district hospitals, to handle routine repairs. (16.18)
114. Studies on work measurement and utilisation of hospital services should be carried out. Empirical indicators to measure the efficiency of the hospital system should be compiled and analysed regularly. (16.19; 16.20)
115. A compendium of standing orders concerning hospital administration and a Manual to aid the staff of various categories could be usefully brought out. (16.21; 16.22)
116. Strengthening of 'Public Relations' at the hospitals needs special attention. Prompt attention to public complaints, press criticism and provision of facilities at the hospitals are important issues in regard. (16.23 to 16.24)

90. The OPD should have a reception counter, prominently located and manned by trained staff. At the major hospitals it should also function as the enquiry office, round the clock. (13.2)
91. Allocating separate hours for seeing new and old patients, running satellite O.P.Ds. in the larger cities and organising OPDs in the after-noon hours are suggested to reduce over-crowding at the hospitals. (13.3; 13.5).
92. Admission of patients indoors for carrying out investigations needs to be avoided. Hospital inns located close to the hospitals should be set up to take care of such cases as also cases of minor treatment and follow-up. (13.6)
93. The OPD should become the medium for promotion of health and prevention of disease and form a living link between the hospital wards, the organised health services and the community. (13.7 to 13.17)
94. The supply of X-Ray units and the creation of technical staff should be systematized. (14.2)
95. Strengthening of laboratory services at hospitals of different categories is suggested. (14.3 to 14.6)
96. For the city of Ahmedabad it would be beneficial to organise a Central Emergency Service. (15.2)
97. Improving the standards of service at the casualty department is essential. (15.4)
98. The organisation of the emergency service in a small town has to be intramural. (15.6)
99. Mobile emergency vans with trained personnel should be available at the larger hospitals so as to render assistance to cases reporting at smaller hospitals. (15.8)
100. All the major hospitals should prepare and rehearse their own, 'Disaster Plans'. (15.9 to 15.11)
101. The use of diesel or cooking gas or the smokeless chula should be encouraged at all the hospitals. (16.3)
102. Periodical medical checks of personnel handling food supplies and cooked food, are necessary. Use of hot food trolleys and stainless steel utensils is preferable. (16.4)
103. The purchase of perishable food supplies deserves special care. Proper checks on issues and use of food articles should be constantly made. (16.5)
104. A certain measure of centralisation of the supply of linen to various hospitals might be desirable. A review of the policy of exclusive reliance on Khadi may be necessary in the light of the cost and durability advantages. (16.6)
105. Installation of power laundries at all the major hospitals would prove to be advantageous in the long run. (16.8)
106. Verification and accounting of drugs and medical stores in the wards and the OPD are essential. (16.9)
107. At all the teaching hospitals it is essential to set up a central department for sterilisation, storage and supply of all sterilised material and their upkeep. (16.10)
108. The bacteriological sterility of supplies from the sterile supply source should be subjected to frequent checks. A Standing Committee for reviewing the sterilisation of equipment is suggested. (16.11)
109. A control room manned round the clock is an essential adjunct of the Ambulance Service. (16.13)
110. Regular maintenance and speedy repairs of ambulance cars are essential.
111. The working of the hospitals mortuaries requires to be reorganised on sound lines. (16.15)
112. Medical Audit by a quantitative assessment of clinical records should be introduced at the hospitals and Medical Audit Cells formed for the purpose (16.16)
113. It would be desirable to have small workshops attached to the teaching hospitals and the larger district hospitals, to handle routine repairs. (16.18)
114. Studies on work measurement and utilisation of hospital services should be carried out. Empirical indicators to measure the efficiency of the hospital system should be compiled and analysed regularly. (16.19; 16.20)
115. A compendium of standing orders concerning hospital administration and a Manual to aid the staff of various categories could be usefully brought out. (16.21; 16.22)
116. Strengthening of 'Public Relations' at the hospitals needs special attention. Prompt attention to public complaints, press criticism and provision of facilities at the hospitals are important issues in regard. (16.23 to 16.24)

117. The scope for Operations Research in health administration needs to be explored systematically. Several micro studies relating to sub-systems at the institutional level and some micro studies into problem areas of health administration should be taken on hand (16.26 to 16.28)

118. The basic strategy of future development of community oriented health services should be structured around the concept of the 'Primary Physician'.

119. A direct involvement of the medical student in community health care programme by utilising the peripheral health services and training with general practitioners, is essential. (17.6)

120. Different categories of health personnel should work as a team and the doctor should be equipped with training to play the role of the team leader. (17.8)

121. Involvement of the area level hospitals in the training of interns will prove to be helpful in improving the quantum of referral services and imparting a community orientation to medical education. (17.10)

122. The development of all specialist sciences at the various medical colleges would be ideal; as an interim measure optimum utilisation of the resources on hand, shall have to be organised. (17.13)

123. A State Council of Medical Education may be constituted to sort out key issues relating to medical education. A Standing Committee on Post-graduate Education and Research may also be set up. (17.14)

124. Centres of excellence for teaching, research and patient care should be developed at selected medical colleges. (17.15)

125. At the college level there should be a college council of Post-graduate Education. Involving the students in the working of some of the sub-committees of the college council is desirable. (17.17)

126. Post-graduate education in public health needs to be developed. (17.19)

127. Continuing education for all categories of health personnel, organised as inter disciplinary programmes, needs to be stressed.

128. Training in research methodology should start at the under-graduate level and continue through post-graduation to the teachers' careers. (17.24)

129. The formation of a State Council of Medical Research is suggested. At the college level the College Council should be the counterpart. (17.28; 17.29)

130. General improvements in salary scales and the provision of right incentives would encourage the acceptance of a career in medical research. (17.30)

131. A non-store holding Central Purchase Organisation for provisioning, procurement and distribution of stores needs to be set up. This organisation should consolidate the requirements of all medical institutions district-wise and arrange direct supplies to the District Medical Officers and the District Health Officers in the case of PHCs. (18.4)

132. Medical equipment scales for units of different sizes should be laid down. (18.8)

133. A catalogue of stores representing regular requirements of medical institutions may be compiled. Generally pharmacopical nomenclature should be used. (18.9)

134. A Medical Stores and Equipment Panel may be set up. (18.10)

135. A careful scrutiny of the capacity and past performance of tendering firms is a necessary precaution. (18.11)

136. Preference for ISI certified products will be desirable. (18.12)

137. Sample testing of supplies and stores inspection on delivery should be insisted upon. (18.13)

138. Proper storage with temperature control and arrangement of drugs according to dates of expiry are essential. (18.14)

139. Inventory control with ABC classification and VED analysis should be introduced. (18.17)

140. Physical verification of stores and internal audit should be organised periodically. (18.19)

141. Effective steps to check pilferages are needed. (18.20)

142. Service contracts for maintenance of equipments should be entered into. A Central Workshop at Ahmedabad and regional workshops at the medical college centres supplemented by mobile units can largely meet the requirements of maintenance and repairs. (18.23)

143. Maintenance and repairs of vehicles needs to be organised efficiently. Regional workshops should have their own transport wings. (18.24)