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REPORT

OF

THE EXPERT COMMITTEE ON PUBLIC HEALTH SYSTEM

GOVERNMENT OF INDIA
MINISTRY OF HEALTH & FAMILY WELFARE
NIRMAN BHAVAN, NEW DELHI-110 011.

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PREFACE

Centuries old rich Indian heritage of holistic health care practice as detailed in Ayurveda and as evidenced from the relics of Indus valley civilisation was lost through gradual deterioration of quality of medical and health care during the successive centuries following invasions of alien culture, inappropriate uses of scientific discoveries, industrial and agricultural revolution which while contributing to human development in various spheres also created the enormous problem like large pockets of poverty, slums, overcrowding with all its ill-effects, and gross unhygienic sanitary environment in cities and towns. At the time of Independence the status of public health was low as shown through high rates of infant and under - five mortality, high fertility rate and very low life expectancy against the backdrop of low literacy rate, a large segment of population below the poverty line subjected to economic deprivation and hunger, indicating poor quality of human existence. It was at that time that the first major review of Indian health care delivery system with its recommendations in the form of Bhore Committee became available which not only acted as a historical landmark in the development of public health system of the country but also laid down the blue-print of future health planning and development.

During the subsequent decades the development of Indian public health system essentially followed the pattern envisaged by the Bhore Committee. Over the years, several additional committees namely Mudaliar Committee, Chadha Committee, Madhok Committee, Mukherjee Committee, Shrivastav Committee, Kartar Singh Committee, Bajaj Committee, etc. internalised cumulative experiences and further contributed in developing the public health system. National Health Policy came into existence in 1983 and provided strong policy directives for the development of health care delivery system. Unfortunately many of the recommendations made by these committees could not be implemented largely due to non-availability of resources and also to a certain extent due to varying perceptions by the implementing agencies.

Though phenomenal gains have been made in the health status of the people as seen from an increase in life expectancy; reduction in infant mortality, death rate, and fertility rate, yet much more needs to be done to improve the quality of life of the people for meeting the challenges of the new, emerging and reemerging human pathogens and also the rising morbidity and mortality from non-communicable

and lifestyle-related diseases. Increasing evidence of public health emergencies as seen from frequent reports of outbreak of diseases is indicative of declining standard of public health in several parts of the country, thus posing a serious concern amongst health administrators. Responding to such concerns, the Ministry of Health and Family Welfare constituted this Committee to comprehensively review the public health system in the country and to offer appropriate recommendations.

After detailed deliberations the Committee has prepared its report which *inter alia* deals mainly with the current status of public health system, epidemiological surveillance system, status of control strategies for epidemic diseases, existing health schemes, environmental health and sanitation, role of state and local health authorities in epidemic remedial measures, health manpower planning, and health management information system. A series of remedial actions are proposed to impart a greater degree of responsiveness in the public health system. An appropriate action plan has accordingly been formulated.

It is a pleasure to record deep appreciation to all Members of the Committee for their contributions. Dr.K.K.Datta, Member-Secretary of the Committee deserves a special mention for his most valuable efforts in preparing the report. The inputs of Adviser(Health), officials of Health and Family Welfare Division of the Planning Commission and of the National Institute of Communicable Diseases in the preparation of the Report are also acknowledged.

(J.S.Bajaj)
Chairman,
Expert Committee on
Public Health System

Dated : June 6 , 1996

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EXECUTIVE SUMMARY

E-1.0 INTRODUCTION

India is a large country with around 900 million population in 25 states and 7 Union Territories. Historically India had a rich public heath system as evidenced from the relics of Indus Valley civilisation demonstrating a holistic approach towards care of human and disease. The public health system declined through the successive invasions through the centuries, intrusion of modern culture and growing contamination of soil, air and water from population growth. With the establishment of British rule and the initiation of practice of Western medicines in India strong traditional holistic public health practice in India went into disuse bringing disease-doctor-drug orientation. The so-called modern public health practice of the advanced European and industrialised countries was primarily set up around cantonments, district and State Headquarters in British India.

E-1.1 By the time India achieved independence socio-political and economic degradation reached to an extent where hunger and mal-nutrition were almost universal; 50% of the children died before the age of five, primary health care was very rudimentary or non existent and the state of public health was utterly poor as evidenced through life expectancy at birth around 26, infant mortality rate 162, crude death rate around 22, maternal mortality rate around 20. Only 4.5% of the total population had access to safe water and only 2% of the people had sewerage facility. Number of medical institutions were few and trained para professionals like nurses, midwives, sanitary inspectors were barely skeletal in numbers. The picture on the nutrition front was very grave. Food production, its distribution and availability of food per capita were all unsatisfactory. MCH services, school health services, health care facilities for the industrial workers, environmental health were all far from satisfactory.

E-1.2 Under the Constitution, health is a state subject and each state has its health care delivery system. The federal government's responsibility consists of policy making, planning, guiding, assisting, evaluating and co-ordinating the work of various provincial health authorities and also supporting various on-going schemes through several funding mechanisms. By and large health care delivery system in India in different states has developed following independence on the lines of suggestions of the Bhore Committee which recommended delivery of comprehensive health care at the door step of the population through the infrastructure of primary health centres and sub centres. During the last eight 5 year plans following independence a large network of primary health care infrastructure covering the entire country has been established. In addition, several national health and disease control programmes were initiated to cover a wide range of communicable diseases namely, malaria, filaria, tuberculosis, several vaccine preventable diseases like diphtheria, pertussis, tetanus, polio, measles etc. and to also cover some important non-communicable diseases like iodine deficiency disorders,

control of blindness, cancer, diabetes etc. The progress was periodically reviewed through constitution of several committees like Mudaliar Committee, School Health Committee, Chadha Committee, Mukherjee Committee etc. To provide more thrust on the improvement of environmental health and sanitation the responsibilities pertaining to water supply, sanitation and environmental related issues were transferred to the concerned ministries of Urban Development, Rural Development and Environment and Forests. Major initiatives were taken up in our efforts to reach **Health for All by 2000 A.D.** on the lines of policy directives enunciated in National Health Policy. Eighth plan starting in 1992-93 clearly emphasised that the health facilities must reach the entire population by the end of 8th plan and that the health for all paradigm must not only take into account the high risk vulnerable group i.e. mothers and children but also focus on the under privileged segments both within and outside the vulnerable group. All the efforts put through the last four and a half decades following independence made significant dent in the improvement of health indices viz. IMR 74 (1994), water supply urban area 84.9%, rural area 79.2% (1993), sanitation urban area 47.9% (1993), rural 14% (1994), crude death rate 9.2% (1994), expectation of life at birth Male 60.4% (1992-93) and female 61.2% (1992-93). Significant number of doctors and para medical staff are available and the food productions have been raised from 50 million tonnes in 1950 to 182 million tonnes in 1993-94 increasing the per capita availability even in spite of large population growth from 394.9 gm in 1951 to 474.2 gm in 1994.

E-1.3 In spite of this significant development and impressive growth in health care, enormous health problems still remain to be tackled and addressed to. Though mortality has declined appreciably yet survival standards are comparable to the poorest of the nations of the world. Even within the country wide differences exist in the health status in the states like Bihar, Orissa, Madhya Pradesh, Rajasthan to that of Karnataka, Maharashtra and Punjab which have done exceedingly well in terms of quality of human life. Major problems facing the health sectors are, lack of resources, lack of multi-sectoral approach, inadequate IEC support, poor involvement of NGOs, unsatisfactory laboratory support services, poor quality of disease surveillance and health management information system, inadequate institutional support and poor flexibility in disease control strategy etc.

E-1.4 In the background of the above and also in the light of the observations in recent times following review of the rural health services, national programmes like malaria, tuberculosis, UIP etc. concern has been expressed that whether our efforts will succeed in achieving the goal for reaching **Health for All by 2000 A.D.** In fact experts are of the opinion that Health for All by 2000 A.D. is not a distinct possibility. It may have to be revised backwards by a decade or two. The concern has been further compounded following the recent outbreaks of malaria and plague indicating poor response capability of the existing public health system in meeting the emergent challenges of the modern days particularly the threat posed by new,

emerging and re-emerging human pathogens. In this context, the Government of India constituted an expert committee to comprehensively review the public health system in the country under the chairmanship of Prof. J.S. Bajaj, Member, Planning Commission to undertake a comprehensive review of (a) public health system in general and the quality of epidemic surveillance and control strategy in particular, (b) the effectiveness of the existing health scheme, institutional arrangements, role of states and local authorities in improving public health system, (c) the status of primary health infrastructure, sub centres and primary health centres in rural areas specially their role in providing intelligence and alerting system to respond to the science of outbreaks of disease and effectiveness of district level administration for timely remedial action and (d) the existing health management information system and its capability to provide up-to-date intelligence for effective surveillance, prevention and remedial action. The committee had four meetings in addition to interaction between the members of the expert committee. The summary of the observations and recommendations suggested by the committee are summarised here.

E-2.0 PUBLIC HEALTH SYSTEM IN INDIA

E-2.1 Federal Set up

The federal set up of public health system consists of Ministry of Health & Family Welfare, the Directorate General of Health Services with a network of subordinate offices & attached institutions and the Central Council of Health & Family Welfare. The Union Ministry of Health & Family Welfare is headed by a cabinet minister who is assisted by a Minister of State. It has three departments namely, Department of Health, Department of Family Welfare and Department of Indian Systems of Medicines. The Department of Health deals with the medical and public health matters including drug control and prevention of food adulteration through the Directorate General of Health Services and its supporting offices. Director General of Health Services renders technical advice on all medical and public health matters and monitors various health schemes. Director General of Health Services also renders technical advice on family welfare programmes. The functions of the Union Ministry of Health and Family Welfare are to carry out activities to fulfil the obligations set out in the 7th Schedule of the Article 246 of the Constitution of India under Union and Concurrent list.

The federal government has set up several regulatory bodies for monitoring the standards of medical education, promoting training and research activities namely, Medical Council of India, Indian Nursing Council, Pharmaceutical Council etc. In addition to the Union Ministry of Health & Family Welfare, Planning Commission has a Member (Health) of the rank of a Minister of State who assists the Ministry of Health in formulation of plan through advice and guidance and the expert guidance is also available for monitoring and evaluation of the plan projects and schemes.

E-2.2 State level

The State governments have full authority and responsibility for all the health services in their territory. The State Ministry of Health & Family Welfare is headed by a Minister of Health & Family Welfare either of a cabinet rank or a Minister of State. Often he/they is/are assisted by a Deputy Minister depending upon the political situation. The Health Secretariat is the official organ of the State Ministry of Health & Family Welfare and is headed by a Secretary/Principal Secretary/Commissioner as the case may be. State Health Secretariat is assisted by a technical wing called the State Health Directorate. Earlier all the functions pertaining to health and family welfare and medical education were integrated. However, now in many states directorates of public health services, posts of Director of Public Health, Director of Family Welfare and Director of Medical Education have been separated and they report directly to the Secretary.

E-2.3 District Level

The principal unit of administration in India is the district which is under a Collector, District Magistrate/Deputy Commissioner. The size of the districts vary widely from less than 0.1 million to more than 3 million and the district public health system is headed by the Chief Medical and Health Officer/District Health Officer.

E-2.4 Community Health Centre/Primary Health Centre/Sub Centre

Apart from the headquarters of the district having district hospitals and the office of the Chief Medical and Health Officer, the district has a network of hospitals, dispensaries, community health centres, primary health centres and sub centres to cover the entire population of the district with regard to health care delivery services. It has also the network of hospitals and dispensaries under the Indian Systems of Medicine and Homoeopathy.

E-2.5 Health is a multi-ministerial responsibility. Many of the activities undertaken by the other ministries have tremendous impact on the health of the people. Several policy initiatives related to agriculture, urban development, industrial packages have far reaching health linkages involving higher morbidity and mortality. The same need to be analysed through appropriate health impact assessment studies for guidance of policy makers.

E-2.6 Many of the areas under the National Health Policy have not yet been implemented. During the last decade massive changes have occurred through destruction of ecological system, rapid urbanisation, large population growth, industrial revolutions etc. leading to changes in health and demographic scenario. Appearance of new, emerging and re-emerging health

problems has been causing concern. This calls for review of the National Health Policy.

E-2.7 India is a large country with diverse socio economic situations. Therefore, uniform health care delivery system is not likely to yield the desired results. Therefore, continued efforts to develop alternate strategies should be there so that the same could be appropriately dovetailed within the overall framework of the health care delivery system to obtain better results.

E-2.8 73rd and 74 Constitutional amendments have provided immense administrative and managerial authorities to the Panchayats and municipalities. The same should be fully exploited with appropriate delegation of financial authorities to improve the public health system.

E-2.9 Several ministries are involved in public health related activities. Hardly any appropriate inter-sectoral co-ordination and co-operation mechanism exists.

E-2.10 In the present organisational set up of the Ministry of Health & Family Welfare there are several areas of duplications and there is excessive bureaucracy. Not enough number of senior public health positions exist. Many of the important positions requiring public health responsibility are being managed through non-Public health professionals. For several key areas like environmental health & sanitation, manpower planning hardly any component exists in the DGHS.

E-2.11 Indian Systems of Medicine & Homoeopathy has large number of professionals. They are not being appropriately exploited to supplement the modern health care delivery services particularly in the area of awareness, community participation etc.

E-2.12 Rapid urbanisation has led to phenomenal growth in urban population. 25-30% live now in urban area. Though tertiary care services are available but primary care is grossly neglected here leading to higher morbidity & higher mortality amongst urban poor and slum dwellers and to also over straining of tertiary care health services.

E-2.13 Earlier practice of integrated delivery of health care services is being eroded through creation of separate directorates in several states leading to disintegrated pattern of medical and health administration. Growth of bureaucracy as evidenced through placement of bureaucrats as Directors of Health Services or as heads of primarily medical and health organisations is also responsible for erosion of public health machinery.

E-2.14 Epidemiological support services and public health laboratory facilities at the district level is grossly inadequate.

E-2.15 Referral services in the community health centre is poor. Public health specialised services in the community health centre is totally lacking.

E-3.0 EPIDEMIOLOGICAL SURVEILLANCE SYSTEM

E-3.1 Epidemiological services were grossly inadequate prior to independence but have since developed to a great extent, concurrently with the national control/eradication programmes for various diseases like malaria, tuberculosis, leprosy, cholera, vaccine preventable diseases, filaria etc. However, there is a conspicuous lack of uniformity in the lists of diseases which are notifiable in different states and also from the view point of primary agency responsible for reporting. Cholera, yellow fever and plague which are under International Health Regulations are notifiable throughout the country. The other important diseases which are notifiable in one state or the other are viral hepatitis, enteric fever tuberculosis, influenza, meningitis, Japanese Encephalitis, rabies, diphtheria, leprosy, measles, poliomyelitis etc. Notification system in operation in various states is usually supported through certain legal provisions. The position with regard to legal provisions also varies from state to state and some state governments do not have any specific act excepting invoking the Epidemic Diseases Act 1897. In urban areas the responsibility lies with the municipal health authorities. Common defects in notification are delay and inaccuracy in reporting the cases and under reporting.

E-3.2 Epidemiological investigations have a key role to play in effective control of diseases. For co-ordinating and carrying out such investigations, epidemiological units/cells have been established in a number of states but there are states where such units have not been established yet. Public health laboratories play a premier role in verification of diagnosis, in assisting epidemiological tracing of the spread of the outbreak and in understanding the natural cycle of the disease. In most of the states, public health laboratories are not functioning very efficiently and there is hardly any facilities for virus isolation work in these public health laboratories.

E-3.3 Wide variation in the notification system being implemented by various states/UTs make the data lack in epidemiological quality and thus hardly offers inputs for an effective response. The data generated through the massive rural health infrastructure and hospitals and dispensaries are received late and are non-uniform with scanty laboratory support. It includes also no reporting and truncated reporting from several areas due to complete blackout of surveillance in time & space due to variety of reasons viz. non-availability of health personnel, apathy of health personnel, poor management, errors in reporting etc.

E-3.4 Surveillance data generated through the system and through various programmes are considered at best indicative of trend rather than the actual situation in the community and mortality and morbidity numbers reported are grossly under estimated.

E-3.5 Though major national health and family welfare programmes have institutional support services but such support mechanism is grossly inadequate to meet the challenging needs of the modern programme management. With large amount of information being generated covering various areas of development and various scientific disciplines, there is an urgent need for their appropriate analysis, understanding and dovetailing to make the on-going programmes more modern and updated. Unfortunately, in several of the programmes such formal mechanism does not exist. Though a large number of medical colleges, national and referral institutions are there not much has been done in the context of harnessing the expertise through a formal linkage mechanism.

E-4.0 STATUS OF CONTROL STRATEGIES FOR EPIDEMIC DISEASES

E-4.1 Appropriate guidelines for detection of outbreak and early warning signal mechanism for epidemic prone diseases are not nationally available. It is usually provided by NICD on *ad hoc* basis.

E-4.2 Though several diseases with epidemic potentiality are covered through national disease control/eradication programmes like National Malaria Eradication Programme, Universal Immunisation Programme, there is no centrally sponsored or central scheme to tackle epidemic prone diseases in general. National Malaria Eradication Programme provides guidelines with respect to detection and containment of epidemic of malaria and kala-azar and so also several of EPI targeted diseases have appropriate guidelines for epidemiological investigations. Guidelines have provisions of initiating control measures but none of the guidelines have a component of generating early warning signal and thus helping in identification of outbreaks early. For many of the diseases like poliomyelitis, cholera, viral hepatitis, adequate diagnostic support services are not available as a result many of them are not detected and reported. Even in most of the medical colleges facilities for identifying new sero types of cholera are not available.

E-5.0 EXISTING HEALTH SCHEME

E-5.1 There are large number of schemes functioning in the country like Development of health infrastructure, Training of professionals and para professionals, Village health guide, Mini health centre, Rehbar-i-Sehat scheme, Child survival and safe motherhood scheme including UIP, Programme of Acute Respiratory Infection, ORT, etc. in addition to several major diseases control/eradication programmes covering diseases of public

health importance like malaria, leprosy, tuberculosis etc. under communicable diseases and blindness control, iodine deficiency disorders, cancer and diabetes etc. under chronic diseases. In addition to the above programmes under the Ministry of Health and Family Welfare there are several schemes under other ministries like Ministry of Rural Development, Ministry of Urban Development, Ministry of Environment & Forests and Ministry of Welfare to cover wide areas of environmental health, water supply, sanitation and child health.

E-5.2 All the schemes have been aimed to improve the public health system. Large number of agencies are involved. Co-operation and co-ordination between these agencies are grossly inadequate and thus many of the programmes do not give satisfying performance.

E-5.3 Multiplicity of funding mechanism, poor administrative & financial authority at the peripheral points, multiplicity in administrative authority lead to poor performance.

E-6.0 NATIONAL FAMILY WELFARE PROGRAMME

E-6.1 India was the first country to have an official family welfare programme which was initiated in 1952. Since then, during the subsequent eight five year plans, family planning as a measure of population control has been receiving high priority attention in each of the five year plans. During the 3rd five year plan (1961-66), family planning received a major boost and it was declared the very centre of plan development and in the year 1966 a separate Department of Family Planning was established in the Ministry of Health and the extension approach was further modified into an integrated approach and thus family planning became an integral part of MCH and nutrition services. The National Health Policy has indicated a long-term demographic goal of achieving replacement level fertility (net reproduction rate of 1.0) by the year 2000 A.D. which would necessitate achieving a birth rate of 21 per thousand, death rate of 9 per thousand and annual population growth rate of 1.2 per cent. The 7th plan document visualised the goal of reaching the same by 2006-11. However, keeping in view the level of achievement the 8th plan document has envisaged to achieve the same by 2011-16.

E-6.2 The family planning programme has not been able to achieve fully the demographic goals which are vitally linked with improvement of public health system in the country. States which have done exceedingly well on the demographic front have also done well on the health front.

E-6.3 Creation of a separate department leading to disintegration of earlier integrated way of functioning has not improved performance.

E-6.4 Poor referral services to a great extent are responsible for high maternal and infant mortality Only few first referral units are functional.

E-6.5 India is a vast country. Efforts of the government alone can not meet the needs. Though a large number of NGOs are functioning well in the country, not much efforts have been made in that direction to involve them more effectively in the delivery of health & family welfare services.

E-7.0 ENVIRONMENTAL HEALTH AND SANITATION

Though environmental health and sanitation received priority attention in all the successive plans but level of environmental health and sanitation both in rural areas and in urban areas continues to be poor in spite of significant achievements in terms of coverage and quality of service. This has been largely due to large population growth, urbanisation, industrialisation, population movements and ecological changes. Following the Bhore Committee recommendations an Environmental Hygiene Committee was constituted in 1948-49 and in 1953 a national level technical body (Central Public Health Engineering Organisation) was established in the Ministry of Health to undertake national water supply and sanitation programme. In 1973 the subject of water supply and sanitation was transferred from Ministry of Health to Ministry of Works and Housing and local self government (presently redesignated as the Ministry of Urban Affairs and Employment). The Water (Prevention and Control of Pollution) Act of 1974 was another milestone in the prevention and control of water pollution in the country. For implementation of the Act, a Central Pollution Control Board at the national level and State Pollution Control Boards at the state level were established in 1974. The Act was amended in 1988. The Air (Prevention and Control of Pollution) Act, 1981 amended further in 1987 has provided an instrumentation to improve the environment. In 1981 International Drinking Water Supply and Sanitation Decade was launched. In addition to that centrally sponsored rural sanitation programme and several other programmes were also initiated by different ministries. In spite of all these efforts, recurring outbreaks of gastrointestinal disorders and haemorrhagic dengue fever etc. and large scale outbreaks of malaria and plague in recent years point towards insufficiency in our efforts in improving environmental health and sanitation. The low level of urban, peri-urban and rural sanitation is a matter of deep concern. Multiple operating agencies with poor co-ordination between them have added to poor programme efficiency.

E-8.0 ROLE OF HEALTH AUTHORITIES IN EPIDEMIC REMEDIAL MEASURES

E-8.1 Health is a state subject and the entire health care delivery services including epidemic remedial measures are primarily through the State

governments who have the constitutional authority and obligations to implement the health care delivery services. The municipalities and the local authorities and the State governments though have the constitutional authority and obligations to effectively implement the public health programmes but they are unable to function satisfactorily in that direction because of paucity of resources, non-availability of the expertise in terms of personnel and institutional support etc. and also due to appropriate perception of public health problems. Many of these local bodies do not have requisite financial authorities.

E-8.2 Municipal Bye-laws and the local bye-laws are widely in variation from one and another and many of them are outdated. Many of the provisions of municipal bye-laws and local bye-laws though technically sound but do not yield desired results because of poor implementation.

E-9.0 CURRENT STATUS OF HMIS & ITS ROLE

9.1 Initially HMIS was started in the states of Haryana, Gujarat, Rajasthan and Maharashtra on pilot basis in one district each of the states. The system was manual and the data which was generated as a result of implementation of the pilot project proved very useful. On the basis of the achievement of HMIS which was known as HMIS Version 1.0, the programme officers of various State Governments and experts from the related fields were consulted and the inputs for each level of institution responsible for health care delivery were designed and developed.

E-9.2 During the year 1988-89 National Informatics Centre set up Satellite based computer communication network called NICNET and the HMIS was again modified and modified computerised formats designed and developed in the shape of Version 2.0 were implemented. It has become fully operational in Haryana, Sikkim and in several other states it is in different stages of implementation.

E-10 RECOMMENDATIONS

E-10.1 Short-term

E-10.1.1 Policy Initiatives

E-10.1.1.1 Review of National Health Policy

The National Health Policy was formulated and adopted in 1983. During the years since then major changes have occurred through continuing population growth, rapid urbanisation, industrial revolution, changing health and demographic scenario, appearance of new, emerging and re-emerging health problems etc. Newer technologies are also available. In view of the same, the National Health Policy needs a careful and critical reappraisal. The committee, therefore, recommends constitution of a Group of Experts to prepare the draft of the new National Health Policy by the end of 1996.

E-10.1.1.2 Establishment of health impact assessment cell

There is a need to enhance the capacity and capability of the Ministry of Health & F.W. to undertake health impact assessment for major development projects, industrial units etc. so that the project/industrial authorities could be appropriately advised & guided to incorporate proper intervention measures/changes as the case may be. All large projects of different ministries should invariably have health component in the proposal itself and this should be examined and approved by the Ministry of Health & Family Welfare. Regular analysis of various public policies and practices of other ministries viz. agriculture, industry, urban development, rural development and environment, which have direct link with the health of the people, must be considered as an essential prerequisite for a meaningful inter-ministerial co-ordination.

E-10.1.1.3 Surveillance of critically polluted areas

Health impact and environmental epidemiology related to air, water, and soil pollution need to be monitored and evaluated particularly in the critically polluted areas in the country. Ministry of Health and Family Welfare should initiate actions in this regard urgently, in co-ordination with the Ministries of Environment, Industry and Urban Development. Measures such as a properly maintained data-base, mapping of the vulnerable areas, immediate intervention where possible and continuing surveillance need to be initiated as a well structured programme of action.

E-10.1.1.4 Search for alternative Strategy/ strengthening of health services/system research

Uniform health care strategy for the entire country is not likely to succeed because of a variety of reasons: geographic, socio cultural, ethnic, educational, economic etc. The committee recommends that allocation of adequate funds to the Centre, UTs and State Directorate of Health Services enabling them to undertake or commission Health Services/System Research and Intervention Studies and to ensure that such research results are utilised to improve the health care delivery services.

E-10.1.1.5 Uniform adoption of Public Health Act by the local health authorities

Model Public Health Act revised and circulated in 1987 should be examined by all State health authorities, municipalities and local health authorities carefully and adopted/enacted to suit local and national needs.

E-10.1.1.6 Establishing National Notification System/National Health Regulations

The notification system as it exists today varies widely from state to state and within the state from area to area. The Committee recommends uniform National Health Regulations for adoption by all states.

E-10.1.1.7 Joint Council of Health, Family Welfare and ISM & Homoeopathy

The existing Joint Council of Health & Family Welfare should be further broad based to make a Joint Council of Health, Family Welfare and Indian Systems of Medicine & Homoeopathy.

E-10.1.1.8 Establishing an Apex Technical Advisory Body

In order to ensure a mechanism of continuing review and appraisal of public health issues, policies, programmes and services, the committee recommends establishment of broad based Apex Technical Advisory Body to advise the Ministry of Health & Family Welfare.

E-10.1.1.9 **Constitution of Indian Medical & Health Services**

The Committee reinforces in the strongest terms the need to constitute Indian Medical & Health Services without any further delay.

E-10.1.1.10 **Administrative restructuring**

E-10.1.1.10.1 **Organisational set up of the ministry**

E-10.1.1.10.1.1 Most of the functions of the Union Ministry of Health and Family Welfare are highly technical in nature and, therefore, require technical leadership of a high quality. The committee therefore, strongly recommends that the union Ministry of Health & Family Welfare may consider merger of the two departments of Health & Family Welfare and the single department so created benefits from technical leadership as indicated above. The department of ISM and Homeopathy may also have to be similarly restructured.

E-10.1.1.10.1.2 The Department of Health & Family Welfare and DGHS should be restructured and reorganised and while doing so emphasis should be given to strengthen Planning Division of DGHS, Food and Drug Division. New Divisions of Environmental Health & Sanitation, Health impact assessment Cell and Health Manpower Division should also be established.

E-10.1.1.10.1.3 All the major technical divisions under the Union Ministry of Health & Family Welfare and major institutions/organisations should have an advisory body to periodically review the functioning of these divisions/institutions and suggest appropriate corrective step or steps for improving their various activities.

E-10.1.1.11 **Health Manpower Planning**

E-10.1.1.11.1 The DGHS should have a strong Health Manpower Planning Division; appropriate institutional support mechanism also be established through establishment of a National Institute of Health Manpower Development.

E-10.1.1.11.2 The committee reiterates that recommendations contained in Bajaj committee report of 1987 on health manpower planning production and management should be implemented in right

earnestness which will greatly strengthen public health system in the country.

E-10.1.1.11.3 The committee recommends that positions requiring public health tasks should be filled by appropriate qualified public health professionals and until these professionals are available, these could be operated by general category health professionals through appropriate training in health services administration, management and epidemiology.

E-10.1.1.12 **Opening of Regional Schools of Public Health:**

The committee recommends that at least four more regional schools of public health are set up in Central, Northern, Western and Southern regions. Duly modernised schools could be in the pattern of All India Institute of Hygiene and Public Health, Calcutta and School of Tropical Medicine, Calcutta.

E-10.1.1.13 **Strengthening and upgradation of the Departments of Preventive and Social Medicine in identified medical colleges**

The committee recommends that some of the existing medical colleges who have very significant expertise in teaching of preventive and social medicine/community medicine be further strengthened by establishing within the department an advanced centre for teaching of public health or through upgrading the existing department so that it can take up additional responsibilities of continuing education in public health subjects for health professionals and can also undertake responsibilites for producing more public health professionals to meet the demands of the country. In this context, it is strongly suggested that a centrally sponsored programme of upgradation of few identified departments of preventive and social medicine in the medical colleges could be taken up during the last financial year of this Plan and during the 9th Plan period at least 25% of existing departments may be similarly upgraded through availability of additional funds by the Planning Commission to the Ministry of Health & F.W. in this regard. These centres could be linked through a network so that the facilities could be maximally utilised.

E-10.1.1.14 **Reorganised functioning of the Department of PSM in Medical Colleges:**

The committee suggests that some of the positions of the Department of Preventive and Social Medicine should be periodically rotated between the State/District National health programme management focal points so that the programme managers get the benefit of updated academic and technical skills and the students are

benefited from the practical experience of the programme managers at the field level.

E-10.1.1.15 **Establishing a Centre for Disease Control**

The committee is of the view that National Institute of Communicable Diseases, Delhi should be substantially strengthened through capacity building into a National Centre of excellence for Disease Control on the pattern of similar advanced centres such as CDC, Atlanta.

E-10.1.1.16 **Primary Health Care infrastructure in urban areas:**

The committee recommends that an Expert Group be constituted to suggest restructuring or even redesigning of health care infrastructure linking existing primary health care infrastructure to secondary and tertiary care in urban areas in a geographically defined area and developing appropriate referral system.

E-10.1.1.17 **State Level:**

Creation of several positions of Directors at the State level has led to disintegration of earlier integrated pattern of medical and health administration. Earlier practice needs to be restored. It is also recommended that functioning of the Department of Health being mostly that of technical nature a technical man should be the head of the Department of Health instead of a bureaucrat.

E-10.1.1.18 **District level:**

The committee recommends to establish epidemiological unit if not already existing under the National Disease Surveillance Programme.

E-10.1.1.19 **Establishment of a supervisory mechanism at the Sub-district level:**

The committee is of the view that there is an urgent need to institute appropriate supervisory mechanism at the sub district level.

E-10.1.1.20 **Community Health Centres:**

Community Health Centre is regarded as the first referral unit. The National Education Policy in Health Sciences as approved by the Central Council of Health & Family Welfare in 1993 has recommended

placement of one public health specialist at the community health centre (CHC) level and if this is implemented the same will contribute immensely in strengthening the public health system.

Until such time as a Public health expert is available at CHC level, it is suggested that each of the specialists take up the responsibility of monitoring the public health programme pertaining to their speciality in the population covered by CHC e.g. obstetrician will supervise collection and reporting of data pertaining to Reproductive Health and Family Planning, Paediatrician for immunization and child survival, physician for communicable and non-communicable disease control programme, surgeon for disability limitation rehabilitation and blindness control programmes.

E-10.1.1.21 PHC/Sub-Centre level:

To ensure participatory management by the community the organisational structure of the health services at PHC/Sub-centre/village level should be entrusted to the Panchayati Raj institutions which should decide the nature, structure, and priorities of the organisation of the health care delivery services at the village level depending upon the local situation, resource availability etc.

E-10.1.1.22 Village level

The committee is of the considered opinion that the Village Health Guide in the new envisaged role as Panchayat Swastha Rakshak will provide useful support to the Panchayat system at the village level in enhancing community awareness and participation.

E-10.1.1.23 Prevention of Epidemics:

E-10.1.1.23.1 It may not be possible to completely prevent outbreak of diseases. However, epidemics can be prevented if an appropriate surveillance mechanism is established. In fact price of freedom from disease is appropriate surveillance. The Committee agrees with the recommendations of the Fourth Conference of the Central Council of Health & Family Welfare (1995) proposing initiation of a National Disease Surveillance Programme for strengthening of health surveillance and support services and recommends that this programme should be initiated as a centrally sponsored scheme within the existing health infrastructure with appropriate laboratory support involving already existing expertise in various national institutes, medical colleges, and district public health laboratories.

E-10.1.1.23.2 With the establishment of National Disease Surveillance Programme, several national institutes at the national, regional and state level alongwith several medical colleges and important public health laboratories will be appropriately linked so that the response capability becomes faster and expertise available in these institutes promptly could be harnessed by the executive health authorities at the district level to respond to an epidemic situation.

E-10.1.1.23.3 The committee recommends that National Institute of Communicable Diseases should prepare guidelines for surveillance regularly under the supervison of a National Task Force, update the guidelines at predetermined interval and send to all health implementing agencies. The guidelines should include details of the mechanism of detection of outbreak and detection of early warning signal.

E-10.1.1.23.4 The system of civil registration of deaths, Model Registration Scheme, Sample Registration Scheme subsequently renamed as Survey of Causes of Death (Rural), certification of causes of death should be continuously improved by enlarging its scope and coverage so that it gives more relevant data in the context of the entire country.

E-10.1.1.23.5 The processing of weekly epidemiological statistics being provided by CBHI lacks an appropriate feed back channel to the various peripheral agencies. The same need to be developed in the pattern of MMWR (Morbidity Mortality Weekly Report) published by CDC and National Institute of Communicable Diseases may take up the responsibility for the same. CBHI may continue to act as a nodal agency for diseases which are being reported on a monthly basis. The diseases under International Health Regulations and the diseases under National Health Regulations having epidemic potentiality should be the responsibility of NICD which has the due expertise in appreciating the problem and initiating action accordingly.

With the expansion of HMIS to other states and its establishment on a firm basis the epidemic intelligence component could be appropriately dovetailed within the HMIS and a few districts in some states be taken up where HMIS has been satisfactorily established incorporating the epidemic intelligence component in the light of the experiences of NICD epidemic prone disease surveillance project and NADHI Projects of CMC, Vellore on a pilot basis. If found successful, it will further strengthen the HMIS in its response capability. This could form part of operational research support to the proposed National Disease Surveillance Programme.

E-10.1.1.23.6 The committee recommends that the Epidemic Diseases Act provisions should be made available to all the health authorities and the provisions under the Act could be continuously reviewed by a designated group to make it more comprehensive in the light of the latest scientific information available.

E-10.1.1.24 **Upgradation of Infectious Diseases Hospitals**

Every State has got one or more ID Hospitals. Most of these hospitals are inadequately staffed with poor maintenance. Many of them lack the basic diagnostic support services. There is an urgent need that facilities in these hospitals are appropriately reviewed and modernised to meet the requirements of infectious diseases management.

E-10.1.1.25 **Water quality monitoring**

Ministry of Health & Family Welfare should take up the issue of water quality monitoring with the Ministries of Rural Areas and Employment and Urban Affairs and Employment and initiate a few pilot studies in different locations in the country to examine the feasibility of implementing a community based and affordable model of water quality monitoring and develop National Action Plan in this regard based on pilot study results.

E-10.1.1.26 **Urban Solid Waste**

The committee endorses the recommendations of the 1995 Bajaj Committee Report of the High Power Committee on Urban Solid Waste Management in India, constituted by the Planning Commission with regard to collection, transportation and safe disposal of municipal wastes including industrial and hospital wastes etc. The committee also endorses the suggestion of the Bajaj Committee, that it is essential to evolve a National Policy as well as an action plan for management of solid waste.

E-10.1.1.27 **Inter-sectoral Co-operation:**

E-10.1.1.27.1 Large number of health schemes are implemented through the Ministry of Health & Family Welfare. In addition, there are large number of schemes having tremendous impact on human health and quality of life. These schemes are being implemented through several other ministries. But as different agencies are involved and co-ordination between these agencies is not so easily achieved, the Committee is of the opinion that until and unless a formal mechanism of co-ordination and co-operation is established involving all concerned and guidelines indicating detailed responsibilities in respect

of all participating units precisely defined, even inspite of individual schemes appearing to be technically sound, the same will not be able to deliver what is expected of them in terms of effective improvement in the Public Health System.

E-10.1.1.28 **Non-Governmental Organisations (NGOs):**

The committee recommends that the NGOs should be increasingly involved through an appropriately developed action plan with suitable funding.

E-10.1.1.29 **Involvement of ISM & Homoeopathy:**

The practitioners of Indian System of Medicine can be gainfully employed in the area of National Health Programmes like the National Malaria Eradication Programme, National Leprosy Eradication Programme, Blindness Control Programme, Family Welfare and universal immunisation, nutrition programme etc. Within the health care system, these practitioners can strengthen the components of (i) health education, (ii) drug distribution for national disease control programmes, (iii) motivation for family welfare, and (vi) motivation for immunisation, control of environment etc.

E-10.2 **Long-term**

Broad set up of Ministry:

The recommendations of the Bhore Committee that the Ministry of Health should be under the charge of a separate Minister is being followed and is currently in practice. However, the members of the committee are of the opinion that the several activities linked with the human health are presently undertaken by Ministry of Welfare, Ministry of Human Resource Development, Ministry of Urban Development, Ministry of Environment, Ministry of Rural Development etc. The work of sanitation and environmental health was earlier with the Ministry of Health but now it is being undertaken by several ministries viz. Ministry of Environment and Forests, Ministry of Rural Areas and Employment, Ministry of Urban Affairs and Employment and Ministry of Chemicals. It has been further seen that the inter-sectoral co-ordination which is very vital in successful implementation of various programmes is not readily available through a formalised mechanism resulting in poor achievements under various programmes. Therefore, involving all the activities pertaining to human health, creation of a new ministry such as Human Welfare may require serious consideration. Alternatively a National Council of

Human Welfare be constituted under the chairmanship of Prime Minister of India, and other members being Deputy Chairman, Planning Commission, Ministers of concerned Ministries, eminent medical and health professionals and representatives of professional organisations and NGOs etc.

INTRODUCTORY CHAPTER

1.0 BACKGROUND

The Ministry of Health & Family Welfare, Government of India constituted a Committee to comprehensively review the public health system in the country with major emphasis on quality of epidemic surveillance, its role in alerting the health system to respond to the signs of outbreak of disease and the effectiveness of the district level administration and the existing Health Management Information System (HMIS) for mounting timely remedial action vide Order No.T.21011/13/94-PH dated the 8th March, 1995 with the following composition[1]:

1.	Prof. J S Bajaj, Member, Planning Commission.	Chairman
2.	Dr Jai Prakash Muliyil, Deptt. of Community Medicine, Christian Medical College, Vellore.	Member
3.	Dr Harcharan Singh, Ex-Adviser (Health), Planning Commission.	Member
4.	Dr N S Deodhar, Ex-Officer on Special Duty, MOH&FW, 134/1/20, Baner Road, Aundh, Pune.	Member
5.	Dr K J Nath, Director, All India Institute of Hygiene & Public Health, Calcutta.	Member
6.	Dr K K Datta, Director, NICD, Delhi.	Member-Secretary

The Terms of Reference of the committee were as follows:

1. The Committee will comprehensively review:-

   a) **the public health system in general and the quality of epidemic surveillance and control strategies in particular;**

   b) **the effectiveness of the existing health schemes, the institutional arrangements and the role of the States and local authorities in improving the public health system;**

   c) **the status of the Primary Health infrastructure (sub-centres and primary health centres) in rural areas, especially their role in providing intelligence and alerting the system to respond to the signs**

[1] Ministry of Health & Family Welfare's order No.21011/13/94-PH dated the 8th March.1995.

of outbreaks of disease, and the effectiveness of the district level administration for timely remedial action; and

d) **the existing Health Management Information System and its capability to provide up-to-date intelligence for effective surveillance, prevention and remedial action.**

2. The committee while giving the report would also recommend the short term and long term measures to prevent recurrence of epidemic and generally improve the standards of hygiene in the country and *inter alia* delineate the financial management to be adopted for achieving the goals set out in their recommendations.

1.1 The Committee commenced its work on 4th May, 1995 when it had its first meeting. The meeting started with review of large number of documents covering recommendations of the Central Council of Health on related issues from the year 1955 till date, recommendations of the Central Council of Health pertaining to various National Health Programmes, existing Health Management Information System, relevant portion of the 8th Plan document, interim report of the Technical Advisory Committee on Plague, Paper on epidemiological intelligence system in India and various papers submitted by the members on related issues. The list of various papers and their authors is given in **Annex-1.**

The second and third meetings of the committee were held on 7th June and 9th August,1995 respectively. In addition to the members, senior officials of the Planning Commission and NICD assisted the committee in its work. Their names are given in the **Annex-1A.**

2.0 INTRODUCTION

Historically India had a rich public health system as evidenced from the relics of the Indus Valley civilisation. The medical and health practice as detailed in Ayurveda and the surgical skills demonstrated by Charak and Sushrat bear testimony to rich centuries old heritage of medical and health care practice in India indicating a holistic approach towards care of human health and disease[2,3]. **This deteriorated through successive invasions through the centuries, intrusion of alien culture, inappropriate uses of scientific discoveries, industrial and agricultural revolution, etc. which while contributing to human**

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[2] D. Banarjee: Social & Cultural foundation of health services system - Economic & Political Weekly. Vol. 9, No.32-34, 1974, p.1333.

[3] K.N.Rao: "Public Health and Health Services"; Encyclopedia of social work Vol.1, (New Delhi publication division) p.364 (1968).

development in various spheres, created enormous problems like large pockets of poverty, slums, over crowding with all its ill effects, unhygienic sanitary conditions in cities and towns, high sickness and death rates especially among women and children, continuing high morbidity due to infectious diseases like malaria, tuberculosis, industrial health hazards and problems of social pathology which had an adverse impact over community health.

In the Western world the industrial revolution during 18th-19th century that vastly improved the socio-economic conditions of the people but also contributed immensely to over-crowding in the cities and towns and creation of slums. With increase in population, the environment suffered through growing contamination of soil, air and water resulting in several pandemics of plague, cholera etc. which ragaved the nations during the period. The State was then made responsible to institute good health laws and look after the health of the people in several countries in eighteenth century giving rise to modern concept and practice of 'Public Health' around 1840.

2.1 Public Health has been defined as the science and art of preventing disease, prolonging life and promoting health and efficiency through organised community efforts. Public Health aims to achieve healthy environment, control of communicable and non-communicable diseases, education of the individual in personal hygiene, organising medical and nursing services for early diagnosis and prevention and control. It also aims for development of a social milieu for promotion and maintenance of health thus ensuring health and longevity as a basic human right. In short public health is organised application of resources to achieve Health enabling man to lead a socially and economically productive life.

2.2 In India during the colonial period State sponsored health services were initiated. During this period health and sanitation measures primarily were centred around the cantonment and district headquarters. However, when it was realised that the health of the working population was closely linked with the productivity of the nation, some preventive services and basic curative services were made available through all state hospitals. This laid the foundation of western medicine in India. While doing so the strong traditional holistic public health was relegated to the background.

2.3 The modern concept of simultaneous application of preventive and curative measures to maintain the health of the individual and of the community was yet to emerge as there was a lack of recognition of the role that environmental hygiene played in the preservation of health. The concept that the State is responsible for the establishment and maintenance of the facilities required for

community health protection on a wider basis laid the foundation of modern public health practice. Though the industrialised societies in the West made tremendous progress in that direction the public health practice in India was mainly centred around medical relief, the only exception being cantonments and district and State Headquarters wherein health, sanitation and hygiene measures were co-ordinated. This trend continued till it was realised that the health of the people is closely linked with the productivity of the nation and its capacity to generate revenue. Some of the important landmarks in the history of public health system of the country before Second World War were:

1. Appointment of a Royal Commission to enquire into the health of the army in India in 1859.

2. Epidemic Diseases Act, 1897.

3. Plague Commission following the outbreak of Plague in 1896/Kala-azar Commission.

4. Reforms introduced by the Government of India Act 1919 and Government of India Act 1935.

5. Establishment of Institutes like Malaria Institute of India (formerly Central Malaria Bureau) in 1909, Central Research Institute, Kasauli in 1905 and All India Institute of Hygiene and Public Health, Calcutta (1928).

6. Madras Public Health Act, 1939.

2.4 The foundation of public health practice in India was laid through commissions of public health, decentralisation of the health administration, greater autonomy to the provinces pertaining to the matters relating to health. The emergence of an organised public health system in fact dates back to the appointment in 1859 of a special Royal Commission to enquire into the causes of poor physical conditions of the Sepoy in the British Indian Army. Local bodies were responsible for health administration in their respective territories and as regards expenditure on local health administration/municipalities were required to set aside 30% and District Boards 12.5% of their respective annual revenues to spend on public health activities[4]. However, allocations were insufficient to meet the demands of essential public health practices.

[4] Report of Health Survey and Development Committee - Sir Joseph Bhore, Vol.1-4, 1946, p.22&34.

2.5 At the time when India achieved independence literacy rate was low, the economic deprivation rampant, socio-economic and health status poor as shown by IMR, under five mortality, fertility rate, life expectancy and sex ratio (shown subsequently). The health care was predominantly urban hospital based and the primary health care and outreach services were extremely deficient, both in their quality and outreach.

2.6 Status of Public Health in India prior to independence[4,5]

Table showing some of the health indicators during that period

Crude death rate	(1937)	-	22.4
IMR	(1937)	-	162
Life expectancy at birth	(1921-30)	-	26.91 (M) 26.56 (F)
MMR	(1938)		20/1000 Live birth
Fertility rate	(1931-41)	-	45
Sex ratio	(1941)	-	945/1000

Water Supply:
1939 4.5% of the total population had access to safe water.

Sanitation:
1939 2% of the people had sewerage facility.

Morbidity and mortality from diseases of public health importance

Average Annual Deaths in British India during 1932-1941

Diseases	Average Annual Deaths	Percentages of Total Deaths
Cholera	144,924	2.4
Smallpox	69,474	1.1
Plague	30,932	0.5
Fevers	3,622,869	58.4
Dysentery & Diarrhoea	261, 924	4.2
Respiratory Diseases	471,802	7.6
Other Causes	1,599,490	25.8
Total	6,201,434	100.0

[5] Compendium of recommendations of various committees on Health & Development 1943-1975, CBHI, DGHS, Government of India.

Malaria	
Estimated number of cases in a year	**100 million**
Estimated number of deaths in a year	**1 million**
Average Annual Dealths due to Malaria	**37% of total dealths**
Tuberculosis	
Estimated number of active cases	**2.5 million**
Estimated number of deaths in a year	**0.5 million**
Mortality Rate in cities	**200 - 450 per 100,000 Population**

It was estimated that 10-20% of deaths with fever and 20% of deaths with respiratory diseases were due to Pulmonary Tuberculosis.

Personnel[4].

In 1941-42, health personnel population ratio was grossly unsatisfactory (one doctor for 6,300, one nurse for 43,000 and one midwife for 60,000, one lady health visitor for 400,000, one pharmacist for 40,00,000 and one dentist for 300,000). Hospital bed was only 0.24 per thousand population. Number of medical institutions was small and annual turn out of trained para-professionals like nurses, midwives, sanitary inspectors was totally inadequate to impart any vigour to the requisite public health activities.

2.6.1 Health legislations[4]:

Legal provisions regarding health matters were scattered over more than 40 and odd enactment dealing with diverse subjects viz. Quarantine Act, 1825; Vaccination Act, 1880; Medical Act, 1886; Birth, Death and Marriage Registration Act, 1896; The Epidemic Diseases Act, 1897; Indian Factory Act, 1911; Indian Lunacy Act 1912; Indian Leper Act. These legal provisions were made on different occasions to meet varying requirements under different administrative authorities. It was always felt that all these Acts should be put together in a comprehensive model Public Health Act for better administration.

Only Madras province was having comprehensive public health Act satisfying reasonably the requirement of health administration of those years.

2.6.2 Nutrition including supervision for food supply to ensure maintenance of standard[4]:

Bengal famine of 1943 only exemplified and amplified the food production, its distribution and generally unsatisfactory state of its availability per capita. Total food production was grossly insufficient in quantity and cereals and pulses had to be imported to meet the requirement. Annual production of Pulses 7-9 million tonnes providing only 3 ozs per capita per day, annual production of sugar 5.3 million tonnes providing only 1.3 ozs per capita per day (1943)[6] were indicative of scarcity of food. Against the dietary requirements of 2100-2400 calories, a typical Indian diet had only 1750 calories and that too ill balanced, deficient in essential nutrients like proteins, vitamins and minerals. The provincial governments were responsible for prevention of food adulteration. However, in respect of the majority of the local authorities the control exercised was inadequate and unsatisfactory and the conditions under which food production and sale was occurring often constituted grave menace to the health of the people.

2.6.3 MCH Services[4]:

Both MMR and IMR were high. Even in Madras province where efforts were made to provide maternity services by qualified midwives, only about 3% of the total births were conducted by them. In rest of the country the situation was worse.

2.6.4 School Health Services[4]:

School health services did not exist in most parts of the country. Even where it existed the quality of services had been very poor and far from satisfactory. Most of the schools had very low standard of sanitation, health education about personal hygiene did not have any impact on the students because facilities for these did not exist even in the school environment. The report on School Medical Inspection of the joint committee of the Central Advisory Boards of Health and Education (1941) concluded school health work in British India barring a few was carried on in a perfunctory manner.[6A]

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[6] Food Grain Policy Committee (1943).

[6A] School Medical Inspection of the joint Committee of the Central Advisory Boards of Health and Education (1941).

2.6.5. Industrial health[4]:

Many industrial establishments were even without dispensaries. The facilities available with regard to sanitation, light, ventilation, drinking water supply, urinal, latrines, clothing, housing, nutrition etc. were far from satisfactory and at times even non-existent. The prevalence of hook-worm infestation among colliery workers was 68.8% as against 37.1% and 18.6% for the rural areas and towns respectively. Little information was available regarding incidence of occupational diseases in India. In England, medical practitioners were required to notify under section 3 of Factory and Workshop Act, 1938, certain diseases contracted in the factory or workshop. In India no such provision existed under the Factory Act. Number of compensations claimed under Factory Act were so low that they hardly gave any indication of burden of Industrial diseases.

2.6.6. Industrial and occupational health hazards were not taken into account either while planning expansion of industries or in employment of appropriate work force. Data base on occupational health problems was not available and several of potentially hazards situations remained completely unidentified.

2.6.7. Environmental Health[4]:

Housing, water supply, general sanitation were far from satisfactory. Over-crowding in urban areas was very common. In rural areas there has been no planning and control of housing. In municipal areas though the legal provisions existed for enforcing desirable standard of housing but these powers were not used satisfactorily. Only 4.5% population had access to safe water and only 2% had sewerage facility. Industries developed haphazardly in urban areas. Environmental pollution by industries continued unabated with utter disregard with its impact not only on the health of workers but also on the living conditions of the population/habitats around such establishments.

The health conditions of the people and the state of health services became an issue of national movement. The Indian National Congress in 1930 set-up the National Planning Committee (NPC) under the Chairmanship of Shri Jawahar Lal Nehru. The sub-committee on National Health of the NPC was formed to assess the health situation and services of the country under the Chairmanship of Col. Santok Singh Sokhey. It submitted an interim report in 1940 and its final report in 1948[7]. National Planning Committee adopted a

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[7] National Planning Committee, Sub-committe on National Health(Sokhey Committee) report, Bombay; Vora, 1948.

resolution on August 31, 1940, based on the interim report urging the integration of preventive and curative functions in a single state agency and responsibility of the State in the maintenance of the health of the people.[8]

2.7. Immediate Post Second World War period:

2.7.1 Bhore Committee[4]:

Immediately prior to independence of India a committee headed by Sir Joseph Bhore made significant contribution in laying down the public health policy relevant to the then existing health priorities & requirements. Their recommendations flowed from the concept that expenditure of money and effort on improving nation's health is a gilt-edged investment which will yield not only deferred dividends to be collected years later but would also ensure immediate and steady returns in terms of substantially increased capacity for growth and productivity thus contributing to the national economy and human development. The committee recommended establishment of a well structured and comprehensive health service with a sound primary health care infrastructure. The thrust areas included housing, environmental sanitation, safe drinking water supply, waste disposal, communicable diseases control, maternal and child care, nutrition, health education to facilitate community participation and optimal and effective use of available facilities and resources was also recommended.

Bhore Committee report pinpointed attention to the lack of safe water supply and sanitation measures on country wide basis. The Madras Government followed-up by appointing a committee in 1947 to examine and report on the question of safe water supply and drainage in the urban and rural areas of the entire state and the committee came out with very far reaching recommendations with regard to organisation, finance and priorities.

The Bhore Committee report also observed that overwhelming majority of the people of India at that time had been receiving medical care only from indigenous practitioners of Ayurveda and Unani systems etc. and in fact indigenous medicine played an important role in the life of the Indian people and, therefore, the practitioners of Indian systems of medicine should be involved in development of basic health services.

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[8] Health Status of the Indian People- The foundation for Research in Community Health, December, 1987, p.4.

2.8 Post independence period:

2.8.1. Health Infrastructure

After independence the Government of India implemented the recommendations of the Bhore Committee with the resources that were available and continued to develop its public health system through establishment of large network of primary health care infrastructure covering the entire country. Simultaneously soon after independence, Ministry of Health, Government of India constituted the Environmental Hygiene Committee[9] for an overall assessment of the country-wide problem in the entire field of environmental hygiene. The committee recommended specifically a comprehensive plan to provide water supply and sanitation facilities for 90% of the population within a period of next 40 years incorporating initiation of some priority schemes in selected areas. In 1953 Central Public Health Engineering Organisation (CPHEO) was established within the Ministry of Health and in 1954 Union Health Ministry announced the National Water Supply and Sanitation Programme as a part of health schemes under the 1st five year plan and made specific provisions to assist the States in its implementation - both in rural and in urban areas[9-A] .

2.8.2 In 1960, Ministry of Health, Government of India constituted a National Water Supply and Sanitation Committee(Simon Committee) to make a critical review of the progress made and assess the future requirements in the field of water supply and sanitation both in rural and urban areas. The committee made a critical review, assessed the problem and suggested effective measures with special reference to Government organisations, tax structure and finance, legislation, training facilities and related matter.

2.9 Model Public Health Act 1955[10]:

A Model Public Health Act was prepared by the Ministry of Health. The same was circulated to all the States for its adoption with requisite modifications, if necessary. The Model Public Health Act was prepared to act as a guide for framing the public health acts by the States, municipal corporations and municipalities and to serve as a source reference for public health practitioners. The Act had wide ranging provisions covering the entire gamut of public health activities viz. water supply, drainage, sanitation facilities, buildings, food sanitation, control of offensive trade, prevention and control of

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[9] Report of the Environmental Hygiene Committee (B.C. Gupta), Oct. 1949, Govt. of India, Ministry of Health.

[9-A] First Five Year Plan, Planning Commission (1951-56).

[10] Model Public Health Act,1955 prepared by the committee headed by Dr. B.C. Dasgupta.

communicable diseases including vector borne diseases, control of insects, sanitary and health regulations during fairs and festivals and special provisions for lodging houses, health resorts, health camps, parks, play grounds and green spaces, slaughter houses, markets, etc. The same was modified and circulated to all the States in 1987[11] . However, the same has not been appropriately followed up with various local health authorities and, therefore, each and every local health authority has its own public health laws. Major deficiencies in this regard are: though the provisions exist under the municipal/local area Act, hardly the same are implemented and penalty imposed for defaulter to make the public health system more effective. Thus public health system has not been able to develop and respond to the desired extent.

2.9.1 During the subsequent decades a vast network of primary health care institutions has been developed covering the entire country and the entire planning process through the five years plan was an effort to strengthen the public health practice through launching of national control/eradication programme of major communicable diseases, integration of the Indian systems of medicine, population control, launching of sanitation and drinking water supply programme through mission approach, ICDS programme, multipurpose health workers scheme, scheme of community health guides etc. Large number of committees were subsequently established to periodically review various components of public health system like Mudaliar Committee,1961; School Health Committee,1962; Chaddha Committee,1963; Mukherjee Committee,1965; Madhok Committee,1967; Jungalwalla Committee,1967; Kartar Singh Committee,1973; Shrivastava Committee,1975; Bajaj Committee,1987; etc. during the subsequent period. All primarily recommended strengthening of public health system through primary health care approach strengthening its various components be it infrastructure, be it manpower, be it training, be it medical education, etc. The Mudaliar Committee in particular stated in unequivocal terms that no change in constitutional provisions with regard to health being a State subject was necessary.[11A]

The Mudaliar Committee observed in terms of mortality and morbidity in respect of diseases of public health importance as under:

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[11] Model Public Health Act, Central Bureau of Health Intelligence, Directorate General of Health Services, Ministry of Health and family Welfare.Government of India, 1987.

[11A] Health Survey & Planning Committee (Mudaliar), 1961.

Morbidity rates per 100,000 population

1.	Smallpox	99
2.	Snake bite	99
3.	Tetanus	66
4.	Throat diseases	132
5.	Tuberculosis	66
6.	Typhoid and para typhoid	2119
7.	Venereal diseases	99
8.	Ill-defined causes	199
9.	Unknown causes	166

2.9.2 Central Council of Health and Central Council of Family Welfare the two erstwhile highest policy making bodies for health and family welfare activities (now integrated into one) have time and again recommended strengthening of public health system by providing effective support for the control of diseases, strengthening of epidemiological surveillance, making determined efforts to ensure people's co-operation in the implementation of the programme involving Panchayat, youth organisations, women organisations, indigenous medical practitioners, institution of integrated health information system, enforcement of suitable legislation measures for reporting common epidemic diseases and expeditious provision of safe drinking water supply, drainage and sanitation in the urban and rural areas. Specific recommendations from the Central Council of Health for different related areas are in **Annex-2.**

2.9.3 In 1973 major development took place transferring subjects of water supply and sanitation from the Ministry of Health to Ministry of Works and Housing and local self government and in the area of water supply and sanitation several important developments took place during the subsequent years. Some of the important ones were: The Water (Prevention and Control of Pollution) Act 1974 which was amended further in 1988; establishment of Ministry of Environment and Forests; the Air (Prevention and Control of Pollution) Act 1981 which was further amended in 1987; establishment of Central and State Pollution Control Boards; initiation of international drinking water supply and sanitation decade in 1981; the Environment Protection Act 1986; initiation of the Rajiv Gandhi National Drinking Water Mission in 1986.

2.9.4 Launching a centrally sponsored rural sanitation programme by the Department of Rural Development (presently under the newly organised and re-designated Ministry of Rural Areas & Employment) in 1986 and the centrally sponsored low cost sanitation programme in 1991 by conversion of dry latrines and rehabilitation of scavengers by

the 8th five year plan (1992-97) by the Ministry of Urban Development re-designated as Ministry of Urban Affairs and Employment (MOUA&E) indicate the concern of Government of India and the State Governments for tackling the problems of sanitation in rural and urban areas.

2.9.5 **The National Seminar on Rural Sanitation (16-17 September, 1992) organised by the Ministry of Rural Development, Government of India (MORA&E) and providing a forum for new directions in hygiene and sanitary problems alongwith the report of the expert committee on rural sanitation programme 1994 reflect the continuing concern of Government of India for promotion of sanitation. Similarly the National Conference on Urban Water Supply and Sanitation Policy (11-13 March, 1993), urban basic services for the poor by the Ministry of Urban Development (presently Ministry of Urban Affairs & Employment) indicate a similar concern for promotion of sanitation in urban areas[11-B].**

2.9.6 **In spite of these efforts, recurrent episodes of outbreaks from sanitation linked diseases indicate inadequacy of efforts in this direction. The low level of urban, peri-urban, rural sanitation is a matter of deep concern.**

2.10 National Health Policy[12]:

National Health Policy which came into existence in December, 1983, provided directives to strengthen public health system for achieving **Health for All by 2000 AD** through the universal comprehensive provision of health care services. It clearly stated that considering the large variety of inputs into the health, it is necessary to secure the complete integration of all plans for health and human development with the overall national socio-economic development process especially in the more closely health related sectors viz. drugs and pharmaceuticals, agriculture and food production, rural development, education and social welfare, housing, water supply and sanitation, prevention of food adulteration, maintenance of prescribed standards in the manufacture and sale of drugs and the conservation of environment. It further stated that the comprehensive primary health care services should be relevant to the actual needs and priorities of the community at a cost which the people can afford and implementation should involve participation of the community adequately utilising the services available in the NGO sector.

[11-B] Report of the National Mission on Environmental Health and Sanitation. Department of Health. Govt. of India. (1995).

[12] National Health Policy, Ministry of Health and Family Welfare.Government of India.1983.

2.11 Inadequate Human Resource Development:

For development of any system the man behind the system is very important. Health professionals constitute an essential input for the development of the public health system in the country. In this context, inter-linkages between the health and education policies are very important. The National Policy on Education in 1986[13] stated that health planning and health service management are optimally interlocked with the education and training of appropriate categories of health manpower through health related vocational courses. Health education at the primary and middle levels will ensure commitment of the individual to family and community health and lead to health related vocational courses at the Plus 2 stage of higher secondary education. Graduates of vocational courses will be given opportunities under pre-determined conditions for professional growth, career improvement and lateral entry into courses of general technical and professional education through appropriate bridge courses. National Health Policy also stated that the public health education programme should be supplemented by health, nutrition and population education programmes in all educational institutions at various levels. Simultaneously efforts would require to be made to promote universal education especially adult and family education without which the various efforts to organise preventive and promotive health activities, family planning and improved maternal and child health can not bear fruit.

2.11.1 The National Health Policy as passed by the Parliament assigns to the Indian System of Medicine and Homeopathy an important role in the delivery of Primary Health Care and envisages its integration with modern system of medicine. Bajaj Committee (1987)[14] recommended also that within the health care system these ISM practitioners can strengthen the components of (i) health education (ii) drug distribution for national control programme (iii) motivation for family welfare (iv) motivation for immunisation, control of environment etc.

2.11.2 The growth and development of health services and manpower over the Five Year Plan period reveals that (a) health services and health manpower have been developing in isolated manner and without any proper linkage in temporal and spatial dimensions, (b) the process of health manpower development has not been as rational as it should have been, due probably to less concern for appropriate manpower as compared to concern for physical, technical and

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[13] National Policy on Education, 1986.

[14] Health Manpower Planning, Production and Management: Report of expert committee (Bajaj Committee), Ministry of Health and Family Welfare,Govt. of India, 1987, Page 16

technological facilities, (c) there has not been a proper balancing between planning, production and management dimensions of health manpower development process and (d) there has been far less a concern, almost amounting to negligence, for the planning and production of allied health professionals, as compared to that for medical manpower. Indeed, the primary reason for this being the medical bias in the entire process of health system planning and health manpower development.

2.11.3 Though a vast network of health infrastructure has been developed, and 146 medical colleges have been established we are still far away from total requirement of manpower taking into consideration the vast population of our country. Due to paucity of resources and paucity of adequate number of trained personnel many of the sub centres are without male multipurpose health workers. Population nurses ratio, the doctor para-medical professional ratio are still far from satisfactory. Even in spite of availability of large number of practitioners under the Indian System of Medicine, they have not been appropriately dovetailed within the health care delivery system.

2.12 Constitutional obligations for Public Health and Sanitation:

Public Health and Sanitation is a State subject as given in the Seventh Schedule, Article 246, list II-6 of the Indian Constitution. At the National Level, the Department of Health of the Ministry of Health and Family Welfare, Government of India is the nodal agency for public health.

2.12.1 The 73rd and 74th Constitutional Amendments Act, 1992 provide for involvement of Panchayati Raj Institutions and Nagar Palikas in all developmental Programmes including Public Health and Sanitation, in rural and in urban area in the Country.

The 73rd Constitutional Amendment Act 1992 provides for involvement of Panchayati Raj institutions in all developmental programme in rural areas. With regard to public health it covers rural housing, drinking water, roads & culverts, non-conventional energy sources, markets & fairs, health & sanitation including hospitals, primary health centres and dispensaries.

The 74th Constitutional Amendment Act 1992 provides for involvement of municipalities/Nagar Palikas in all developmental programmes in urban areas. With regard to public health it covers water supply for domestic, industrial & commercial purposes, public health, sanitation, conservancy and solid waste management, slum improvement and upgradation, burials & burial grounds, cremations,

cremation grounds and electric crematoriums, regulation of slaughter houses & tanneries.

2.13 Demographic scenario:

One of the most crucial problems facing the public health system is the high growth rate of Indian population. In 1991, India's population was 846.3 million and by the turn of the century the figures are expected to cross over one billion. The problem has been further compounded by higher male ratio (1000:929) which is indicative of lower status of women in the society and its resultant implications on human development particularly the child population. Below 15 years population (39.6%) is indicative of high dependency on adult population. This higher growth of the Indian population basically is the result of steep decline of mortality and much slower decline of fertility. The national family welfare programme which is more than four decades old has not given the desired results in controlling growth of population. Future National Population Policy must aim to lay emphasis on programmes and activities directed towards the ensuring survival and sound development of children which means emphasis on the need of a co-ordinated and convergent programme of action at the peripheral point covering the entire area of health care activities including nutrition, immunisation, Acute Respiratory Infection control, diarrhoeal diseases control, water supply and sanitation, education, etc.

2.14 Current State of Health:

IMR	73: Rural 82 and Urban 45 (1994)[15]	
Age-specific death rate 0-4 yrs 33.3 (1988).[16]		
MMR	3.77 in rural area. (1990)[16] 4.37 in India (1992-93)[16A]	
Water supply	Urban	84.9% (November, 1993)[16B]
	Rural	79.2% (1993)[16B]
Sanitation	Urban	47.9% (1993)[16B]
	Rural	14% (1994)[11B]

15 Sample Registration System (SRS), Registrar General of India (1994).

[16] Bulletin on Rural Health Statistics in India for the quarter ending March 1995- Rural Health Division, Directorate General of Health Services, Ministry of Health and Family Welfare,Government of India, New Delhi.

[16A] National Family Health Survey (1992-93), International Institute of Population Sciences, Bombay.

[16B] Economic Survey, 1994-95, Government of India.

Crude death rate		9.2	(1994)[16B]
Expectation of life at birth	M =	60.4	(1992-93)[16B]
	F =	61.2	(1992-93)[16B]

Health Personnel[17] 46 Doctors for 100 thousand population
37 Nurses for 100 thousand population
40 ANM/Midwives for 100 thousand population

Number as on 31.12.92[16B] Doctors = 410825
Nurses = 385410
Dentists = 11300

2.15 Availability of Food:

India has made significant improvement in food grain production, registering an increase from 50 million tonnes in 1950 to 152.37 million tonnes in 1983-84 and to about 188 million tonnes in 1994-95. The Per capita availability of food grains in 1951 was only 394.9 gm per day as compared to 474.2 gm per day in 1994. Though the per capita net availability of food production has gone up in respect of cereals but has declined in respect of pulses from 60.7 gm in 1951 to 37.8 gm in 1994. Overall figures for food production provide a rather misleading picture of the actual situation as they tend to mask certain striking regional imbalances. The phenomenal success of the Green Revolution in Punjab and Haryana is not seen in other States. Besides, in other States food production is not satisfactory because of the substitution of food crops with cash crops meant primarily for exports.

2.16 Uneven Socio-economic development[18]:

In spite of significant development and impressive growth in the infrastructure and personnel for health care, the enormity and complexity of problems remain a continuing challenge. The impressive gains include a significant decline in mortality and a continuing increase in life expectancy. **However, within the country wide differences exist in the health status of States like Bihar, Uttar Pradesh, Orissa, Madhya Pradesh, Rajasthan to that of Kerala, Maharashtra and Punjab. Health is intricately linked with social, economic and political systems. Kerala though not economically as advanced like Maharashtra and Punjab but has achieved much more in terms of health status due to a variety of factors like literacy, status**

[17] Health Graphics of India, 1993- Central Bureau of Health Intelligence, Directorate general of Health Services, Ministry of Health and Family Welfare,Government of India, New Delhi.
[18] State of India's Health-Voluntary Health Association of India, 1992.

3.0 CURRENT STATUS OF PUBLIC HEALTH SYSTEM IN INDIA:

3.1 History

India is a large country consisting of 25 States and 7 Union Territories. Under the Constitution, health is a State subject and each State has its health care delivery system. By and large the health care delivery systems in India in different provinces have primarily developed as per the recommendations of the Bhore Committee[4] which recommended delivery of comprehensive health care through the infrastructure of primary health centres and sub-centres. The Federal government's responsibility consists of policy making, planning, guiding, assisting, evaluating and co-ordinating the work of the various provincial health authorities. The first important land mark of modern public health system in the country was the appointment of a Royal Commission to enquire into health of the Army in India in 1859. On the basis of the recommendations, Commissions of public health were established in Madras, Bombay and Bengal in 1864. However, the recommendations of the Royal Commission for employment of public health staff in towns and districts were not fully carried out and no comprehensive policy in regard to development of preventive health services was laid down. The Plague Commission in 1904[19A] recommended strengthening of the public health services and the establishment of laboratories for research and for the preparation of vaccines and sera. The action taken to implement those recommendations included (i) the creation of a medical research department under the Central Government, (ii) establishment of the Indian Research Fund Association for promoting research into medical problems (iii) provision of grants to the provinces to assist in the execution of public health work such as drainage and water supply and (iv) strengthening of public health personnel by additions to the existing post of Deputy Sanitary Commissioners under the provincial governments and to health officers under the local bodies. However, the total effect of such measures was very small. The Government of India Act 1919 gave statutory sanction to the transfer of functions from the Centre to the provinces namely medical administration including hospitals, dispensaries and asylums and provision for medical education, public health and sanitation and vital statistics etc. which would be the responsibility of the State. The reforms introduced by Government of India Act 1935 provided further autonomy to the provinces in the matters of functioning of health. Health function at the central level was through a composite Department of Education, Health and Lands before 1945 when a separate health department was created in September 1945 though the Minister continued to take care of health in addition to education and lands affairs. The Bhore

[19A] Plague Commission, 1904

Committee recommended that the portfolio of health should be with a Minister who can devote undivided attention to the health alone and the same is in practice now.

3.1.2 In the Department of Health on the technical side, two advisers i.e. one Director General of Indian Medical Services and one Public Health Commissioner existed. The Director General of Indian Medical Services was to advise on medical matters and the Public Health Commissioner on public health matters. The Bhore Committee recommended that these posts be merged into one to bring integration in medical and health care services which was subsequently implemented. The public health system in India has three tiers, Federal, State and District.

3.2 Federal set-up:

The official organs of the public health system at the national level consist primarily of Ministry of Health & Family Welfare, the Directorate General of Health Services with a network of supporting sub-ordinate offices and attached institutions providing health care services and the Central Councils of Health and Family Welfare. In addition to the above, other Ministries namely Ministry of Rural Areas and Employment (MORA&E) and Ministry of Urban Affairs and Employment (MOUA&E), Ministry of Environment and Forests (MOE&F), Ministry of Welfare (MOW), Agriculture, Industry, Human Resources Development, Ministry of Information & Broadcasting, Department of Electronics, Ministry of Labour, Ministry of Chemicals & Furtilizers, Ministry of Home Affairs, Registrar General of Vital Statistics and Census Commissioner, National Sample Survey Organisation and Ministry of Science & Technology also undertake directly or indirectly activities pertaining to public health viz. water supply, sanitation, environment protection and human resource development etc. The Planning Commission and Ministry of Planning and plan implementation provide over arching mechanisms for policy planning, co-ordination and implementation. In this report, the areas falling primarily under the Ministry of Health & Family Welfare have been discussed.

3.3 Union Ministry of Health & Family Welfare:

The Union Ministry of Health & Family Welfare is generally headed by a Cabinet Minister who is assisted by a Minister of State. These are political appointments. In addition to the above, Planning Commission chaired by the Prime Minister has a Member (Health) of the rank of a Minister of State.

The Union Ministry of Health & Family Welfare has three departments. The Department of Health, Department of Family Welfare and the newly created Department of Indian Systems of Medicine.

3.4 Department of Health:[20]

The Department of Health is headed by the Secretary to the Government of India who is assisted by two Additional Secretaries, three Joint Secretaries and several Directors/Deputy Secretaries, and other administrative staff. In addition, a Joint Secretary (FA) caters to all the three departments viz. Department of Health, Department of Family Welfare and Department of Indian Systems of Medicines. The organogram is in **Annex-3**.

3.5 Department of Family Welfare:[20]

The Department of Family Welfare was created in 1966 and is headed by a Union Secretary who is assisted by three Joint Secretaries, several Directors/Deputy Secretaries and a large number of supporting staff. The Department of Family Welfare also has three Deputy Commissioners holding similar positions of a Joint Secretary and are from the technical side. These Deputy Commissioners are also assisted by several Assistant Commissioners and other technical and administrative staff. Recently on 30th August, 95, the Ministry has issued orders stating that the work of the Department of Family Welfare will be also through Director General of Health Services. Organogram is in the **Annex-4.**

3.6 Department of Indian System of Medicine and Homoeopathy:[20]

The National Health Policy of 1983 envisages the necessity to initiate organised measures to enable each of the Indian Systems of Medicine including Ayurveda, Siddha, Unani, as well as Homeopathy to develop in accordance with its genius.

3.6.1 In view of the above thrust has been laid on ISM during the Eighth Plan and recently the Government of India has created a separate department of Indian Systems of Medicine and Homoeopathy within Ministry of Health and Family Welfare with a view to develop and promote ISM&H. In addition to the Secretary one Joint Secretary and several technical advisers/Dy. Advisers etc., covering various fields of Indian systems of medicine namely, Homeopathy, Ayurvedic and Unani, etc., constitute the department. The organogram is given in **Annex 5.**

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[20] Annual Report 1994-95, Ministry of Health and Family Welfare, Government of India.

3.6.2 India currently has a large resource of 4.05 lakhs practitioners of ISM and 1.56 lakhs practitioners of homeopathy who provide the medical/curative services. Most of them is for the primary health care level treatment of ailments. Beyond that their contribution to public health system is negligible. There are about 236 ISM&H colleges producing about 10,927 graduate/diploma holders every year[20]. Their services have to be fully utilised for health care delivery system in the country.

3.7 Functions:

The functions of the Union Ministry of Health & Family Welfare are to carry out activities to fulfil the obligations set out in the 7th schedule of the article 246 of the Constitution of India[21] under (a) Union List, (b) Concurrent List and (c) State List.

3.7.1 Union List:

Some of the functions given in the Union List are:

1. International health relations and administration of Port Quarantine.

2. Administration of institutes for scientific and technical education financed by the Government of India only or in part or declared by the parliament as institutes of national importance viz.. AIIMS (All India Institute of Medical Sciences), New Delhi; PGI (Postgraduate Institute), Chandigarh; ICMR (Indian Council of Medical Research), New Delhi; All India Institute of Hygiene and Public Health, Calcutta; National Institute of Communicable Diseases, Delhi; National Tuberculosis Institute, Bangalore; Central Leprosy Training and Research Institute, Chingleput and a large number of support organisations including Central Government Health Scheme. All India Institute of Medical Sciences, New Delhi, National Institute of Communicable Diseases, Delhi, PGI, Chandigarh and JIPMER (Jawahar Lal Institute of Postgraduate Medical Education and Research), Pondicherry are medical institutes essentially for tertiary medical care.

3. Co-ordination with States and other ministries for promotion of health.

Functions listed under the union list are the responsibility of the federal government.

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[21] Constitution of India,1991, Government of India.

3.7.2 Concurrent List:

Functions listed under concurrent list are the responsibility of both the Union and the State Governments. Either the Central Government or the State Government or both have powers of legislation in matter related to the affairs under the concurrent list. Some of the important functions under the concurrent list are:

1. Regulation and Development of medical, pharmacy, dental and nursing provision through their respective councils.

2. Establishment and maintenance of drugs standards.

3. Spread of communicable diseases from one State to another State i.e. Prevention of the extension from one State to another of infections or contagious diseases or pests affecting men, animals or plants.

4. Vital statistics including registration of births and deaths.

5. Ports other than those declared major ports.

6. Adulteration of food stuffs and other goods.

7. Population control and family planning.

8. Lunacy and mental deficiency.

9. Items like population control, family planning, medical education, adulteration of food stuffs and other goods, drugs and poisons, medical profession, vital statistics including registration of births and deaths, lunacy and mental deficiency are in the concurrent list.

3.7.2.1 State List

1. Public Health and sanitation; hospitals and dispensaries.

2. Pilgrimages, other than pilgrimages to places outside India.

3. Burials and burial grounds; cremations and cremation grounds.

4. Preservation, protection and improvement of stock and prevention of animal diseases; veterinary training and practice.

5. Water, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of entry 56 of List I.

6. Markets and fairs.

As per the scheme of allocation of subjects in the constitution, the items public health, sanitation, hospital and dispensaries fall in the State list.

3.7.2.2 Ministry of Health and Family Welfare at the Centre[20] is responsible for co-ordination of a large number of programmes of national importance like family welfare, primary health care, prevention, control and eradication of major diseases, etc. The Ministry has several centrally sponsored schemes which are implemented through the States. There are also central-sector schemes which are implemented by the States. However, funding is totally from Government of India for these Central Sector Schemes. All the schemes aim at fulfilling national health priorities as identified from time to time and also enunciated in the National Health Policy Statement.

3.7.2.3 In addition to the Directorate General of Health Services with its 97 subordinate offices, the ministry is also administratively concerned with 29 statutory/autonomous bodies. There are also three public -sector undertakings under the administrative control of the ministry[20].

3.8 Department of Health:

The Department of Health deals with medical and public health matter including drug control, prevention of food adulteration and receives technical advice through DGHS on all medical and public health matter and monitors various health schemes.

3.8.1 The public expenditure on health sector, both in centre and State put together has been little over 1.5% of the GDP. The NDC Committee on population constituted by the Prime Minister have recommended a gradual increase in financial outlay for family welfare to about 3% of the public sector plan out lay. This, is combination with increased outlay for health, would aim at public health expenditure of at least 5% of GDP[22] . The annual plan outlay for 1995-96 for central health sector is Rs.670 crore. The plan investment in health is given in the table below:-

[22] Report of the Committee on the National Development Council on Population: Planning Commission (1992).

Table showing investment in different plan periods

(Rupees in crores)

Period	Total Plan Investment	Health	Family Welfare	Water Supply & Sanitation
I Plan (1951-56)	1960.00	65.20	0.1	N.A.
II Plan (1956-61)	4672.00	140.80	2.20	N.A.
III Plan (1966-66)	8576.00	225.00	24.90	10.70
Annual Plans (1966-69)	6625.40	140.20	70.50	102.70
IV Plan (1969-74)	15778.80	335.50	284.40	458.90
V Plan (1974-79)	39322.00	682.00	497.40	971.00
1979-80 Outlay	11650.00	268.20	116.20	429.50
VI Plan (1980-85)	97500.00	1821.05	1010.00	3922.02
VII Plan (1985-90)	180000.00	3392.89	3256.26	6522.47
Two Annual Plans (1991-92)	137033.55	2253.86	1805.52	4427.29
VIII Plan (1992-97)	434100.00	7575.92	6500.00	16486.93

Several national health programmes viz. National AIDS Control Programme, Malaria Control Programme, Leprosy Control Programme, etc. being carried out by the Ministry will be detailed out subsequently.

3.9 Computerisation:[20]

Health Informatics Division (HID) of the National Informatics Centre (NIC) under the aegis of Planning Commission provides computer and MIS support to the Ministry of Health and Family Welfare. Towards this, HID is running a full fledged computer centre in the Ministry of Health and Family Welfare and is equipped with a full range of computer system, software and manned by computers professionals. The 486 based mini computer system is operational through 45 terminals connected to it in a star network. International and national Electronic Mail (NICMAIL) facilities are available through sent across/receive information to and from various districts and other NIC Centres spread all over the country.

3.10 Medical Education, Training and Research:[20]

The Centre has set-up regulatory bodies for monitoring the standards of medical education, promoting training and research activities. This is being done with a view to sustaining the production of medical & para medical manpower to meet the requirements of health care delivery system at the primary, secondary and tertiary levels.

3.10.1 Medical Education:

Medical Council of India is the statutory regulatory body established under the provisions of the Indian Medical Council Act,1933 which was later replaced by Indian Council Act,1956. The same was amended in 1958 and in 1964. However, a major amendment was made in 1993 to stop mushrooming of new medical colleges, increase of seats and introduction of new courses without the approval of MCI/Govt.of India. To institute an Education Commission on Health Sciences is under consideration for quite some time. The recently concluded 4th Conference of Central Council of Health and Family Welfare (11-13 October,1995) urged the Government to establish the commission immediately after necessary legislation. Two states namely Andhra Pradesh and Tamil Nadu have established Universities of Health Sciences. Several States like Madhya Pradesh, Maharashtra, Bihar and Karnataka are on the way of establishing such Universities of Health Sciences/Medical Universities.

Similar councils like Dental Council, Nursing Council, Pharmacy Council etc. also have been established for maintaining regulation on paramedical education. Organisations like National Board of examinations; National Academy of Medical Sciences, New Delhi; All India Institute of Medical Sciences, New Delhi; Post-Graduate Institute, Chandigarh; Jawaharlal Nehru Institute of Postgraduate Medical Education & Research, Pondicherry; All India Institute of Hygiene & Public Health, Calcutta; National Institute of Communicable Diseases, Delhi; etc. are contributing immensely in building up health manpower.

3.10.2 <u>Training</u>: Almost all the national institutes and research facilities in the health sectors including medical colleges, Regional Health & Family Welfare Training Centres etc. are involved in training of health professionals. A continuing medical education (CME) cell was set up in the Medical Council of India in 1985. National Academy of Medical Sciences also conducts CME programmes and supports such programmes. National Institute of Communicable Diseases conducts specilised training in epidemiology and disease control and All India

Institute of Hygiene & Public Health, Calcutta provides specilised training for public health professonals.

3.10.3 Research: Indian Council of Medical Research is the nodal agency for promotion, formulation, conduction and co-ordination of biomedical research in the country. At present Health System/Services Research receive very inadequate support and poor response from the Health Directorate. In spite of several efforts little headway has been made in strengthening the health system research as a part of priority activity of ICMR. Response from Directorate of Health Services is equally poor.

3.11 International Co-operation for Health and Family Welfare:[20]

Various International Organisations such as World Bank as well as United Nations Agencies like WHO/UNICEF, UNFP and several other continue to provide significant technical and material assistance for many health and family welfare programmes in the country. In addition, there are bilateral programme of assistance such as DANIDA, SIDA, NORAD, JAICA, ODA etc. All these agencies provide for the development and strengthening of health care facilities through supplies and equipment, fellowships, training, short-term group educational activities, workshops, meetings, and conferences. In addition, several bilateral agreement also exist in form of cultural exchange programmes through visits of scientists, and co-operation in various health related fields.

3.12 Facilities for Scheduled Caste and Scheduled Tribes under special component plan:[20]

The scheduled Caste and Scheduled Tribes constitutes 16.48% and 8.08% respectively of the total population of the country as per 1991 Census. The constitution provide for a comprehensive framework for the socio-economic development of Scheduled Caste and Scheduled Tribes. Article 46 of Constitution requires both State and Federal governments to promote with special care the educational and economic interests of the weaker sections and in particular of SC/ST and to protect them from social injustice and all forms of exploitation.

3.12.1 The concept of Tribal sub-plan and special component plan for Scheduled Castes were adopted during fifth and sixth five year plans respectively and have been continued during the seventh and eighth five year plans. This constitutes the main instrument for all round development and welfare of Scheduled Tribes and Scheduled Castes respectively.

3.12.2 The National Health Policy (1983)[13] provides high priority for health care delivery services in the tribal, hilly and backward areas through relaxation of norms for rural health infrastructure.

3.12.3 The Eighth Plan consciously and consistently focused the attention on promoting the health care to the under-privileged segments of vulnerable population through consolidation and operationalising the Primary Health Care infrastructure and strengthening referral system through district Health Care models. Thrust areas include:

a) Major investment in development and strengthening of primary health care infrastructure aimed at improving the quality and out reach of services.

b) Consolidation and expansion of the secondary health care infrastructure upto and including the district level services.

c) Optimisation of the functioning of the tertiary care.

d) Building up of referral and linkage system so that optimal utilisation of available facilities at each level is possible.

e) Control of communicable diseases which continue to dominate major public health concerns in the country.

f) Tackling the emerging problem of non-communicable diseases.

g) Improving the utilisation of Indian Systems of Medicine and Homoeopathy (ISM&H).

h) Creation of well trained skilled medical and paramedical manpower, adequate in quantity and appropriate in quality, to take care of the health needs of the population.

Specific efforts have been made to ensure that the ongoing economic restructuring does not lead to any adverse effect or provision of essential care to meet the health needs of the most needy segments of the population. Some of the major efforts in this direction include allocation of funds under the Social Safety Net Scheme to improve Maternal and Child Health (MCH) infrastructure in a phased manner, beginning with the 90 poorly performing districts. Specific efforts are also being made to promote Indian Systems of Medicine especially in view of the fact that these are traditionally well accepted by the population, personnel belonging to these systems are available in the remote and rural areas and provide treatment at affordable cost. Involvement of voluntary organisations and improved Informatio

Education and Communication (IEC) activities are supported so that there is adequate community participation and improved utilisation of the available health facilities.

3.13 Directorate General of Health Services:

The Directorate General of Health Services is the principal source of technical advice to the Union Government in both medical and public health matters. Its organogram is given in **Annex-6**. Some of the major functions are:

3.13.1 Central drug standard Control Organisation: The drug control organisation is a part of the Directorate General of Health Services (DGHS) and is headed by Drugs Controller of India and is assisted by four zonal officers at Madras, Bombay, Calcutta and Ghaziabad. There are four sub-zonal offices, six port offices and four drug testing laboratories.

3.13.1.1 The import, manufacture, sale and distribution of the drugs in the country is controlled by Drug Controller of India as per the provision of Drugs and Cosmetics Act, 1940 and rules thereunder[23] . The main objective of the Act is to ensure that drugs available to the consumers are safe and efficacious and cosmetics are safe.

The major functions are:

- Control of the quality of the drug imported in the country.
- Co-ordination activities of the State and Union Territories drug control authorities and to advise them on uniform administration of Drugs and Cosmetic Act.
- Approve new drugs to be imported or manufactured in the country.
- Lay down regulatory measure and standard of drug to act as Central Licensing approving authorities in respect of whole human blood, blood products, intravenous fluids, sera and vaccine. This function is being implemented through Indian Pharmacopoeia Committee.
- To assist in the implementation of the above functions Drug Advisory Board has also been constituted which is a statutory body under Drugs and Cosmetics Act to advise the State

[23] Drugs and Cosmetics Act, 1940.

governments on technical guidelines arising out of the administration of this Act.

3.13.1.2 Hathi Committee Report (1975)[24] was a historical land mark in the field of drug development in India. It recognised that to ensure availability of essential medicines, a list of essential drugs has to be made and that to prevent price hike, profits on drugs must be curtailed with least profitability on essential and life saving drugs. It also recommended withdrawal of hazardous and irrational drugs. Subsequently, a National Drug Policy (NDP) was formulated in 1978 which was further revised in 1984 and consequent upon the announcement of new drug policy[25] in September 1994, a draft bill has been prepared for bringing out an enactment for establishing a national drug authority to ensure quality control and rational use of the drug in the country. Even after lapsed of 10 years after the report the List of Essential Drugs has not been prepared and large number of hazardous and irrational drugs remain to be withdrawn from the market.

3.13.2 International Health Affairs/Port-Airport Health Organisation:[20] Arrangement for Health clearance and Quarantine administration at the eight major ports and five International Airports in the country are made by the Central Government under the Indian Port Health Rules, 1955 and Aircraft (PH) Rules, 1954 which are based on the International Health Regulation 1969. The objective of these Port and Airport Health Organisations is to prevent spread of communicable diseases, prevention of entry of Yellow Fever into the country through passengers coming from or transmitting through notified endemic countries. Arrangements also exist for health clearance of aircraft at Amritsar Raja Sansi Airport, Hyderabad, Trivandrum and Dabolim Airports. Similar arrangements are also made as and when necessary at Lucknow, Varanasi, Gaya, Nagpur, Ahmedabad, Agra, Pune, Bangalore and Andaman & Nicobar Island. Arrangements exist for health clearance of ships at various minor ports and special arrangements regarding health clearance of ships arriving at Tuticorin Port and Bangalore are also made with the help of State Government staff.

Health checks have been established since 1976 at Attari in Punjab for India Pakistan Rail and Road Traffic.

3.13.3 Medical Stores Organisation (MSO):[20] Procurement of drugs and other supplies and their distribution are through the MSO at Bombay, Madras, Calcutta, Karnal, Guwahati and Hyderabad. This

[24] Hathi Committee Report (1975).
[25] New Drug Policy, 1994.

organisation supplies the civil medical requirements of the Central Government and various State Governments including supplies from foreign agencies like UNICEF, SIDA, WHO, USAID.

Various drugs and other commodities required for running the national health programmes like NLEP, NMEP, TB, etc. are handled by the MSO. It also caters to the supplies of the medical stores for CGHS. It arranges also relief supplies during disasters.

3.13.4 Central Government Health Scheme:[20] The Central Government Health Scheme (CGHS) is a large organisation taking care of the central government servants and their family members, Members of Parliament and their family members, central government pensioners, etc. It has hospitals, dispensaries in major cities of the country wherever large chunk of central government employees are stationed. The existing number of dispensaries, system-wise as on 31.03.1994 is given in **Annex-7**. Facilities provided under the scheme include outpatient care services, through a network of allopathic, ayurvedic, homeopathy, unani dispensaries and units, supply of medicine, laboratory and x-ray investigations, domicilliary visits, emergency treatment, antenatal care, confinement, postnatal care, advise on family welfare, specialist consultation, hospitalisation facilities in government and private hospitals recognised under CGHS.

3.13.5 Medical Education:[20] In addition to governing directly some of the medical colleges like Lady Hardinge Medical College, JIPMER, Pondicherry, it also provides support to medical colleges in Delhi like Maulana Azad Medical College, GTB Medical College and Hospital through provision of personnel. It is also responsible for distribution of the medical seats for undergraduates and postgraduates which fall under the category of Central Quota covering the entire country. It also co-ordinates the functioning of the various councils - medical, dental, nursing, pharmacy, etc.

3.13.6 Governance of Central/National Institutes/Institutions: Several central and national institutions are directly governed by the DGHS namely, National Institute of Communicable Diseases, Delhi; All India Institute of Hygiene and Public Health, Calcutta; Central Research Institute, Kasauli; National Tuberculosis Institute, Bangalore; Central Leprosy Training and Research, Chingleput; Ram Manohar Lohia Hospital, New Delhi; Safdarjang Hospital, New Delhi; Central Institute of Psychiatry, Ranchi, etc. National Medical Library is directly under the DGHS. The National Medical Library aims to help in the advancement of medical and health and related sciences through collection, dissemination and exchange of information.

3.13.7 Central Bureau of Health Intelligence: This acts as a nodal agency for collection, collation, analysis and dissemination of information on health conditions in the country. It also conducts training programmes for various categories of health statistical personnel and also undertakes field studies on the priority health problems. The Bureau acts as a nodal agency for development and operation of Health Management Information System in the country.

The obligations under the international health regulations are being observed. The morbidity and mortality figures in respect of internationally quarantinable diseases including cholera are processed by CBHI on the basis of report from all over the country for onward transmission to World Health Organisation.

3.13.8 Central Health Education Bureau: This is responsible for the preparation of educational material in creating health awareness among the people. It also caters to the needs of the health education activities of various disease control programme managers. It has recently established a centre for promotion of health related vocational studies. It also conducts a post graduate diploma course in health education affiliated to Delhi University.

3.13.9 National Health Programmes: A large number of national health programmes are in operation covering both communicable and non-communicable diseases namely National Malaria Eradication Programme (NMEP), National Leprosy Eradication Programme (NLEP), National Tuberculosis Control Programme (NTCP), Guinea Worm Eradication Programme (GWEP), National Programme for Control of Blindness (NPPB), Cancer Control Programme (CCP), Iodine Deficiency Disorders control programme (IDD), Diabetes Control Programme (DCP), National AIDS Control Programme (NACP), etc. Basic implementation is the responsibility of the State. The Central Government is involved in formulation of strategies co-ordination, monitoring evaluation and providing appropriate guidance to the States.

3.13.10 Food Adulteration[26] : The prevention of Food Adulteration Act was enacted in 1954. The aims envisaged under this Act are (i) to ensure quality food to the consumers; (ii) to protect the consumers from fraud and deception; and (iii) to encourage fair trade practices. The Act, which came into effect from 1st June,1955 has been amended thrice, in 1964, 1976 and 1986 for plugging the loopholes and for making the punishments more stringent and empowering the consumer and voluntary organisations to play effective role in its implementation. The subject of Prevention of Food Adulteration is in

[26] Prevention of Food Adulteration Act 1954.

the concurrent list of the constitution. However, in general the enforcement of the Act rests with the State/UT Governments. The Central Government primarily plays an advisory role in its implementation besides carrying out various statutory functions/duties assigned to it under the various provisions of the Act. Four Central Food Laboratories have been established/specified under the Act, which work as appellate laboratories for the purpose of samples lifted by food inspectors of States/UTs and local bodies. The two laboratories viz. (i) Food Research and Standardisation Laboratory, Ghaziabad and (ii) Central Food Laboratory, Calcutta are under the Administrative Control of the Directorate General of Health Services and the other two viz. (iii) Central Food Laboratory, Pune and Central Food Laboratory, Mysore are under the Administrative control of Government of Maharashtra and Council of Scientific and Industrial Research, Government of India, respectively. There are 81 Food Laboratories under the administrative control of State/UT governments and local bodies.

Ministry of Health and Family Welfare has launched a centrally sponsored scheme for providing funds to the State/UTs governments for purchase of equipment for strengthening their food laboratories during the Eighth Five Year Plan. A proposal to augment the food quality control infrastructure at the Central/State level with World Bank assistance is also under active consideration of Central Government. Some of the deficiencies observed in the enactment of the PFA are (i) The existing set up for food quality control at the central/State level is hardly adequate to fulfil the responsibilities assigned under the Act. (ii) A total of approx. 3500 Food Inspectors have been working against the minimum norm of 16000 (1 Food Inspector per 50,000 population). (iii) The food laboratories need to be augmented with trained manpower and equipment. (iv) Most of the State PFA Rules are outdated. (v) Licensing provisions are not being properly enforced. and (vi) PFA cases have been pending in the Courts of Law due to paucity of adequate technical/legal assistance to the Prosecution agencies.

3.13.11 Vaccine Production: India is self-sufficient with the production of EPI vaccines except BCG. The polio vaccine is imported in bulk in a concentrated form then it is diluted and ampoule. This is done by Haffkine Biopharma, M/s Radicura Pharma. Indigenous production of polio vaccine is likely to start soon. Both Haffkine Biopharma & M/s Radicura Pharma are making efforts in this direction. Serum Institute of India, Pune is a major manufacturer of vaccine in the country in the private sector contributing immensely in attaining self sufficiency in indigenous capability of several vaccines. Central Research Institute, Kasauli is directly under the administrative control of DGHS and DGHS also supports other vaccine production institutions like

Haffkine Biopharma, Bombay; Pasteur Institute, Coonoor, etc. through some form or the other. The average production of vaccine vis a vis requirement of different vaccines are in **Annex-8.**

3.13.12 Central Council of Health: The Central Council of Health was set up by a presidential order in 1952 under article 263 of the Constitution of India for promoting co-ordination between Centre and the States in the implementation of the various activities involving health of the nation. Union Minister of Health and Family Welfare is the Chairman and the State Health Ministers are the members.

3.13.13 Central Council of Family Welfare: With the creation of the Department of Family Welfare and in view of the top priority being given to the population control, Central Council of Family Welfare also has been established with the Union Minister of Health and Family Welfare as the Chairperson. The councils used to meet jointly and sometimes independently to review various activities pertaining to the health and family welfare and give appropriate policy directives to the Central ministry and State governments. The first joint meeting of CCH and CCFW was held in 1974. The councils were officially merged in to one in 1986 and first meeting of the new joint council was in 1988. The broad functions of the joint council are:

1. To consider and recommend broad lines of policy in regard to matters concerning health and population control in all its aspects.

2. To examine issues for legislation in fields of activities relating to the health and population control and to lay down the pattern of health development and population control in the country.

3. To examine all the national programmes under Grant-in-Aid scheme and to recommend appropriate steps to the Central government and the State governments for initiating corrective measures.

3.14 Functions of Department of Indian Systems of Medicine and Homoeopathy[20]

Ayurved based on Athervaved, was developed more than 3,000 years ago by sages like Agnivesh and Sushruta. There is mention of about 15,000 drugs in the classical texts. Of these, 1,500 drugs are in wide use. 'Siddhas' seem to have contributed towards development of Siddha Medical System which is in wide use in Tamil speaking areas. The Unani System of Medicine had its origin in Greece. it was extensively adopted and developed by the Arabs after assimilating medical knowledge from India and Iran and ultimately it developed strong root in India. The basic concept in all the three systems relates to maintaining a balance in the body between different elements or

humours of which the body is functioning. Any disturbance in the balance leads to disease and the therapy lies in restoring the balance through use of medicines of natural origin based on herbs and minerals.

Yoga and Naturopathy, which are being practised in the country as a way of living for maintenance of health have also been included under Indian Systems of Medicine.

Dr. Samuel Hahnemann, a German Physician based on his experimental conclusion that the curative power of the drug lay in its disease producing power, propounded the basic principle of Homoeopathy "Similia Similibus Curentur".

The department has following functions:

3.14.1 Institutional development: Before independence these systems were left to develop on their own with practically no government support. After independence, institutions paralleling those existing in Allopathy were formed and these were Central Council of Indian Medicine and Central Council of Homoeopathy. Central Council for research in Ayurveda and Siddha, Central Council for research in Unani Medicine, and Central Council for research in Homoeopathy, National Institute for Ayurveda at Jaipur, National Institute of Homoeopathy at Calcutta, National Institute of Unani Medicine at Bangalore and National Institute of Naturopathy at Pune were also set up as apex bodies for research and training. In order to formulate standards for drugs, Pharmacopoeial Committees for each system were set up.

3.14.2 Regulation of Educational Standards and Professional Practices: Two Central Councils are responsible for laying down and maintaining uniform standard of education and regulate the professional practices of the practitioners in the field of ISM & H.

3.14.3 Administration of National Institutes: Four National Institutes one each for Ayurveda, Homeopathy, Unani and Naturopathy have been established as autonomous organisations under the department.

3.14.4 Pharmacopoeial Standards and Drug Testing Facilities: Four Pharmacopoeial committees are working for preparing official formularies/pharmacopoeias to maintain uniform standards in preparation of drugs of Ayurveda, Unani, Siddha and Homeopathy and to prescribe working standards for single drugs as well as compound formulations.

3.14.5 Drug Control Cell (ISM): The drug control cell for Indian Systems of Medicine was established in May 1992 to assist the drug controller (I) for matters related to ISM.

3.14.6 Drug Testing Laboratories: Pharmacopoeial laboratories for Indian Medicine, Ghaziabad, Homeopathic Pharmacopoeial laboratory, Ghaziabad are high technology based standard setting-cum-drug testing laboratory have been established for ISM at national level.

3.14.7 Apex bodies for Research: The four research councils viz. Central Council for Research in Ayurveda and Siddha, Central Council for Research in Unani Medicine, Central Council for Research in Homeopathy and Central Council for Research in Yoga and Naturopathy are the apex bodies for research in concerned system of medicine and these councils initiate, aid, guide, develop and co-ordinate scientific research in different aspects of the system, both fundamental and allied.

3.14.8 Development of Medicinal Plants: Medicinal Plants are a great source of raw material for drug production. A separate cell was created in the ministry to look into the various aspects of development of medicinal plants required by the pharmaceutical industry for preparation of ISM & H drugs.

3.15 Department of Family Welfare:[20]

3.15.1 The department has ten technical divisions viz.

i. Programme Appraisal and Special Schemes;
ii. Technical Operations;
iii. Maternal and Child Health;
iv. Evaluation and Intelligence;
v. Information, Education and Communication;
vi. Supply Division;
vii. Transport;
viii. Universal Immunisation Programme;
ix. Area Projects; and
x. Rural Health Division.

3.15.2 The National Family Welfare Programme was launched in India in 1951 with the objective of "reducing the birth rate to the extent necessary to stabilise the population at level consistent with the requirement of the national economy". In keeping with the democratic traditions of the country, the Family Welfare Programme seeks to promote responsible and planned parenthood through voluntary and informed choice of family planning methods, best suited to individual acceptors.

3.15.3 The long term demographic goal, as laid down in the National Health Policy (1983) is to achieve a Net Reproduction Rate of Unity by the year 2000 AD.

3.15.4 Keeping in view the present levels of achievement, Eighth Five Year Plan has visualised that NRR-1 would now be achievable by the year 2011-16 AD. The goals to be achieved by the end of the Eighth Plan and achievements are given in following table:

Indicator	Eighth Plan Goals	Achievements 1993 (Prov.)
Crude Birth Rate (per 1000 population)	26.0	28.5*
Infant Mortality Rate (per 1000 live births)	70	74.0*
Couple Protection Rate	56%	45.4**

* Sample Registration Survey (SRS) data.
** As on 31.03.1994

3.15.5 The population of India is expected to cross one billion mark by 2001. There are sizeable differences in the achievements under the family welfare programme. On one end of the spectrum are states like Kerala, Tamil Nadu and Goa which have already achieved replacement level of fertility. On the other hand, in the large northern states of Uttar Pradesh , Madhya Pradesh, Rajasthan and Bihar fertility levels and birth rates continue to be higher than the national average. The experience of implementing the family welfare programme over the last four decades has clearly demonstrated the need for adopting a holistic and multisectoral approach towards population stabilisation.

3.15.6 Female literacy, age at marriage of girls, status of women, poverty etc. directly influence the fertility behaviour implying that various departments in the central and state government, social and voluntary organisations need to play a positive role. A Group of Experts has prepared a draft on National Population Policy which has been tabled in the Parliament.

3.15.7 National Development Council (NDC) committee on populations' recommendations endorsed by the NDC in its 46th meeting on 18 September,1993 is under active consideration of the Government.

3.15.8 The Pre-natal Diagnostic Techniques (Regulations and Prevention of Misuse) Act 1994[27] has been Gazette notified. It gives permission for undertaking diagnostic techniques on a woman only in certain specified circumstances and in registered institutions.

3.15.9 The 79th Constitutional Amendment 1992 for ensuring strong political commitment has been introduced in Parliament in December 1992 seeking promotion of population control and small family norm within the framework of Article 47 having the provision under which a person shall be disqualified for being elected if he/she has more than two children. However, the proposed amendment has prospective effect and will not apply to any person who has more than two children on the date of commencement of the proposed amendment or within a period of one year of a such commencement.

3.15.10 **Functions:**

The department of family welfare in consultation with states, has evolved an action plan having the following key features:-

i) Improving the quality and outreach of family welfare services;

ii) Differential strategy for special focus on 90 poor performing districts (birth rate of 39 and above per one thousand population as per 1981 census);

iii) Developing a mechanism to make available funds to States and UTs, on the basis of reduction in birth rate;

iv) Increasing the coverage of younger couples;

v) Introducing new contraceptives and improving the quality of contraceptives;

vi) Strengthening family welfare schemes in urban areas, especially in slum pockets;

vii) Revitalising training activities of medical and para-medical personnel with emphasis on motivational and counselling aspects;

viii) Sustaining the good work done under the Universal Immunisation Programme and strengthening of other interventions for maternal and child health care;

[27] The Pre-natal Diagnostic Techniques (Regulations & Prevention of Misuse) Act 1974.

ix) Re-orientation of information, education and communication efforts to focus on the quality of life issues and inter-personal communication;

x) Involving voluntary and non-governmental organisations in a big way to promote active community participation in the programme;

xi) Gearing up of the implementation machinery in the States and Union Territories; and

xii) Evolving high level inter-sectoral co-ordination mechanism at the national, state and district levels.

3.16 Planning Commission:

The Planning Commission was established in 1950 and through the formulation of Five Year Plans it has contributed immensely in building modern India.

The Prime Minister in his capacity as Chairman of the Planning Commission, participates and gives direction to the Commission on all major issues of policy.

The Deputy Chairman and nine full time Members of the Planning Commission function as a composite body in the matter of detailed plan formulation. They provide advice and guidance to the subject Divisions in the Commission in the various exercises undertaken for the formulation of approach to the plan, Five Year Plans and Annual Plan. Their expert guidance is also available to the subject Divisions for monitoring and evaluation of the Plan programmes, projects and schemes.

The Commission functions through 29 General/ technical/subject Divisions apart from the division of house keeping. Each division is headed by a senior officer designated as Principal/Adviser/Adviser/Addl. Adviser/Joint Secretary/Joint Adviser who functions under the overall supervision and guidance of the Secretary, who at this time has been also designated as Member-Secretary.

The Eighth Plan has, recognised "human development" as the core of all development effort. The Plan, has therefore, identified health, education, literacy and basic needs including drinking water, housing and welfare programme for weaker sections as sectors which contribute to human well being. In fact the Directional Paper of the Eighth Plan has identified health and population control as among

six most important objectives of the Plan. The organogram is given in Annex-9.

3.17 **State Level:**

The provincial governments have the full authority and responsibility for all the health services in their territory. Historically the Montegau Chelmsford Reforms came in operation in 1919 when State health administration was given autonomy by the Central government in matters of public health. The Government of India Act 1935 gives further autonomy to the States. Under the constitution the subjects under the health have been divided under three broad lists i.e. Union List, Concurrent List and the State List. State List includes provision of medical care, preventive health care services and matters of public health and, therefore, the States have got absolute authority and responsibility for all health care services. At present, there are 25 States and 7 Union Territories. However, all of them follow almost similar pattern of governance and have the following :

3.17.1 State Ministry of Health: The State Ministry of Health is headed by a Minister of Health & Family Welfare either of Cabinet rank or of Minister of State. Often the State Minister is assisted by a Deputy Minister depending upon the political situation at a particular point of time. The Health Secretariat is the official organ of the State Ministry of Health and is headed by a Secretary, Principal Secretary, Commissioner as the case may be who is assisted by Additional, Joint and the Deputy Secretaries and a large number of other administrative staff. In a couple of States, Director of Health Services is also Ex-officio Secretary to the State Government as recommended by the Bhore Committee but in majority of the States the same has not been implemented. State Health Secretariat is assisted by the technical wing called State Health Directorate.

3.17.2 State Health Directorate: For a long time two separate departments namely Medical and Public Health were functioning in the States. The heads of these departments were known as Surgeon General/Inspector General of Civil Hospital and Director of Public Health respectively. Following Bhore Committee reports which specifically recommended integration of medical and public health wing, these posts were merged together in many States and the post of Director of Health Services was created. Over a period of time all the States created this post who acted as the Chief Technical Adviser to the State government on all matters relating to medicine and public health. He was also responsible for all the organisational and other activities related to the health of the province. All the functions pertaining to health and family welfare and medical education were integrated. However, with passing of time now in many States Directorates of

Public Health Services, Posts of Director of Public Health, Director of Family Welfare and Director of Medical Education are again being separated and they report directly and separately to the Health Secretary of the State. In some of the States even the State Health Secretaries have got two separate departments like Secretary Family Welfare and Secretary Medical Education. The Director of Health Services is assisted by Additional, Joint, Deputy Directors and other supporting staff. Directors of Health Services are not necessarily from the Public Health discipline. In fact, in most of the States it is not from the public health discipline and therefore often they are not adequately sensitive/oriented towards public health needs. The public health engineering organisation is under the public health works department of the State Governments and not under the State Health Directors. With the promotion of Indian Systems of Medicine, many of the States have also established the post of Director of Indigenous Systems of Medicine.

3.17.3 In the Directorate of Health Services focal points for various disease control programmes at various levels namely the Additional Director/Joint Director/Deputy Director/Assistant Director exist. In the Directorate also exists the State Bureau of Health Intelligence which is the nodal agency for collecting all information pertaining to morbidity and mortality from diseases. All related information with regard to health services are collected, collated and tabulated for the use of the health authority and also for onward transmission to the Central Bureau of Health Intelligence. Organogram in respect of some States of India is given in **Annex 10-A to 10-R.**

3.18 District Level:

The principle unit of administration in India is the district which is either under a Collector/District Magistrate/Deputy Commissioner. As on date there are 460 districts and the size of the district vary widely from less than 0.1 million to more than 3 million. Within each district, there can be six administrative areas (I) Sub Division, (ii) Tehsil/Taluka, (iii) Municipalities and Corporation, (iv) Community Development Block, (v) Panchayat and (vi) Village.

3.18.1 The district public health system is headed by Chief Medical and Health Officer/Chief Medical Officer of Health/District Health Officer/Chief District Medical Officer who is assisted by several deputy chief medical and health officers/district health officers/additional deputy health officers/district programme officers in various states depending upon the designations used in various states. The chief of the district hospital is often designated as Medical Superintendent of the district hospital or Civil Surgeon. In some of the states, he functions independently of the CMOH but in most of states

CMOH is the overall in charge of the entire district and medical health administration including district hospital. The district collector/deputy commissioner/district magistrate co-ordinate all activities pertaining to the district and, therefore, the Chief Medical and Health Officer of the district though technically is under the Dte. of Health Services for all technical matters but in times of health emergencies the district collector/the district magistrate can appropriately direct the CMOH for any specific prevention and control measures. The organogram of some districts in the country is given in **Annex 11-A** to **11-C**.

3.19 Community Health Centre/Primary Health Centre/Sub-Centre:

Apart from the infrastructure as indicated at the district level it has a network of hospitals, dispensaries, community health centres, primary health centres and sub centres to cover the entire population of the country with regard to the heath care delivery services. It also has a network of hospitals and dispensaries under the Indian Systems of Medicine. Detailed functions including the numbers established will be described under the chapter **Existing Health Scheme.**

3.20 OBSERVATIONS, SUGGESTIONS & OVERVIEW

3.20.1 Health Policy

3.20.1.1 People generally believe that development programmes and projects, especially economic ones, would automatically improve health status. While the link between economic growth and better health is a strong one, growth in income and a developing economy do not necessarily ensure improved health status. Many developing countries are concerned with the possible health impact of economic restructuring and development policies. The essence and essentials of health programmes include control of communicable diseases and reduction of health risks from environmental pollution and hazards. The interdigitation of primary environmental care and primary health care is therefore obvious. The Inter-Agency Regional Conference on Health Development held in New Delhi, India from 20-24 March, 1989 recommended that the capacity of Ministry of Health be strengthened to analyse development projects to ensure that they do not have negative impact on health status. Regular analysis of various public policies and practices of other ministries viz. agriculture, industry, urban development, rural development and environment, which have direct link with the health of the people, must be considered as an essential prerequisite for a meaningful inter-ministerial co-ordination.

3.20.1.2 National Health Policy was formulated and endorsed by Parliament in 1983. Many of the recommendations covering nutrition,

prevention of food adulteration & maintenance of the quality of drugs, immunisation, Maternal & Child health services, environmental protection, water supply & sanitation, management information system, health education, medical research etc. have been implemented which had paid dividend in terms of reduction in infant mortality, crude death rate, increased life expectancy etc. However, some of the recommendations have either not been implemented or have been partially implemented viz. to establish a nation-wide chain of sanitary - cum - epidemiological stations between the primary and secondary levels of the hierarchical structure, depending upon the local situations & other relevant considerations having suitably trained staff equipped to identify plan and provide preventive, promotive and mental health care services, to establish epidemiological units at district levels, to restructure the health services, to establish a well worked out referral system, to review all existing health legislations, full utilisation of untapped resources by encouraging practice by private medical professionals, increased investment by non-governmental agencies in establishing curative health centre and by offering organised logistic, financial and technical support to the voluntary agencies active in the field etc. During the decade following the policy statement many changes have occurred viz. erosion of ecological system, rapid urbanisation, large population growth, economic liberalisation policy leading to major changes in industrial sector, change in health and demographic scenario, appearance of new, emerging and re-emerging health problems like HIV, Plague, Dengue, Malaria, Hepatitis, Japanese encephalitis, Dengue Haemorrhagic fever etc., declining appreciation of the public health problems by the health managers and Medical professionals etc.

In the context of the above, there is an **urgent need to review the National Health Policy** both in terms of reformulation of strategies and re-setting of targets. Results of several field studies are now available which need to be considered and if feasible, incorporated in the policy.

3.20.1.3 Several alternative strategies have been tried or are being tried under research studies or by the voluntary organisations and many of them have been found to be highly satisfactory in their results. However, it may be noted that those alternative strategies are being implemented by either very committed research workers or by NGOs and that too in a very limited area and there is no consensus on an alternative strategy to be implemented all over the country and experts and professionals all still continue to recommend comprehensive health care delivery services through the vast network of primary health care infrastructure developed in the country ensuring community awareness and participation in the general model of Bhore Committee. However, provision of adopting a situation specific

measure within the overall guidelines of health care services should also exist. The search for an alternative strategy should continue and individual researcher and institution should undertake studies on various aspects of health care to continuously provide newer observations and recommendations to update the health care delivery system.

3.20.1.4 Public Health Act : need & rational

With the decentralisation of administrative system through the recent constitutional 73rd[28] and 74th[29] constitutional amendments providing more power to the municipal health authorities and local authorities, an urgent need has arisen to review all the existing public health laws. All the local health authorities need to be appropriately guided in adopting the Model Public Health Act revised in 1987 and already circulated and every effort should be made to monitor its enactment with appropriate modification depending upon the local situation.

3.20.2 Broad set up of Ministry:

The recommendations of the Bhore Committee that the Ministry of Health should be under the charge of a separate Minister is being followed and is currently in practice. However, the members of the committee are of the opinion that the several activities linked with the human health are presently undertaken by Ministry of Welfare, Ministry of Human Resource Development, Ministry of Urban Development, Ministry of Environment, Ministry of Rural Development etc. The work of sanitation and environmental health was earlier with the Ministry of Health but now it is being undertaken by several ministries viz. Ministry of Environment and Forests, Ministry of Rural Areas and Employment, Ministry of Urban Affairs and Employment. It has been further seen that the inter-sectoral co-ordination which is very vital in successful implementation of various programmes is not readily available through a formalised mechanism resulting in poor achievements under various programmes. Therefore, convergence of all these activities pertaining to human health & family welfare may be considered through the creation of a new over-arching ministry like that of Human Welfare.

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[28] The constitution (Seventy-Third Amendment) Act,1992. Gazette of India. Extraordinary. Part II Sec.3(ii) dated 24.04.93.

[29] The constitution (Seventy-Fourth Amendment) Act. Gazette of India, Extraordinary, Part II Sec.3(ii) dated 01.06.93

3.20.3 **Broad organisational set up of the Union Ministry:**

3.20.3.1 There are three departments in the ministry headed by bureaucrats and the Directorate General of Health Services is headed by a technocrat. Co-ordination between the departments is not satisfactory and often compartmentalised adversely affecting the linkage between different programme. Even between the working of Directorate General of Health Services and Department of Health there are several areas of duplication. Most of the functions of the Union Ministry of Health and Family Welfare are a blend of social action and actions requiring highly technical support. Therefore, a technical expert will be more suitable to provide the requisite support & leadership. There has been growing concern about erosion of technical hierarchy which has been noted in some States. It is essential that the technical hierarchy is maintained so as to provide appropriate technical inputs at various levels of management and administration. Replacement of technical personnel with bureaucrats should be avoided.

3.20.3.2 The functioning of the Family Welfare and Health Departments are complimentary in nature and the two departments could be easily merged into a single department avoiding duplication of work and bringing co-ordination and uniformity in the functioning of the Ministry.

3.20.3.3 Several recommendations were made earlier on various national platforms including that of Central Council of Health urging initiation of Indian Medical and Health Services but the same has not yet been implemented because of a variety of reasons. However, keeping in mind the growing complexity in tackling health conditions it is once again urged that the Indian Medical and Health Services should be introduced in the country. If some of the States do not agree to do so the same may be implemented in those states which agree to implement the same. This will strengthen the capability of the public health system.

3.20.3.4 Over a period of time, the discipline of public health has deteriorated because it does not draw adequate talent nor it is able to provide adequate recognition to specialities such as epidemiology, MCH, health education, occupational health, public health administration etc. There is only one composite school of public health is available in the country. Other schools of public health like National Institute of Health & Family Welfare and National Institute of Communicable Diseases function in specific areas of public health. Therefore, there is a need to open new schools of public health so that more public health professionals could be trained. The existing public health schools also be appropriately strengthened. Public Health has strong component of clinical medicine. Unless the felt needs of the

community are fulfilled by appropriate curative measures it will not be possible for the community to be educated on/or brought to accept long term prophylactic measures including environmental health, sanitation and immunisation and contraception. In this context it might essential to ensure that curricula for training in public health have a strong clinical component as well as health administration, health management and preventive medicine.

3.20.3.5 Positions requiring public health background should be filled by appropriate qualified public health professionals and till those professionals are available, it could be operated by general category health professionals through appropriate training in health services administration, management and epidemiology.

3.20.3.6 Many of the Central programme managers have never worked in the state as a result they do not have appropriate perception of the problems of the states and their functioning leading to poor professional communication and understanding between the central and state health programme managers. Creation of Indian Medical and Health Services will automatically take care of this. Till the same is done, there should be identified exchangeable posts on deputation basis between the state and central health services so that functioning of the Centre and State health set up improves.

3.20.4 **Restructuring of the Department of Health & DGHS:**

3.20.4.1 An exercise for restructuring the Department of Health, Family Welfare and DGHS should be taken up keeping in view the above observations.

3.20.4.2 It has been felt that though our major national health programme have been planned well, the lack of adequate supervision, monitoring and timely mid course connection have resulted in poor implementation. There is an urgent need to build within the implementing machinery at all levels, a mechanism for data collection on process and impact indicators and reporting of problems encountered during implementation. The district, State and Central level programme managers should have access to these data on a real time basis, so that the timely supervision and corrective action will ensure smooth implementation of the programme.

3.20.5 **Advisory Body:**

Planning Commission sets-up Steering Committee and various working group in connection with plan formulation. If the Steering Committee can function on a continuing basis it not only can overview the progress of the planned activities, it will also have better feed back

through periodic review and monitoring which will provide added inputs for subsequent plan formulation.

3.20.6 **Joint Council of Health & Family Welfare:**

3.20.6.1 The Joint Council of Health and Family Welfare should be further broad based to make it a Joint Council of Health, Family Welfare and ISM & Homoeopathy. This will provide further strong policy initiative to strengthen ISM & Homoeopathy.

3.20.6.2 Functioning of the major divisions of the DGHS and major institutes and autonomous bodies could be periodically reviewed by constituting a special technical advisory group/committee so that the Ministry can initiate appropriate corrective action.

3.20.7 **Health manpower planning:**

3.20.7.1 Health manpower planning has been grossly neglected and there is neither an institution nor any institutional approach for the same. There is undoubtedly a need for an appropriate institutional mechanism to assess the requirements of various categories of health manpower now and over the next few decades at various levels so that appropriate action for training of these categories of personnel as well as creation of posts and career planning for these individuals could be taken up as a serious time-bound activity essential for proper development of health care delivery in this country. The committee reiterate that recommendations contained in health manpower planning production and management expert committee report of 1987[14] should be implemented in right earnestness which will greatly strengthen public health system in the country.

3.20.7.2 Primary health care delivery services being a team approach, the training and continuing medical education (CME) of the professional and para professionals should have components of training/education of the entire team together in addition to training of the individuals. This multi professional approach will provide cohesive functioning of the team and improve quality and coverage of primary health care.

3.20.7.3 The system of providing an exposure to the community health care to the physicians through the Department of Preventive and Social Medicine at the medical college under the ROME scheme has not proved very successful as it provides very limited exposure in community health care. One of the issues is that the teachers of social and preventive medicine do not practise adequately the science of preventive and social medicine because of their limited responsibility for community health care practice. It is suggested that the faculty members from various specialities in the Medical College should be

posted to PHCs along with the students, so that the have an insight into the problems at delivery of health services at primary health care level. They may come up with appropriate technology or innovative strategy to solve the local problems. The PHC/CHC staff in town might get posted for a short period in appropriate department in medical colleges as a part of their inservice training. This two way linkage will not only help in problem solving but also help the vital support between institutions establish successful functional referral system for patient care. Managers of health care programmes require not only management skills and knowledge of preventive medicine but also in-depth understanding of the various components of diagnosis and management of problems as related to the national programmes. Without this knowledge and skills they may not be able to quickly find out problems in delivery of essential services needed for the national programme at the peripheral level and initiate appropriate corrective action. The posting in medical colleges will provide the opportunities to acquire these skills.

3.20.7.4 To make the public health system more responsive to the new, emerging and re-emerging health problem and also to meet the challenges of esclating epidemic of the non-communicable diseases, the need for establishing a Centre for Disease Control at the national level should be considered.

3.21 State Level:

3.21.1 In recent times it has been seen that the several positions of directors in the erstwhile directorate of health services have been created namely, the director of family welfare, the director of health services, the director of ISM, the director of medical education etc. They all report to the Secretary of the Department of Health. The functioning of the Department of Health being mostly that of technical nature a technical man with managerial competence should be the head of the Department of Health.

3.21.2 To provide an exposure to the functioning of the central health set up some identified exchangeable posts on deputation basis between the Centre and the State should be created. This will improve functioning of health care delivery system.

3.22 District level:

At the district level epidemiological services input to the various programme managers is essential. Until and unless appropriate information is collected, tabulated, analysed and interpreted, intervention measures suffer leading to poor implementation of the programme. Therefore, every district should have a strong

epidemiological services input through establishment of an epidemiological unit headed by an officer of the level of district epidemiologist and supporting staff. Establishment of this type of unit will also help initiating disease surveillance programme including early warning signal system with strengthening of epidemiological services will also include enhancing laboratory diagnostic capabilities for human pathogens of public health importance.

3.23 Community Health Centres:

3.23.1 Community Health Centre is regarded as the first referral unit. However, facilities for the referral centre such as operation theatre, X-ray facilities, laboratory, etc. are not available in many CHCs. Even where theatre facilities are available the requisite specialists have not yet been posted. In the absence of anaesthetist neither the surgeon nor obstetrician can undertake emergency surgery in high risk patients. Thus the lack of essential physical infrastructure as well as personnel required for carrying out the assigned task has come in the way of CHCs functioning as first referral units. The National Education Policy in Health Sciences which provides for the educational needs and training requirements of all major health care professionals and para professionals and which has been approved at the meeting of the Central Council of Health and Family Welfare, (1993) should be implemented through properly developed action plan in a time bound manner.

The Council also recommended placement of one public health specialist at the community health centre (CHC) level and if this is implemented the same will contribute immensely in strengthening the public health system and will offer suitable correction to our present hospital based disease cure emphasis in health care delivery to make it disease prevention and health promotion oriented as enshrined in the National Health Policy statement. The availability of additional manpower in form of one public health specialist in all the CHCs may not appear immediately feasible at this stage of available public health specialist manpower. However, once a beginning is made and National Education Policy in Health Sciences is implemented in a time bound manner through an appropriate action programme, this will be possible in foreseeable future and thus disease control activities channelled through CHC will have more updated professionally competent support for better management of disease control programme and transfer of newer technologies for various disease control activities at the grass root level.

Establishments of the Community Health Centres were major steps in providing higher level expertise in health care practices covering promotive, curative and preventive services. However, the

same did not develop to that direction. National Health Policy also envisaged establishing nationwide chain of sanitary cum epidemiological stations. The location and functioning of these stations were intended to be between primary and secondary of the hierarchical structure depending upon the local situation and other relevant considerations. Each such station is required to have suitably trained staff equipped to identify, plan and provide preventive, promotive and mental health care services. The community health centres should have been the ideal location. However, the same has not been established.

3.23.2 Till such time that a public health expert is not available at the CHC level, any generalist can be appropriately trained for delivery of the public health services and given the responsibility of the same till the appropriate manpower is available.

3.23.3 **If public health system has to succeed emphasis should be given to decentralised health planning, more allocation to the health sector, strengthening health information system and capability of generating early warning signal for quick responses to health emergencies, strengthening inter-sectoral co-ordination, achieving community participation, augmenting continuing medical education for all categories of health professional and para-professionals, health service research, more involvement of Indian Systems of Medicine practitioners etc.**

3.24 PHC/Sub-Centre level:

The organisational structure of the health services at village level should be entrusted to the Panchayati Raj institutions which should decide the nature structure, and priorities of the organisation of the health care delivery services at the village level depending upon the local situation, resource availability etc. This would ensure decentralised area specific microplanning. Only the functional components of the health care delivery system at the village level should be detailed out so that primary health care delivery services can move towards the objective of achieving the goal of Health For All. Within such a framework, further co-ordination must develop at all levels of local self-governance.

3.25 Primary health care infrastructure in the urban area which caters to the needs of 25 - 30% of the population is grossly deficient. Immediate attention need to be given to develop the primary health care infrastructure in urban area. It is essential to build up appropriate primary and secondary level care infrastructure in urban areas to take care of essential needs for simple ailments of growing

urban poor population. Creation of such facilities and appropriate referral linkages with secondary and tertiary hospitals will substantially reduce over-crowding in tertiary facilities and to ensure that these facilities are used only by people requiring care for complicated ailments which cannot be tackled at primary and secondary level care level.

EPIDEMIOLOGICAL SURVEILLANCE SYSTEM INCLUDING INSTITUTIONAL SUPPORT SERVICES

4.0 EPIDEMIOLOGICAL SURVEILLANCE SYSTEM INCLUDING INSTITUTIONAL SUPPORT SERVICES

4.1 General Introduction

Epidemiological surveillance is an essential per-requisite to effective control and prevention of communicable diseases. It means understanding a disease as a dynamic process involving the ecology of the infectious agent, the host, the reservoir, the vectors and the environment as well as the complex mechanism involved in the causation of the disease and its spread.

It implies follow up of specific diseases in terms of morbidity and mortality in time and place and keeping track of the circulation of etiological agents in man and the environment including animal population. Supportive facilities for diagnosis and further epidemiological services include all kinds of laboratory investigations, such as isolation, identification and typing of etiological agents, investigation of the biological properties of the agents and different serological studies of individual and population groups.

For diseases with zoonotic foci of infection like plague, rabies, arbovirus infections, it is important to study the condition which favours the spread of infection like over multiplication of animal reservoirs or vectors as well as their biological properties like resistance to infection in the reservoirs or to insecticides in the vectors.

Attention should also be paid to other factors which may influence the spread of infection and the incidence of disease, such as, social and economic changes, population movements, large industrial and agricultural investments like building of dams, irrigation projects etc. or international trade, road and building construction work, export and import of live animals, meat and meat products and poultry.

The collection of epidemiological information from a variety of sources requires the full use of existing knowledge and involves co-operation with several other scientific disciplines and agencies.

On efficient procedures of case detection, notification, isolation and treatment of cases and epidemiological investigation depends success of the system. Success of a control or eradication programme requires promptness in reporting of cases, reliable diagnosis and subsequent treatment of cases along with timely initiation of available prophylactic measures amongst the population exposed to risk of infection. This depends largely on the facilities available for each of these facets of epidemiological service in the country. Such services were inadequate prior to Independence but have since developed to a

great extent, concommitantly with the national control/eradication programmes for various diseases like malaria, tuberculosis, trachoma, leprosy, cholera, filaria, etc.

The consolidated picture of the existing epidemiological intelligence system in the country is as under:

4.2 Notification System[30]

Reporting of the occurrence of a disease is a fundamental pre-requisite for a disease control programme. Reporting of individual case is a useful method particularly for diseases in which effective control measures are known and are provided by the health agencies. Notification provides a day-to-day number of cases occurring in a community and this information can be used to study the geographical prevalence/incidence, differential morbidity and mortality rates for different age-groups, sexes and relevant sub-groups of population. It is clear that reliability, completeness and speed of notification are important not only for introduction of effective control measures but also for evaluating the progress of a disease control programme by way of measuring decline in incidence or prevalence.

There is a conspicuous lack of uniformity in the lists of diseases which are notifiable in different States and also from the view point of primary agency responsible for reporting. The practice as to which and how diseases are to be notified varies greatly from State to State. Each local authority responsible for reporting in conformity with the regulations determines as to which diseases are to be notified, their nature and the manner of forwarding the reports to higher levels. List of notifiable diseases vary from country to country and also within the same country between the States and between urban and rural areas. Usually diseases which are considered to be serious menaces to public health are included in the list of notifiable diseases.

The notification process is initiated on diagnosis of the case. Appropriate containment measures follow notification. For diseases with short incubation period and where diagnosis could be quickly made as in case of cholera, plague, meninogococcal, meningitis, diphtheria, etc. this is extremely useful to the health authorities. In contrast where diagnosis is not easy and takes longtime or where the patient may remain asymptomatic for long notification may not provide adequate tool for prompt control measures.

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[30] Epidemiological Surveillance System in India Dr.S.K. Sengupta and Shri P.N.Kapoor; CBHI, DGHS Publication, February,1971.

4.3 Diseases that are notifiable

Cholera, yellow fever and plague which are internationally qurantinable diseases are notifiable throughout the country as required under International Health Regulations. The other important diseases which are notifiable in some of the States are viral hepatitis, enteric fever, tuberculosis, influenza, meningitis, Japanese encephalitis, Rabies, diphtheria, leprosy, measles, poliomyelitis, scarlet fever, typhus, viral encephalitis, relapsing fever, whooping cough, etc. It may also be mentioned that some States have declared certain diseases notifiable only in the urban areas. Further, some diseases are declared notifiable only in the event of an epidemic or threatened epidemic. The fact that most of the important diseases other than cholera, yellow fever and plague are not uniformly notifiable in all the States has resulted in the non-availability of a complete picture of morbidity and mortality pattern of such diseases for India as a whole. In addition notification is generally grossly incomplete and not accurate. To improve upon this, all important communicable and occupational diseases that are required to be controlled/prevented should be made nationally notifiable and the system should be implemented well.

4.4 Legal Provisions for Notification

Notification is usually in operation through certain legal requirements. Legal provision for notification of diseases varies from State to State. Some State Governments in India do not have any specific act, except invoking the epidemic diseases Act 1897 and extending the same depending upon the situation.

In the event of threatened outbreak of a notifiable disease in any place or area, Government have conferred powers on the Collectors of the District to declare the entire District of the concerned area as threatened with the outbreak of the disease. When a declaration is in operation and until it is withdrawn the collector of the district or any persons duly authorised by him by general or special order or if empowered in this behalf under this Act the Health Officer or any other officer of the local authority concerned is vested with special powers for the prompt prevention and control of the disease. In accordance with the powers delegated by the Government, the Health staff in the concerned areas undertake preventive and control measures to check the disease.

In some States notification of the specific communicable diseases to the Health Officer is compulsory and non-compliance is punishable with monetory fine. However, that is very poorly implemented.

4.5 Reporting Agency

Under the traditional system of notification and registration, the village chowkidar (watchman) is the person responsible for reporting of cases in the rural areas. The Chowkidar may be an illiterate person and is also involved in duties other than notification. As such the notification has been defective in reliability, promptness and completeness. In some States, the primary reporting agency is village panchayat or village headman. However, now with the establishment of primary health centres and sub-centres throughout the country, the health personnel like basic health workers and other para-medical staff are being increasingly involved in the notification so as to improve the situation.

The usual channel of notification starting from village chowkidar or panchayat is the police station, primary health centre, and district health officer. The Medical Officer-in-charge of the Primary Health Centre is the authority responsible for coordination and control of the disease under the overall charge of district health officer/chief medical and health officer.

In urban areas, the responsibility of the notification of the disease rests with the municipal authority or the staff designated by it. Municipal health authorities notify the cases to the District Health Officer. Apart from municipal authorities the hospitals and dispensaries are also required in most States to notify the cases of notifiable diseases to the local authorities and to district health officer. Private practitioners have not yet effectively been involved in the notification system except in some States. Efforts have also been made in few States to elicit co-operation of the general public, particularly the head of the family in which a case of notifiable disease occurs.

Christian Medical College, Vellore, in collaboration with the Directorate of Health Services, Tamil Nadu, has developed a good system of voluntary notification of selected diseases and traffic accidents in the North Arcot, Ambedkar and Tiruvannamalai Sambuvarayar Districts. Cases are regularly reported by both the Government and private doctors and hospitals voluntarily. Confirmation is done by medical college.

4.6 Defects in Notification

Common defects in notification are under or over reporting, delay and inaccuracy in the reporting of cases. Sometimes the cases are notified only during the epidemic peaks or when it has already caused significant morbidity and mortality. Delay is an indirect cause of spread of the disease and occurrence of cases which could be otherwise

prevented. Similarly, it is often observed that causes of morbidity or mortality are wrongly reported, classical examples being mis-reporting of chickenpox as smallpox, and of cholera as of gastroenteritis, or vice versa. Stray cases are seldom reported. The usual practice is to report cases when the epidemic is fully established and a large number of cases have occurred with some deaths. Besides, cases are often grossly under reported as well as mis-reported. Efforts are, however, being made to remedy these defects as far as possible.

For prompt notification many States were using the procedure of notification through pre-paid postcards distributed amongst the health personnel. This system was already in vogue in some States like Andhra Pradesh, Mysore, Uttar Pradesh, Delhi etc. but now it is hardly practised.

Central Council of Health in its 14th Meeting held in October, 1967[31] in Delhi studied the problem of delayed reporting of the primary outbreaks of epidemic diseases in the rural areas and recommended that the present system of reporting through the agency of panchayats should be improved and revitalised. The Council also recommended that the staff of P.H.Cs., particularly the basic health workers now the multipurpose health workers should be made responsible for reporting of outbreaks of epidemic diseases in their areas and Medical Officer of the PHC should co-ordinate the reporting system at the Block level. It was also recommended that self addressed and prepaid postcard of different colours for different disease should be supplied to all workers at the periphery not only to those of health department but also to panchayat, revenue department and teachers of the primary schools. It was hoped that with the implementation of these recommendations, the notification system would improve to the extent that a regular flow of accurate statistics of communicable diseases is ensured.

The Central Council of Health in its 16th Meeting held in November, 1969[32] in Bhopal recommended that a Committee be constituted consisting of representatives of Ministry of Health, Ministry of Home Affairs (Registrar General of India), Ministry of Defence, Ministry of Railways, Indian Council of Medical Research, Indian Medical Council, Indian Medical Association, Employees' State Insurance Corporation and State Governments. This Committee would go into the problem of notifications of communicable disease on a uniform pattern throughout the country. However, the same did not

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31 Proceedings of the 14th meeting of Central Council of Health. October.1967.

32 Summary proceedings of the 16th Meeting of the Central Council of Health: Govt. of India. Ministry of Health & Family Planning and works, Housing and Urban Development - 4th-5th Nov..1969.

materialise. In brief, the system of notification in India is largely ineffective.

4.7 Epidemiological Units and Investigations

Epidemiological investigations should have a key role to play in effective control of a disease. These investigations have become an integral part of various disease control and eradication programmes. For checking spread of any epidemic, prompt epidemiological investigation towards determination of focal points, the route of dissemination, source of infection, and groups of population exposed to immediate risk of infection, is absolutely necessary. For coordinating and carrying out such investigations, epidemiological units/cells have already been established in a number of States. Particular mention may be made of epidemiological units that have been established in Andhra Pradesh, Tamil Nadu, Karnataka and Maharashtra, etc. In the States where no epidemiological unit has yet been established epidemiological investigations are carried out by the State Epidemiologists or the individual programme officers.

Investigations are also carried out by national institutes/centres like National Institute of Communicable diseases, Delhi; All India Institute of Hygiene and Public Health, Calcutta; National Institute of Virology, Pune; School of Tropical Medicine and some medical colleges etc. Besides coordinating the control measures under the Plague and Guineaworm Eradication Programmes, National Institute of Communicable Diseases has been carrying out regularly epidemiological investigations for Cholera, haemorrhagic and dengue fevers, viral hepatitis, Japanese encephalitis, Kala-azar, Malaria, Plague, Poliomyelitis, meningitis, typhoid, food poisoning, typhus, and other communicable diseases to assist the States in the control of epidemics.

National institute of Communicable Diseases also undertakes surveillance of several communicable diseases viz. Cholera, Japanese encephalitis, Kala-azar, Guineaworm, viral hepatitis, AIDS poliomyelitis etc.

Medical Colleges and teaching hospitals are also involved whenever necessary in the conduct of investigations of local epidemics.

4.8 Public Health Laboratories

Public Health Laboratories play a prominent role in the verification and confirmation of diagnosis. Laboratory services can help in the following ways:-

a) confirming the aetiological agent responsible for the disease causation;

b) tracing of the spread of the outbreak;

c) studying the natural cycle of the disease;

d) examining epidemiological character of the aetiological agent with reference to changing pathogenicity, invasiveness, drug resistance etc.

Public Health Laboratories also play an important role in determining the control strategy, based on finding of systematic studies done in regard to the pattern of disease prevalence and the immunity status of different groups of population. In fact, efficient co-ordination between local laboratory services and the epidemiological unit is imperative for assessment of the problem, initiation of effective containment measures and evaluation of the control steps undertaken. In these public health laboratories usually facilities for Bacteriological isolation work, water analysis, food analysis, etc. exist. There is usually no facility for virus isolation work though some of them carry out serological work.

In most of the States public health laboratories are not functioning very satisfactorily. In some States like Tamil Nadu, Maharashtra, Karnataka, Gujarat, etc. some of the public health laboratories are well equipped and functioning well.

4.9 Isolation and treatment facilities

Subsequent to case detection and notification, isolation and treatment is important. For this purpose, infectious diseases hospitals are functioning in the important towns and cities of various States. Besides, in many general hospitals, provision has been made for separate infectious diseases wards. In case of sudden outbreak of epidemics or during important festivals and fairs, temporary isolation and treatment camps are also established wherever necessary.

4.10 Quarantine Administration

'International Quarantine' being a central subject, quarantine administration at the six major ports, viz. Calcutta, Visakhapatnam, Madras, Cochine, Bombay and Cochin and five international airports viz. Bombay (Santa Cruz), Calcutta (Dum Dum), Madras (Meenambakkam), Delhi (I.G.I.A), and Tiruchirapalli is carried out by the Central Government under the Indian Port Health Rules, 1955, and the Indian Aircraft (Public Health) Rules, 1954, which are based on the

International Health Regulations. Arrangements for the health clearance of aircraft exist at the diversionary airports of Lucknow, Gaya, Nagpur, Begumpet, Ahmedabad, Pune and Bangalore and also at Car Nicobar, Trivandrum and Amritsar airports.

The Indian Port Health Rules, 1955 are also applicable to minor ports having international traffic. Since the volume of traffic at minor ports does not warrant the appointment of whole time port health officers, local medical officers of the State Government are appointed as part time Port Health Officers by the Maritime State Governments concerned under powers conferred on them by the Central Government in regard to the functions under Section 17 of the Indian Ports Act, 1908.

Introduction of faster and more frequent traffic between India and yellow fever infected areas in Africa and America, and favourable meteorological conditions for the growth of Aedes aegypti mosquitoes poses a serious threat of India from this disease. The Government of India is taking special measures to prevent introduction of the disease into the country through aerial and maritime traffic. All persons including children arriving in India within 9 days of their departure from yellow fever infected areas without valid vaccination certificates are detained in quarantine.

4.11 Anti-Mosquito and anti-rodent measures at Ports and Airports

Intensive anti-mosquito anti-rodent and other sanitary measures are taken in all the major ports and International Airports. In the Ports these measures are undertaken by the Port Authorities, while in the Airports by the Government of India. At the instance of the Ministry of Health & Family Welfare and Urban affairs & Employment, the Director General, Civil Aviation has issued instructions to Aerodrome authorities to incorporate Standard Health Clauses in the agreements pertaining to lease of Airports land by them to other parties, for the purpose of maintenance of public health of the Airports including sanitation, control and prevention of nuisance from insects, rodents or any other sources and prevention of abuse of the water sources and drainage facilities provided in the areas of the respective Airports.

4.12 Collection and dissemination of Statistics

4.12.1 Weekly Epidemiological Statistics:

Central Bureau of Health Intelligence, Directorate General of Health Services, is receiving periodical statements on weekly basis in respect of incidence of communicable diseases, especially cholera, yellow fever, and plague (which are internationally quarantinable

diseases) from various States and Union Territories of the country. The States and Union Territories furnish the weekly statements showing figures of cholera, plague etc. for each district, first provisionally through telegrams followed by final statements within another two weeks. In final weekly statements, the district-wise figures are given with rural/urban break-up. The information about the names of sub-divisions, villages or towns affected in the district are also included in the final statements.

The information on declaration of fresh outbreaks from any of the quarantinable diseases or freedom from infection due to these diseases is also regularly received from the local areas i.e., districts and major airports and seaport towns. The same is communicated to WHO, Geneva through cablegrams. A consolidated weekly epidemiological record is prepared, containing information on (i) cases and deaths of cholera, plague, yellow fever in each of the affected local areas; (ii) declaration of fresh infection from quarantinable diseases or freedom therefrom and (iii) names of affected tehsils/taluks, villages or towns in each local area. The weekly epidemiological record is widely disseminated to national and international agencies including WHO. This is also published in the Supplement to the Gazette of India every week.

4.12.2 Monthly Surveillance Report:

Till recently statistics of cases and deaths of communicable diseases other than cholera, yellow fever and plague were not being collected on regular basis. The Central Bureau of Health Intelligence made an attempt to collect such statistics for some important communicable diseases from all the States and Union Territories in 1966. The information is now being collected in a monthly proforma. The response is quite encouraging although the figures suffer from incompleteness of coverage. In fact, most of the States are furnishing the cases and deaths of these communicable diseases covering only indoor and out door patients treated in medical institutions and indoor deaths among them. Computerised HMIS is under implementation in some States. The same will be covered in details subsequently.

Central Bureau of Health Intelligence started bringing out a consolidated monthly report entitled. "Monthly Surveillance Report" in 1968. Detailed analysis of statistics of cholera, plague and other communicable disease alongwith control measures is included in this monthly report. Special reports on epidemics whenever reported are also incorporated. Besides, reports on progress of various national disease control/eradication programmes are also quite often included in the Monthly Surveillance Report.

4.12.3 Inter-State exchange of epidemiological information:

Realising that inter-State exchange of epidemiological information helps in checking the inter-State spread of the diseases the States have been requested to send the copies of their weekly epidemiological statements as well as telegraphic declarations of fresh infection or freedom therefrom , to the neighbouring States. The inter-State exchange of epidemiological information covers all communicable diseases especially cholera, plague, haemorrhagic fever, and dengue fever. The State have also been requested that if on investigation it is found that a case or cases of cholera, plague or other communicable diseases have been reported from some other districts in the same State or from any other State the concerned district as well as State authorities should be informed immediately. Most States have made arrangements for inter State exchange of epidemiological information on the above lines.

4.12.4 National Disease Control/Eradication Programmes:

Other important sources of information on morbidity and mortality are the National disease control and eradication programmes. National Malaria Eradication Programme has yielded a continuous series of morbidity data on the basis of active and passive surveillance procedures. National Leprosy Eradication Programme also yields figures of prevalence on the basis of the surveys which are aimed at case detection for subsequent treatment. Programmes for other diseases like Tuberculosis, Filariasis, Cholera, and Plague also yield useful information on morbidity and mortality. A sample survey was conducted under the assessment of prevalence of Tuberculosis during 1955-58[33] . The reports on the various diseases regarding their prevalence and control are brought out by Central Bureau of Health Intelligence, other sections of the Directorate General of Health Services and also by the institutions that carry out the studies. It may be mentioned that the CBHI has conducted a number of epidemiological studies using the routinely collected data or data collected specially on ad-hoc basis. National Institute of Health & Family Welfare also has undertaken studies on Institutional morbidity and mortality pattern in India based on available information though various sources like CBHI, Institutions, hospitals, etc.[34]

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[33] Tuberculosis in India - A sample survey 1955-58, Indian Council of Medical Research. New Delhi.

[34] Institutional Morbidity and Mortality Pattern in India: U.Dosaju, M Kataria and P P Talwar, Statistics and Demography Department, NIH&FW, New Delhi, 1985.

4.12.5 Registration of deaths:

The continuous and compulsory registration of vital events is very useful as a source for vital statistics and as a legal document. India has a long tradition of registration of vital events particularly births and deaths; and the administrative machinery for the purpose has been in existence for over a century.

In 1873, the Government of India had passed the Births, Deaths and Marriages Registration Act, but the Act provided only for voluntary registration. Subsequently, individual States like the Tamil Nadu, Karnataka and Assam passed their own Acts.

The system of civil registration as it obtains today, however, leaves much to be desired in matters of coverage, quality timeliness of data and availability of final results for administration and research. However, many steps for improvement and upgrading of system of registration have been and are being taken by the office of the Registrar General of India. The Planning Commission had taken note of the pressing need for strengthening the vital statistics system on a priority basis. Certain short-term schemes, such as, the sample registration scheme with adequate supervision and model registration in areas close to the rural health centres, to provide immediately reliable birth and death rates, and also some long-term schemes for strengthening and steadily improving the normal registration systems are in operation. In an effort to improve the civil registration system, the Government of India promulgated the Central Births and Deaths Registration Act in 1969. The Act came into force on 1st April 1970. The Act provides for compulsory registration of births and deaths throughout the country and compilation of vital statistics in the States so as to ensure uniformity and comparability of data. The implementation of the Act required adoption of rules for which also, model guidelines have been provided. The Act also fixes the responsibility for reporting births and deaths. In the Act provision of fine also exists.

4.12.6 Model Registration:[35]

The Registrar General of India initiated in early sixties a scheme called Model Registration Scheme pursuant to recommendations made in the Conference on Improvement of Vital Statistics held in 1961. The scheme has been renamed in 1982 as Survey of Causes of Death (Rural). Initially taken up on a very limited scale and later on it has been extended to larger number of States. Subsequently, the coverage

[35] Survey of Causes of Death (Rural): Annual Report.1992, Registrar General of India, Ministry of Home Affairs.

has been further enhanced and the number of sample PHC villages was increased to 1200. In 1992 the survey was conducted for 1305 sample villages of selected PHC spread over to 23 States and 2 Union Territories. Information was being collected through the Medical Officer of the PHC who is the guardian of work at PHC level. He guided the para medical staff in ascertaining the causes of death through lay diagnosis technique.

During 1988-92 the ten leading causes of death were : Senility, disorders of respiratory system, disorders of circulatory system, causes peculiar to infancy, accidents and injuries, fevers, digestive disorders, disorders of the central nervous system, child birth and pregnancy and others. Six important leading causes of death in infants (causes peculiar to infancy) were pre-maturity, respiratory infection, diarrhoea, congenital mal formation, cord infection (including tetanus) and birth injury. Six major causes of maternal death (child birth and pregnancy) were bleeding of pregnancy and puerperium, anaemia, abortion, toxaemia, puerperal sepsis and mal-position of the child.

A Technical Advisory Committee on Vital Statistics was appointed by the Registrar General of India in 1991 which studied in-depth the system. Some of the observations were:

* All the events of births and deaths of usual residents of the sample villages of selected PHCs should be recorded, irrespective of their place of occurrence alongwith the events of visitors in the sample villages.

* All the missed events should be recorded through half-yearly survey to ensure completeness of coverage.

* To cover more population under this survey, the population of the sample village should be between 2000 and 5000.

* A nearby village at a distance of 3 to 5 Kms. from the PHC may be selected for the survey.

* Intensive monitoring of the survey work in the field may be introduced by the State implementing agencies and the office of the Registrar General, India.

A team of international experts under USAID visited and studied the scheme in 1993. Based on their recommendations, population at risk is now being collected for further analysis of survey data. The coverage under the scheme is being further enhanced to at least 1% of the total rural population of India.

4.12.7 Medical certification of cause of death:

To improve the cause of death statistics, the scheme of medical certification of cause of death according to international list of causes of death has been functioning in most of the States in collaboration with the Registrar General of India. This scheme yields very useful information on cause of death statistics. It may be mentioned that the deaths for which this information (i.e., medical certification of cause of death) is available represents only a small proportion of total deaths. It covers urban areas and the government hospitals etc are mostly covered. Seven leading causes of deaths were diseases of circulatory system, infectious and parasite diseases, ill-defined conditions, injury and poisoning, certain conditions originating in perinatal period, diseases of respiratory system, and diseases of digestive system[36].

4.12.8 Morbidity Surveys:

Role of morbidity surveys in yielding an integrated picture of morbidity pattern in the community can hardly be over emphasized. So far, only very few systematic morbidity surveys have been carried out[37 - 40]. General Health Surveys in some community development Blocks were carried out during 1955-58[41] under the auspices of Directorate General of Health Services. Another important morbidity survey was carried out in 1961 among Central Government Health Scheme beneficiaries[42] in Delhi. Morbidity surveys with limited scope have also been carried out in various States. However as the same has not been taken up in right earnestness, it has not generated very useful country wide data. The following reasons could be attributed to:

a) Confined to certain specified and restricted area
b) Varied in their objectives
c) Covering different population
d) Heterogenous in their design and type of information
e) Ad-hoc in nature.

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36 Mortality Statistics of Causes of Death 1988: Registrar General of India (Sept.,1992).

37 Report on the Short Medical and Health Survey of the Sikkim State: Seal S.C. and Bhattacharya L.M.; Govt. of India Press, Calcutta-1954.

38 Report of the Resurvey of Singur Health Centre Area 1957-58: S.C. Seal, K C Patnaik, R.C.Sen, L.M. Bhattacharya & others, Govt. of India Press, Nasik (1966).

39 National Sample Survey, Report on Morbidity: No.63-49; Cabinet Secretariat 1960,1961.

40 Studies on Morbidity Pattern of Children in an Urban Community. A. Chowdhury & K.C. Chowdhury: Indian Jr. of Paediatirics: Vol.29, 1962.

41 Report of Short General Health Survey in nine Community Development Blocks: DGHS

42 Report on the Contributing Health Service Scheme for 1961, Ministry of Health, Government of India,(vol.1-3).

4.12.9 Sample Registration

The sample Registration System (SRS) is a dual record system with the main objective of providing reliable estimates of birth and death rates at the national and sub-national levels. The SRS was initiated by the Registrar General of India on a pilot basis in few selected states in 1964-65. It now covers almost the entire country except Mizoram. The field investigation consists of continuous enumeration of births and deaths by a resident enumerator, generally a teacher and an independent survey every six months by a computer-supervisor. The data obtained through these two operations are matched. The unmatched and partially matched events are re-verified in the field and thereafter and unduplicated count of births and deaths is obtained. During 1994 SRS operated in 6,300 sampling units selected from 1991 census from of which 4149 were in rural areas and 2151 were in urban areas. The sample unit in the rural areas is a village or a segment of a village. In the urban area the ultimate sampling unit is a census block. The birth rate in India was 28.7/1000 (Urban-23.7/1000, Rural-30.4/1000) and the death rate was 9.3/1000 (Urban-10.6/1000, Rural-5.8/1000)[43].

The Central Bureau of Health Intelligence (CBHI) of the Directorate General of Health Services is responsible for:

- collection and processing of health statistics and dissemination of information.
- epidemic intelligence for diseases covered under International Health Regulations and other communicable diseases.
- Morbidity and mortality statistics, vital statistics, population statistics, programme statistics etc.
- Field studies in priority areas of health information indicators and health services research through field survey units located at Bangalore, Bhubaneswar, Patna, Bhopal and Jaipur in the regional offices for Health and Family Welfare.
- Development and strengthening of Health Management Information System (HMIS).

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[43] Sample Registration Bulletin, July 1995; Vol.29, No.2, Registrar General of India

- Monitoring of health situations and important events in health and related sectors by establishing control room during emergencies.

- Conducting training programmes for medical and para-medical staff in vital and health statistics and medical records.

- Monitoring and evaluation of strategies for health for all.

In addition to the above work by CBHI, vital statistics are collected by the Registrar General of India through various schemes like Sample Registration scheme, Model Registration Scheme, Medical Certification of Cause of Deaths etc. Department of Family Welfare also has got an Evaluation and Intelligence Division which collects information relating to family planning.

4.12.10 Disease Surveillance

National Institute of Communicable Diseases (NICD) assists in disease surveillance of those diseases which have got epidemic potentials like Cholera, Japanese Encephalitis, Dengue Haemorrhagic Fever, Kala-azar, Viral Hepatitis, Poliomyelitis, AIDS, Plague etc. However, the infrastructure that is available for the purpose is skeletal and very inadequate and, therefore, the disease surveillance data are grossly inadequate. Through all available the machinery, the data that are available particularly in relation to epidemic diseases have been further reviewed and some of the observations are as under:

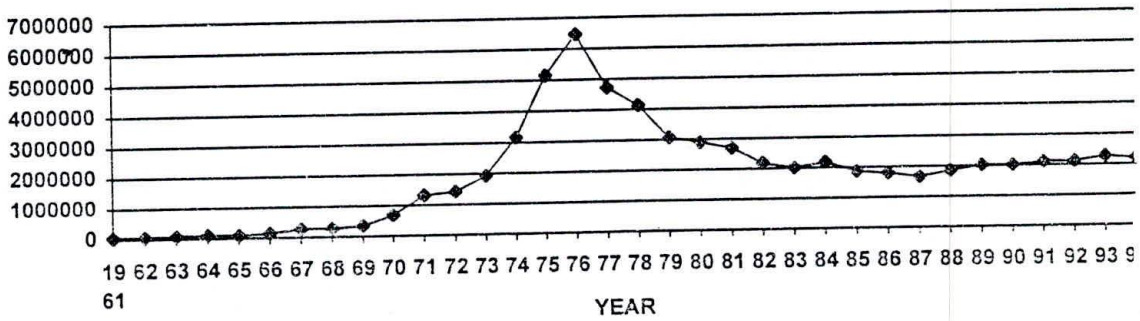
4.12.10.1 MALARIA:

MALARIA CASES IN INDIA:1961-1994

YEAR	CASES	DEATHS
1961	49151	-
1962	59575	-
1963	87306	-
1964	112942	-
1965	99667	-
1966	145012	-
1967	278214	-
1968	274634	-
1969	347975	-
1970	694017	-
1971	1322398	-
1972	1428649	-
1973	1930273	-
1974	3167658	3
1975	5166142	99
1976	6467215	59

YEAR	CASES	DEATHS
1977	4740900	55
1978	4144385	74
1979	3064697	196
1980	2898140	207
1981	2701141	170
1982	2182302	187
1983	2018605	239
1984	2184446	247
1985	1864380	213
1986	1792167	323
1987	1663284	188
1988	1854830	209
1989	2017823	268
1990	2018783	353
1991	2117472	421
1992	2125826	422
(PROV) 1993	2274804	329
(PROV) 1994	2200829	1069

CASES OF MALARIA
1961-1994



Malaria surveillance was initiated primarily based on active surveillance through regular fortnightly home visits but over a period of time the system of surveillance has weakened and now it is functioning primarily through passive surveillance. Data are obtained through the vast network of infrastructure consisting of District Health Offices, CHCs, PHCs and sub-centres. The programme has recently been reviewed in 1985, 1992 and 1994-95[44] [45] [46]. Some of the observations are: NMEP data is indicative of trend and problem of malaria is grossly underestimated. Surveillance is inadequate and wanting in many areas. Laboratory services are not fully dependable and lack supervision. Treatment is delayed and drug resistance is increasing. A strong epidemiological component needs to be established in NMEP for effectively handling the problem at the

[44] In-depth evaluation of modified plan of operation on NMEP 1985.
[45] Task Force on Malaria 1992.
[46] Expert Committee report on Malaria, 1995.

periphery and generating appropriate surveillance data for meaningful situation specific intervention.

The vector mosquitoes have also posed problems such as insecticide resistance, change in bionomics, and finding new breeding places due to ecological changes as a result of development, e.g. irrigation canals in Rajasthan. The quality of spraying operations have also gone down considerably. Community participation and involvement in NMEP is minimal.

Though appropriate technology for control of malaria is available for different epidemiological paradigms of Malaria, the administrative indifference, the organisational weakness and apathy of middle level and peripheral workers in the States have led to periodic epidemics and high mortality. Instead of piecemeal changes in the strategy of Malaria control, the Central Government should appoint a team of administrative and technical experts in planning, finance, information, education and communication, epidemiology and malariology to review the entire malaria problem vis-a-vis health care delivery system in the country.

4.12.10.2 JAPANESE ENCEPHALITIS

JAPANESE ENCEPHALITIS IN INDIA: 1984-1994

YEAR	CASES	DEATHS
1984	3370	2627
1985	2490	916
1986	7500	2627
1987	3315	1346
1988	6867	2404
1989	6489	2422
1990	2916	1291
1991	4071	1530
1992	2432	888
1993	2291	923
1994	786	415

The vaccine against Japanese Encephalitis is effective. In fact Japan has controlled JE through vaccination programme and changing its agricultural practices. Central Research Institute, Kasauli manufactures limited quantity of vaccine. Pilot studies with JE vaccine showed encouraging results. However, once the epidemic starts, role of JE vaccine in aborting an epidemic is minimal[47]. Protecting large number of people periodically with the JE vaccine with 3 doses needs large resources. However, if proper surveillance can be undertaken with appropriate entomological and laboratory support facilities in

[47] Japanese Encephalitis, NICD, 1988.

high risk areas, epidemics could be predicted to mount appropriate intervention measures for aborting the outbreak.

4.12.10.3 KALA-AZAR

KALA-AZAR IN INDIA:1981-1994

YEAR	CASES	DEATHS
1981	15075	N.A.
1982	12336	N.A.
1983	14551	N.A.
1984	17224	67
1985	17277	44
1986	17806	72
1987	23685	94
1988	22739	131
1989	34489	497
1990	57742	606
1991	61670	838
1992	77102	1419
1993	45459	710
1994	24096	364

Resurgence of kala-azar in a big way has been primarily due to inadequate surveillance and timely intervention. Diagnostic support is grossly inadequate in the periphery and paucity of drugs has forced people to take treatment from private sector resulting in increasing number of cases though prevailing in the community go unreported. Non availability of funds have contributed significantly in enhancing the problem. The current programme also does not have an appropriate surveillance machinery and experts are of the view that it is grossly underestimated[48].

4.12.10.4 DENGUE

There is evidence that India has experienced outbreaks of dengue and dengue haemorrhagic fever in recent years; however, information regarding these outbreaks has not been well documented or formally presented in the scientific literature. Though dengue has been known to exist in India for over a century, two strains of dengue 1 virus were first isolated in 1945. Despite frequent outbreaks of dengue, no report of heamorrhagic fever associated with dengue was made until 1963. The epidemic lasted from 1963 to 65 and an estimated 100,000 cases occurred from Calcutta & Vizag. DHF & DSS were both documented during the epidemic. More recently severe outbreaks of dengue occurred in Delhi in 1988, Madras 1989, Calcutta 1990 and again in Delhi in 1991. As dengue is not a notifiable disease,

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48 Report of the Group on Experts on Kala-azar (Harcharan Singh Committee) - 1986.

surveillance is not in place and expert opine several outbreaks go unrecognised and unreported. Concern has further been aggravated by the fact that dengue considered primarily an urban disease is being increasingly reported from rural areas[49] and there has been increasing reports of Dengue haemorrhagic fever and Dengue shock syndrom from different parts of India.

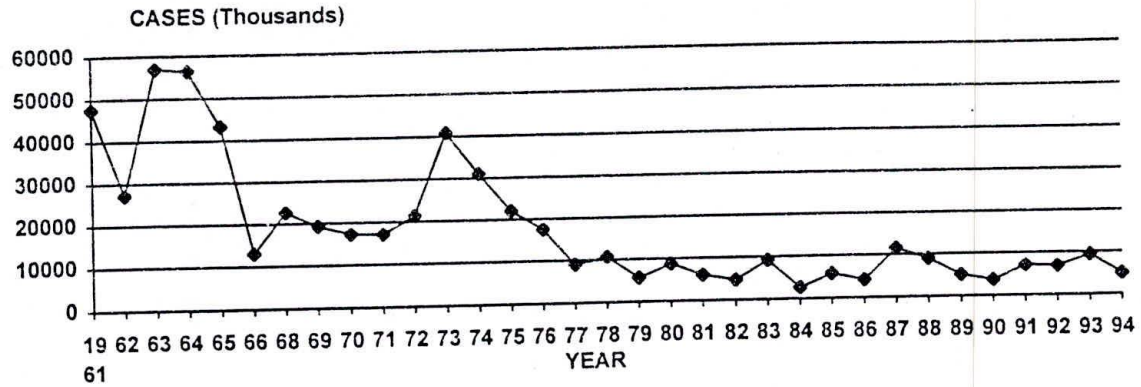
4.12.10.5 CHOLERA

CHOLERA IN INDIA: 1961-1994

YEAR	CASES	DEATHS
1961	47637	16334
1962	27165	9403
1963	56988	20309
1964	56436	19836
1965	43285	12947
1966	13027	2788
1968	22587	4472
1969	19280	3757
1970	17268	3801
1971	17140	3595
1972	21344	2908
1973	40855	5308
1974	30997	2189
1975	21955	2320
1976	17492	861
1977	9091	538
1978	10708	263
1979	5638	312
1980	8717	309
1981	6073	200
1982	4693	217
1983	9202	432
1984	2642	68
1985	5813	154
1986	4211	71
1987	11423	224
1988	8957	215
1989	5044	72
1990	3704	87
(PROV.)1991	7088	150
(PROV.)1992	6911	55
(PROV.)1993	9437	53
(PROV.)1994	4958	52

[49] WHO International Conference on DHF and National Brain Storming Session on Dengue 7-8 Feb., 1993 at Pune, India.

NOTIFIED CASES OF CHOLERA
1961-1994



Though Cholera is notifiable all over the country and is covered under International Health Regulation, number of cases are not uniformly reported. Some states report only bacteriologically positive cases and some report only clinical cases as laboratory support is not available.

There is gross under reporting of cholera cases and deaths in the country. This is due to all patients with severe gastro enterities not seeking medical care, poor diagnostic facilities and poor reporting system from the private practitioners.

The recent finding of V.cholerae O139 spreading to other parts of the country is an area of major concern. It is further stated that diagnostic support for this is also not widely available.

4.12.10.6 VIRAL HEPATITIS

VIRAL HEPATITIS IN INDIA: 1986-1994

YEAR	CASES	DEATHS
1986	154533	2246
1987	179862	1923
1988	145903	2022
1989	134948	1856
1990	124531	1793
1991	93497	1449
1992	98047	1268
1993	117789	N.A.
1994	86134	N.A.

Viral hepatitis information is available through the institutional framework and the data is grossly an underestimate. Many of the jaundice cases particularly viral hepatitis A are milder in nature and do not report to the institution and a significant chunk of jaundice cases receive treatment through the private sector.

There is substantial under reporting of viral hepatitis in India. Majority of viral hepatitis patients especially in rural areas do not report to the practitioners of modern system of medicine and hence do not get reported. Only when viral hepatitis outbreaks occur especially in urban areas does the notification system provide some measure of accurate information on the number of cases in the outbreak.

On a very skeletal basis NICD has initiated Viral Hepatitis Surveillance and has established 13 regional Viral Hepatitis Surveillance Centres. These centres have developed expertise for laboratory investigations for Hepatitis A to E. Moreover, as scanty resources for diagnostic reagents are available, the surveillance machinery has not developed to a desired extent. However, it has undertaken several focal studies.

Focal community based studies carried out by different institution indicate that the number of hepatitis cases reported through institutional frame work is just a tip of the iceberg. In addition, appropriate laboratory support is not available for identifying the causative organism in most of the areas.

From the above, it is clear that existing health surveillance system mechanism is grossly deficient in its nature and content and does not generate an effective immediate response activity for better control of communicable diseases particularly epidemic-prone diseases.

4.13 OBSERVATIONS, SUGGESTIONS & OVERVIEW :

4.13.1 The notification system varies widely in states and within the state from area to area. Even diseases which are covered under the International Health Regulations, uniform case definition is not followed. Some states provide information based on bacteriological diagnosis and some states provide information based on clinical diagnosis. So the data are not comparable. Many States and local areas do not report cholera because of possible punitive/regulatory measures associated with reporting of their number of cases. There is an urgent need that system of notification is reviewed by constituting a Committee immediately which should finalise the diseases to be covered under notification under various categories viz. diseases under International Health Regulations which should be mandatory by

all States, Union Territories and local areas. Diseases under National Health Regulations which should also be mandatory by all States and Union Territories and local areas. In view of the very nature of these diseases being covered under International Health Regulations and National Health Regulations even nil reporting should be resorted to.

4.13.2 Diseases under International Health Regulations and other identified epidemic prone diseases under National Health Regulations should be reported once in a week. During the epidemic time, daily reporting should be resorted to. Other diseases being covered under the National Health Regulations should be reported once in a month.

4.13.3 Diseases under Provincial Health Regulations. In addition to the diseases mentioned under items 1 & 2 above, some more diseases could be added depending upon the local situation.

4.13.4 Diseases under Local Health Regulations: In addition to diseases under 1, 2 & 3 above, some local areas might require addition of certain more diseases depending upon situation. The same should be included under this category.

It may be stated that 16th meeting of the Central Council of Health recommended for constitution of a committee to review the notification system and examine a uniform pattern of notification through out the country. However, the same never materialised[34].

4.13.5 The notification system should be appropriately backed by legal provisions all over the country. Unfortunately, the legal provisions are very variable and punitive measures are non existent and even if it is there, it is hardly implemented. Until and unless the notification system has got legal backing it is not likely to generate relevant epidemiological data for an appropriate response mechanism to be mounted. Therefore, the committee strongly recommends that a uniform notification system duly supported by legal provisions should be implemented. Implementation of Model Public Health Act all over the country by various local authorities will enable the notification mechanism to greatly strengthen the Public Health System. Epidemiological services and support system in various States are grossly inadequate because of non-availability of appropriate laboratory investigative facilities. Though most of the States have got Public Health laboratories but not adequate facilities are available in those laboratories to provide appropriate laboratory investigative facilities for identifying the nature and the spread of the disease. Virological investigations are not undertaken and bacteriological examinations are of routine nature. Rapid diagnostic techniques are hardly available. Non-availability of resources for procurement of appropriate reagents, disposables etc. has led to cessation of practice of

several conventional techniques of bacteriological isolation and procedures in many laboratories.

4.13.6 Due to non-availability of qualified personnel many of the Public Health laboratories are run by General Duty Medical Officers and the technical expertise in most of these laboratories are much short of the minimum necessary inputs which can provide a good support to the epidemiological intelligence services. The recommendations of the Health Manpower Planning, Production and Management Committee should be followed in right earnestness so that appropriate manpower is available in these areas.

4.13.7 With the 73rd and 74th constitutional amendments giving more autonomy to the Panchayati Raj system and urban local authority could be appropriately revitalised in channelling the information generated and this will vastly improve quick health intervention in the areas being affected.

4.13.8 National Institute of Communicable Diseases, Delhi and Christian Medical College, Vellore have worked on Models of obtaining information involving peripheral health workers and physicians in the private sector respectively and if both the models can be appropriately dovetailed within the existing HMIS, the same will provide early warning signals for detecting an impending epidemic. NICD may, therefore, in collaboration with CBHI prepare an appropriate protocol for initiating a suitable epidemic disease surveillance programme in few States within the HMIS on a pilot basis.

4.13.9 The diseases that are to be covered under the notification system should consider adequately the problems of new, emerging and re-emerging infections so that appropriate response could be generated to tackle the situation.

4.13.10 The weekly epidemiological statistics being provided by CBHI does not have an appropriate feed back channel to the various peripheral agencies. The same need to be developed in the pattern of MMWR (Morbidity Mortality Weekly Report) published by CDC and National Institute of Communicable Diseases may take up the responsibility for the same and initiate action in this regard to prepare an MMWR type of Bulletin for rapid feed back to all participating agencies, experts etc. CBHI may continue to act as a nodal agency for diseases which are being reported on a monthly basis. The diseases under International Health Regulations and the diseases under National Health Regulations having epidemic potentiality should be the responsibility of NICD which has the due expertise in appreciating the problem and initiating action accordingly.

4.13.11 The system of civil registration of deaths, Model Registration Scheme, Sample Registration Scheme subsequently renamed as Survey of Causes of Death (Rural), certification of causes of death should be continuously improved by enlarging its scope and coverage so that it gives more relevant data in the context of the entire country.

4.13.12 Morbidity survey is highly expensive and is often considered not cost effective. However, it generates very good data. If on an appropriate national sample basis morbidity survey could be orgaised through the existing health care services once in 10or 20 years, it may provide meaningful data on changing health and disease scenario.

4.13.13 National Institute of Communicable Diseases has recently proposed a centrally sponsored National Disease Surveillance Programme within the existing health infrastructure to generate appropriate epidemiological data with particular reference to epidemic diseases and having emphasis on new, emerging and re-emerging health problems with appropriate laboratory support involving already existing expertise in various national institutes, medical colleges, district public health laboratories and modernising the laboratory support system.

Fourth Conference of the Central Council of Health & Family Welfare held in 1995 recommended initiation of a National Disease Surveillance Programme for strengthening of health surveillance and support services as a centrally sponsored scheme within the existing health infrastructure with appropriate laboratory support involving already existing expertise in various national institutes, medical colleges and district public health laboratories. Additional support needs to be provided to modernise laboratory support system through strengthening of conventional techniques and procedures, induction of rapid diagnostic tests, molecular epidemiology capability so that the public health system is updated and modernised to respond to any eventual public health emergency. Initiation of a national disease surveillance programme will improve notification system, institution of early warning signal mechanism and would enhance prompt response capability.

4.14 INSTITUTIONAL SUPPORT SERVICES

All the major national health and family welfare programmes have some institutional support services like National Tuberculosis Control Programme is supported by National Tuberculosis Institute, Bangalore, National Malaria Eradication Programme is supported by National Institute of Communicable Diseases, Delhi & Malaria Research Centre, Delhi, National Leprosy Eradication Programme by

the Central Leprosy Training and Research Institute, Chingleput and its other regional centres, National Family Welfare Programme by National Institute of Health & Family Welfare, New Delhi etc. to name a few.

In the country, we have 146 medical colleges. Large number of national institutes covering various fields of activities in medical and health care also exist. These institutes are either under the Ministry of Health & Family Welfare or Indian Council of Medical Research or under Department of Biotechnology or Council of Scientific and Industrial Research or Department of Science and Technology etc. In addition, a large number of voluntary organisations are also active in the field of public health, sanitation, health and family welfare activities.

There is no formal mechanism as on date which enlists support from these organisations through a well designed guideline for flow of information, exchange of expertise though it is undeniably true that most of these institutes have reasonably sound, modern, sophisticated diagnostic support services and the technical expertise in supporting various health care activities. It is a matter of concern that even in spite of the availability of such expertise within the health care system, the same are not being harnessed through an appropriately drawn out well structured mechanism and as a result even in spite of having the expertise in terms of personnel, procedures etc. often the same are imported at exorbitant cost thus straining the resources available. This has been evident in the recent outbreak of plague where international experts were called to assist the national health authorities in seeking solution to the problem.

Many institutions are established. However, they are not appropriately utilised to their full potential. This is primarily due to the inappropriate linkages with the health care delivery system. With modern communication facility like E-mail, fax, computers, satellite linkages it is neither difficult nor impossible to harness information generated in these institutions, national laboratories, medical colleges through an appropriate linkage mechanism for use in the national or provincial level. In fact, this is highly essential so that expertise in any part of the country could be harnessed by other agencies in times of need. Only what is needed an appropriate programme of linking these national institutions and laboratories through a well designed protocol of collecting and transmitting the information. This will reduce unnecessary duplication of resources and help better utilisation of the existing facilities.

Continuing education is very important in updating the expertise for more effective health care delivery services. If all the

available institutions including medical colleges and national laboratories are appropriately linked together for enhancing the capacity of the health care delivery services this will tremendously improve the functioning of the public health system.

The development of public health laboratory services has not been up to the mark. We have expertise in different institutions for study of microbes at sub cellular and molecular levels but we have inadequate facilities in isolation and characterisation of common infectious agents at the peripheral health care system[49A] .

Poor referral system under the primary health care infrastructure has led to less than satisfactory performance of several programmes. To establish proper referral services means development of a linkage mechanism between the different institutions from sub centre/primary health centre/community health centre to sub district and district level institutions, the regional institutions, the medical colleges and the national centres. This linkage mechanism should also try to involve institutions in the NGO sectors to make the system more responsive to the situation.

The success of public health system will depend on its surveillance and response capability through quick access to epidemic situations and mobilisation of experts within the health care delivery system in arriving at a diagnosis and mounting appropriate control measures through investigation of outbreaks.

Technical Advisory Committee on Plague has observed that some attempts are being made to develop the national disease surveillance system with an appropriate network of various institutions, medical colleges and the implementing agencies and the committee recommended initiation of such disease surveillance system with focus of attention on new, emerging and re-emerging infections[111]. Such a system must develop effective linkage mechanism at the national level and if necessary may be come a part of the regional or even global networking mechanism.

Indian Medical Association (IMA) has a membership of approximately 100,000 doctors. They can play an active role in disease surveillance mechanism. IMA has been involved under the Family Welfare Programme, AIDS Control Programme and various other health programmes but their involvement needs to be augmented significantly. In addition all those practitioners of modern medicine who are on the registers of Medical Council of India and state medical councils (number more than 400,000) need to be sensitised to such a

[49A] Technical Advisory Committee on Plague 1995.

vital national need. So, the linkage mechanism of the disease surveillance system should involve medical practioners adequately to strengthen response capability of the public health system. In this context, it is stated that if the notification system proposed under the National Disease Surveillance Programme is appropriately backed by legal provisions the same will strengthen the response capability of the public health system further.

While developing the linkage mechanism with various institutions and medical colleges, the thrust area of involvement will be in the area community diagnosis. Presently, diagnostic support services in the medical colleges are mostly to meet the individual patient's needs. The same needs to be extended through appropriate inputs and linkage mechanism for flow of various clinical materials from the periphery so that diagnositic support services could be further widened and public health system gets further strengthened.

In the recently concluded meetings with the national institutions and medical colleges it has been strongly recommended that initiation of a nation-wide disease surveillance system with emphasis on new, emerging and re-emerging health problems involving an appropriate referral system and linkage mechanism from the periphery to the national level should receive priority attention to make the response capability of the public health system more updated and modern.

The institutional linkage mechanism should be such that the institutes involved converge appropriately in relation to provision of dignostic services, collection, tabulation, interpretation and dissemination of information and its appropriate feed back.

The committee under the convenorship of Union Secretary of Health on National Mission of Environmental Health and Sanitation in its report in July, 95 has recommended initiation of a Sub-mission on **Strengthening of Health Surveillance and Support Services** which not only includes a national disease surveillance system covering infectious diseases but also other health conditions.

STATUS OF CONTROL STRATEGIES FOR EPIDEMIC DISEASES

5.0 STATUS OF CONTROL STRATEGIES FOR EPIDEMIC DISEASES

5.1 General Introduction:

Without thorough understanding of what constitutes an epidemic, one cannot develop strategy for its control. Most recent definition of epidemic is the occurrence in a community or region of cases of illness, specific health related behaviour, or other health-related events clearly in excess of normal expectancy. The community or region, and the time period in which the cases occur, are specified precisely. The number of cases indicating the presence of an epidemic will vary according to the agent, size and type of population exposed, previous experience or lack of exposure to the disease, and time and place of occurrence; epidemicity is thus relative to usual frequency of the disease in the same area, among the specified population, at the same season of the year. A single case of a communicable disease long absent from a population or first invasion by a disease not previously recognised in that area requires immediate reporting and full field investigation; two cases of such a disease associated in time and place may be sufficient evidence to be considered an epidemic. However, it is necessary to consider what constitutes an impending or actual emergency for public health services and to identify early warning indicators. Even the selection of disease that can cause epidemic often poses a problem. Some diseases such as, influenza, cholera, malaria, plague, dengue, Japanese encephalitis etc. are well known to cause epidemic. There are also diseases which can cause an epidemic or a focal outbreak in an unusual circumstances like a refugee camp, man made or natural calamity, among a large group of pilgrims/tourists, following importation of disease viz. rickettsial infection, schistosomiasis, Legionnaire disease etc.

In the past the term epidemic was used almost exclusively to describe an acute outbreak of infectious diseases. Now in recent decades, the term epidemic has been broadened to include infections or chronic degenerative diseases occurring at an unusual frequency.

The key words in the definition of epidemics are "in excess of expected occurrence". In developed countries like the USA, even one case of cholera would cause a potential epidemic whereas in countries like India and Bangladesh, a few hundred cases of cholera is usual expected occurrence. An arbitrary limit of two standard deviations from its endemic frequency is used to define epidemic threshold. By and large in usual practice communicable diseases with epidemic potential having short incubation period are considered epidemic prone diseases.

An epidemic of a communicable disease is occurrence of a number of cases of the communicable disease known or suspected to be of communicable nature i.e. unusual in number or unexpected for the given place and time. It often evolves very rapidly needing a quick response.

A health emergency can be defined only within the context of the social, political and epidemiological circumstances in which it occurs. Since such circumstances significantly affect the urgency of a problem the following need to be taken into consideration in initiating health emergency measures:

A. There is a risk of introduction and spread of the disease in the population.

B. A large number of cases may reasonably be expected to occur.

C. The disease involved is of such severity as to lead to high morbidity, disability or death.

D. There is a risk of social and/or economic disruption resulting from the presence of the disease.

E. The national authorities are unable to cope adequately with the situation because of lack or insufficiency of technical or professional personnel, organisational experience, necessary supplies of equipment and material and material like drugs, vaccines, diagnostic materials, vector control agents.

F. There is a danger of international transmission.

G. Health emergencies often result in human and economic losses and often lead to political problems. It is the responsibility of the health services to control or preferably to prevent such situation by organising an effective action plan for epidemiological services.

There is no centrally sponsored/central scheme to tackle epidemic prone diseases in the above context in India, though, there are several diseases which have epidemic potentiality viz. malaria, kala-azar, measles, poliomyelitis, etc. which are covered through National Disease Control Programmes.

5.2 Malaria:

5.2.1 NMEP guidelines with respect to detection and containment of epidemics states[50]:

5.2.2 The drier parts of north west India consisting of Punjab, Haryana, Delhi, north western section of Uttar Pradesh, semi arid climatic zone with annual rainfall upto 100 mm, Indo Gangagetic plains are known major epidemic prone areas contributing to periodic fulminating malaria epidemics resulting in large number of malaria deaths. This is particularly so with unusual monsoon rainfall and other favourable conditions. It used to occur every 7-9 years with high mortality. The prediction of such epidemics was worked out by Christophers and brought to high degree of accuracy by Gill[50]. These epidemics resulted periodically in absolute catastrophe as seen by the figures of general morbidity and by general mortality and by number of cases of malaria admitted to hospitals. In terms of its fulminating characteristics it often surpassed plague and cholera epidemics.

5.2.3 Surveillance for malaria implies search for sporadic, imported, introduced, induced or indigenous residual cases of malaria and the assessment of their epidemiological significance during the process of an eradication campaign or after eradication has been achieved. The treatment of such cases and to take measures to prevent recrudescence of local transmission from them are also part of the surveillance procedure[50].

5.2.4 Specific age groups for cases detected as envisaged of attack phase are not applicable to the surveillance phase. It is expected that as a result of interruption of transmission through three continuous years the immunity status of the community will be low and children upto three years of age would have no experience of malaria at all.

5.2.5 The surveillance procedure consists of a house to house visit every fortnight to search for parasite positive cases; each individual should be contacted for enquiry. Since it will not be practical to examine the blood of every individual in every home during each visit and since it is reasonable to expect that the parasite positive individual will manifest fever at some one or other of the fortnightly visit, therefore, enquiry is restricted to individual having fever in between the last visit and the present visit and from each such case the blood smear is obtained for detection of malaria parasites.

5.2.6 Entomological observations in the surveillance phase was to know the rate of build up of vector population and their behaviour

[50] Manual of the Malaria Eradication Operation, NMEP Directorate 1960.

characteristics. After the spray is withdrawn the vector is expected to increase and with the achievement of interruption of transmission it is expected that the parasite reservoir will be low or altogether absent and transmission of malaria will not be possible even if the vector population is high.

5.2.7 District Malaria Officers were instructed to report occurrence of falciparum cases through telegram to all concerned within 24 hours.

For investigation of outbreak and initiating control measures, operational guidelines were to take situation specific measures like mass treatment, mass radical therapy, insecticide spray both residual and space etc.

5.2.8 During 1963-64[51] a few focal outbreaks occurred in the consolidation areas which were promptly contained through immediate spray, mass blood survey and treatment. However, subsequently especially after 1966 much larger outbreaks have occurred because of the inability to take prompt remedial measures on account of acute shortage of insecticides. Thus the foci extended over wider areas making it more difficult to control the situation in view of the short comings in the existing logistic problem. In depth study team of NMEP in 1974 observed that the Indian NMEP has suffered mainly due to non availability of adequate quantity of insecticides from 1965.[52]

5.2.9 The Modified Plan of Operation[53] stressed that all areas within an API of two and above (from 1976) must be brought under spraying programme. The point at which the spraying activities are to be discontinued was, however, unclear because that was linked with the efficiency of the case detection system and the response capability of the district programme of dealing with the situation promptly after the interruption of intervention measures. The MPO relied on the routine case detection procedures and stipulated that for technical reasons the two-weekly frequency pattern of the domiciliary visits for case detection should continue. However, with the introduction of MPW scheme surveillance mechanism of malaria was eroded.

5.2.10 When malaria continues to be highly endemic surveillance machinery should be able to detect cases early for their treatment, identify epidemic prone areas, detect outbreak early, monitor drug resistance, insecticide resistance, etc. No specific guidelines particularly with regard to detection of outbreak was there.

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[51] PfCP (Plasmodium falciparum containment programme) 10 years of operation in India 1978-88, A P Ray et al, Dte. of NMEP/WHO/SIDA, Delhi 1988.

[52] In-depth Study Report on Malaria 1974.

[53] The Modified Plan of Operation, NMEP Directorate, 1976.

The above surveillance mechanism viz. fortnightly visit, collection of blood slides from fever cases and its transportation to PHC/CHC, communication of the results for radical treatment is considered to be the best of all disease surveillance mechanisms in the country within the existing resources. But from technical point of view even this surveillance mechanism may miss many an impending outbreak in its very early stages. However, if it is implemented with right earnestness, most of the outbreaks could be detected within a reasonable time frame for mounting appropriate action. However, a variety of reasons like large scale vacancy existing among male multipurpose workers leading to complete black out of surveillance in several pockets, delay in transportation of slides and their examination because of poor mobility, difficult terrain, non-availability of the technicians, poor quality of microscopes, lack of supervision contributed largely to failure in detection of outbreaks early resulting in situations of high mortality and morbidity which could be easily averted through proper surveillance.

5.2.11 With the introduction of PfCP within the PfCP areas surveillance was strengthened and specific instructions were given for epidemiological surveillance through :

a) Appearance of foci, time and size (population involved in the locality).

b) Undertaking mass blood (usually fever) surveys if not done by the organisation.

c) Vulnerability of the area/projects to large-scale importation of cases.

d) Volume and proportion of falciparum cases.

e) Deaths, if any, due to malaria: Complete investigation by district epidemiologists as per instructions and scrutiny and analysis of reports at co-ordinator's level as well as by the HQ PfCP Cell.

f) Immediate reporting of such cases by telegram to all concerned followed by special reports.

5.2.12 The Operational Manual for Malaria Action Programme 1995 by Directorate of NMEP[54] has clearly stated that the malaria incidence should be properly monitored through analysis of the data in MF-9 (village register of the PHC). It should analyse the trends of incidence

[54] The Operational Manual for Malaria Action Programme 1995 by Directorate of NMEP.

in different villages vis-à-vis number of fever cases from the same area reporting to the PHC OPD. The information of cyclic epidemic and seasonal epidemics should be carefully looked into. Other factors which should be properly monitored to assist in early warning signalling are:

- Parasite rate: Look for variation/increase in number of fever cases, species distribution.

- Vector dynamics through increase in mosquito density, vector density.

- Through population dynamics, influx of migrants from known endemic to non-endemic areas and vice versa, tropical congregation of population in projects, large labour movement to population migration through floods and droughts.

- Environmental and climatic conditions like early and heavy rainfall in pre-transmission period, increased humidity during the above period, natural disasters like floods, droughts, drying of river bed leading to pool formation, earthquake etc.

Other information should be carefully examined like rise in malaria positivity rate, rise in fever incidence reported by FTD holder/MPW, community leaders, press, legislators, medical practitioners of the area and their reports should be carefully assessed along with laboratory positivity rate and time frame of the area.

5.2.13 If an epidemic predominantly of *P.vivax* infection is there, it is certain that the first round of insecticide had not been done in time as scheduled or coverage was poor and case detection, drug distribution was not done for at least 2-3 months. If an epidemic with *P.falciparum* predominance is seen, both rounds of insecticidal spray were either not given or coverage was extremely poor and case detection and drug distribution was not done for at least 4-5 months. In case of an epidemic, control measures are to be enforced through delineation of affected areas by rapid survey, rapid fever survey, mass survey. Blood smear should be examined within 24 hours. All persons from whom blood smears are taken should be given presumptive treatment or mass radical treatment depending upon the situation. Measures are also to be taken for liquidation of foci through space spray, residual insecticidal spray etc. In urban area, community level operation in addition to indoor spray, entomological investigations and the control measures should be effectively implemented within 7-10 days in any case not later than exceeding the fortnight to prevent a secondary case.

5.2.14 From the above it is clear that the surveillance mechanism and the control measures that are recommended though appear to be technically sound yet due to a variety of operational failures epidemics occur and most of the times it could be attributed to operational failures like non-availability of insecticides, very poor surveillance, poor interpretation of the available data etc. Efforts were made to develop malaria forecasting model by several authors[55]. However, the same was not implemented under the programme and these models are based on the data mostly available outside the country and no serious attempts have been made to develop malaria forecasting model in the context of our country.

5.3 Kala-azar:

The first recorded outbreak of Kala-azar was in the year 1824 at Mohammadpur of Jessore district of Bengal. Later it spread Nadia district in 1832 or 1833 and then to other parts. Bihar recorded its first Kala-azar outbreak in 1882 and subsequently it is to have periodic outbreaks of Kala-azar. With the introduction of NMEP, Kala-azar started disappearing as a collateral benefit as Kala-azar vector is highly susceptible to DDT. However, with the cessation of insecticide operation when most of the units in North Bihar went into consolidation phase, the slow build up of sandfly population leading to report from several institutions admission of Kala-azar cases signalling a simmering epidemic outbreak in early 70's. Institution of emergency control measures under the guidance of National Institute of Communicable Diseases when it was estimated that 70,000 cases of Kala-azar occurred with 4500 deaths in 1977[56] resulted in significant reduction of kala-azar mortality and morbidity during the period 1977-79 with *ad hoc* assistance from UNDP. Kala-azar control operation undertaken by NMEP from 1980 had no separate funding provision for kala-azar control apart from use of insecticides on *ad hoc* basis on a limited scale and the federal government used to provide some drugs like pentamidine (IInd line drug) and provide insecticide through NMEP.

The Expert Committee on Kala-azar[48] recommended initiation of a Kala-azar Control Programme in Bihar and West Bengal giving several options for funding viz. 100% central assistance, 50:50 sharing basis, partial sharing of some items, one time grant plus 50:50 sharing etc. However, the same was not implemented. Then, in the year 1990-91 with the approval of Planning Commission, kala-azar control scheme was initiated on a 50:50 sharing basis and from the very next year the federal government has been providing total requirements of

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[55] The Biomathematics of Malaria, Norman T.J. Bailey, 1982.
[56] Sanyal, R.K. et al 1979.

insecticides and drugs for Bihar and from 94-95 for both the states of West Bengal and Bihar. The strategies and the operational guidelines so far do not have any specific areas detailed out for detection of focal outbreaks and its containment measures[57] . However, if all the areas pertaining to disease surveillance are appropriately implemented, the same will provide sufficient lead in identifying outbreaks within a reasonable time frame for control of Kala-azar. The Expert Committee on Kala-azar[58] in 1991 outlined the necessity of community participation and generating awareness among the common mass for seeking early detection through laboratory tests so that appropriate treatment could be initiated leading to recovery from the disease.

The diagnostic support services that are available in the affected areas under the programme are very inadequate and often causes enormous delay in the detection of cases. Fortunately, now very good rapid diagnostic tests are available which can lead to very early diagnosis. Availability of this procedure will significantly improve kala-azar disease surveillance particularly identification of outbreak early.

5.4 Japanese Encephalitis:

Japanese Encephalitis has been prevalent in Eastern, South East Asian countries since long. It has emerged as a major public health problem in Indian since early 1970 when a series of outbreaks occurred in various parts of the country [47,59] . Japanese Encephalitis activity has been detected in early 1950s. However, the reports of outbreaks occurring in different parts of the country after 1970 have caused tremendous concern to the health authorities.

There is no separate prevention and control programme for Japanese Encephalitis. National Institute of Virology, Pune provides useful information with regard to Japanese Encephalitis through investigation of outbreaks, sero-epidemiological studies, etc. National Institute of Communicable Diseases, Delhi responds to the investigation of outbreaks of Japanese Encephalitis in different parts of the country and provides useful information on Japanese Encephalitis. School of Tropical Medicine, Calcutta also provides very useful information with regard to Japanese Encephalitis in West Bengal and North Eastern States through epidemic investigations and serological studies. Directorate of NMEP receives information on Japanese Encephalitis from various State health authorities on the number of JE cases detected and the number died, month-wise and district-wise

[57] Model District Plan - NMEP, 1989.
[58] Report of Expert Committee on Kala-azar in Bihar, DGHS, 1991.
[59] ICMR Bulletin vol.18, August 1988.

from the different States. However, as laboratory diagnostic facilities for Japanese Encephalitis are very scanty and inadequate most of the cases reported are on clinical diagnosis. However, during the epidemic, investigative teams from NICD, Delhi, NIV, Pune, School of Tropical Medicine, Calcutta collect materials which provide laboratory diagnostic support services. Therefore, by and large the surveillance data are grossly deficient with regard to virological diagnosis. The current surveillance data indicate that an increasing number of districts are reporting Japanese Encephalitis cases and outbreaks are also being reported from these districts indicating establishment of newer ecological situations favourable for the vectors of Japanese Encephalitis. Guidelines for the control of JE circulated by NMEP do not have specific provision of identifying outbreaks early. However, measures to be taken in the event of an outbreak have been detailed out. Information on prevention and control is periodically provided by NICD, NIV, School of Tropical Medicine and Directorate of NMEP. A meeting was convened under the chairmanship of DG, ICMR with Director, NMEP as the Member-Secretary to review the strategy and control of JE held at ICMR HQ[60] . The meeting recommended several action plan for JE control covering case detection and management, prophylactic measures such as, vaccination and vector control (insecticidal spray in hyper-endemic areas), establishment of a system of surveillance for JE, vaccination on incidence of JE, research, efforts to evolve better vaccine, effective vector control measures and methods for forecasting of JE epidemic. However, not much has been achieved in this direction. CRI, Kasauli manufactured JE vaccine and the vaccine was found to be very highly protective but because of paucity of funds many State Governments did not procure the vaccine for protection of high risk groups. Japanese encephalitis is also not uniformly notifiable in the country and hence many cases/out breaks go unrecognised.

5.5 Dengue:

The first recorded outbreak of Dengue fever in India was in 1812[61] . Serological survey was first carried out in 1954 and later indicated that Dengue is quite widespread in India[62] . Dengue with haemorrhagic manifestations was first noticed in Calcutta in 1963. Since then in fact, from mid fifties numerous outbreaks of Dengue have occurred and have been investigated[63] . Analysis of 54 outbreaks during the period from 1956-95 indicates increasing frequency of

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[60] Minutes of the meeting on strategy for control of JE held at ICMR HQ, New Delhi on 19th December, 1988.

[61] Dengue Fever and Dengue Haemorrhagic Fever in India by Prof.J K Sarkar, Dengue News Letter Vol.5, No.1, Jan.1979, P-12.

[62] Monograph on Dengue/Dengue Haemorrhagic Fever Regional Publications, SEARO WHO No.22.

[63] ICMR Bulletin Vol.24 No.5, 1994.

haemorrhagic manifestation from Dengue. This is a very disturbing fact. There is no separate programme of disease control for prevention and control on Dengue fever in India. One very disturbed observation is that favourable conditions for Dengue vectors are being increasingly observed both from urban as well as rural areas. Dengue outbreaks have been reported from most of the States. It was mainly from urban areas but from 1987 rural areas also in some States were involved. All the four known Dengue viruses were found involved with different frequency and proper entomological surveillance can offer clue to identify early impending danger from Dengue outbreak. Dengue is not reportable disease in India uniformly and no active surveillance exists and therefore, outbreaks of Dengue and Dengue Haemorrhagic Fever are often not reported or documented. Specific guidelines for Dengue and Dengue Haemorrhagic Fever including emergency preparations and response are available with many countries[64].

No guidelines for Dengue surveillance with specific provisions of identifying outbreaks of Dengue early in India is available till date. WHO International Conference on Dengue and Dengue Haemorrhagic Fever and National Brain Storming Session during 7-8 February, 1993[49] at Pune, India, recommended that NICD shall prepare the guidelines for Dengue surveillance in the country. NICD has prepared the guidelines in consultation with other experts and the same guidelines are being finalised in consultation with various States. The surveillance mechanism of Dengue and Dengue Haemorrhagic Fever developed by NICD has been discussed also in the Regional Consultation on Strategy for Prevention and Control of Dengue and Dengue Haemorrhagic Fever in South Asian Region held in New Delhi from 10-13 October, 1995[65] which has broadly endorsed the same.

5.6 Diarrhoeal Diseases including Cholera:

5.6.1 The Central Expert Committee Report for 1958-59 and the Health Survey and Planning Committee 1961[11A,66] and the State Officers meeting held in 1964 and 1967 recommended initiation of Cholera Control Programme and National Cholera Control Programme was initiated during the Fourth Five Year Plan (1969-74) with establishment of a Cholera Control Cell at different levels envisaging elimination of endemic foci through surveillance and appropriate control measures with emphasis on provision of safe drinking water supply and improvement of environmental sanitation.

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[64] Dengue and Dengue Haemorrhagic Fever in the Americas, Guidelines for Prevention and Control, PAHO Scientific Publication No.548.

[65] Regional Consultation on Strategy for Prevention and Control of Dengue and Dengue Haemorrhagic Fever in South Asian Region held in New Delhi from 10-13 October, 1995.

[66] National Programme on Control of Diarrhoeal Diseases, National Health Programme Series 9, NIH&FW, 1988.

With the decline of Cholera cases considerably, the scheme was discontinued during the Sixth Five Year Plan as a centrally aided scheme and was transferred to the States. A nominal allocation of Rs.14 lacs was made during the Sixth Five Year Plan which was primarily used for health education activities.

The Oral Rhydration Therapy (ORT) Programme was started in 1986-87 in a phased manner with the objective of preventing associated deaths in children due to dehydration. Diarrhoeal diseases are major health problems specially in children under five years of age. It has also been estimated by WHO/UNICEF that approximately 25% of all deaths in these age groups are due to diarrhoea or diarrhoea related causes. ORS is most important in bringing down the diarrhoea mortality. Diarrhoea treatment and training centres have been set up in about 90 medical colleges and these act as centre for propagating standard case management of diarrhoea to provide training to medical students, interns and health workers. The network is being further expanded to district hospitals also. However, the programme strategy does not have provision of identifying diarrhoeal disease outbreaks early and the guidelines for prevention and control in the event of an outbreak are usually provided within the health care delivery system.

5.6.2 Cholera:

Cholera is nationally notifiable and is covered under international health regulation, WHO guidelines for cholera control exist[67] . However, the same is not adequately followed by the programme management in India. Even though Cholera is covered by International Health Regulations but due to non-availability of appropriate diagnostic support facilities many outbreaks go undetected.

The present programme of diarrhoeal disease control programme is primarily around oral rehydration therapy (ORT) programme. Poor surveillance coupled with appearance of new serotype O139 is a matter of concern.

5.7 Poliomyelitis:

Poliomyelitis is one of the EPI targeted diseases under the Universal Immunisation Programme which was launched in 1985 and declared as one of the Technology Missions in 1986 as part of the overall National strategy to bring down infant mortality and freedom from Poliomyelitis and other EPI target diseases. It may be mentioned here that with the eradication of smallpox in 1977 the vaccination

[67] Guidelines for Cholera Control. WHO, Geneva, 1993.

programme was expanded into Expanded Programme on Immunisation. The scope of EPI was further enlarged through initiation of UIP in 1985 and the coverage of Polio has improved significantly to around 95% in the country.

Guidelines under UIP state that immediate reporting of cases of Neonatal tetanus and Poliomyelitis are mandatory. However, due to non-availability of laboratory support services many of the cases go unrecognised. The programme management provides guidelines for investigation of poliomyelitis outbreak and procedures of surveillance. However, it does not have specific guidelines for identifying the outbreaks early. The programme has provisions of monitoring the cold chain of the vaccine and the monitoring mechanism indicates steady improvement in efficacy of the cold chain system from 60% to 90%[20].

5.8 Measles:

Measles Immunisation Programme has improved vastly and the coverage has gone upto almost 90%. The guidelines for measles surveillance do not have specific provisions of identifying the outbreak early. However, in the event of an outbreak, procedures of investigation have been detailed out.

5.9 Viral Hepatitis:

There is no National programme on Viral Hepatitis prevention and control. NICD has developed a surveillance mechanism through development of diagnostic/ surveillance capability in 13 regional surveillance centres. However, as no separate funds are available, no specific guidelines for the prevention and control of viral hepatitis have been made available uniformly to the States though specific information on its prevention and control is provided to the States as and when required in the event of an outbreak. The surveillance mechanism does not have any provision for detecting an outbreak early because adequate diagnostic kits and reagents are not available for the same.

5.10 Strategy for Control of Epidemic Diseases

5.10.1 There is no centrally sponsored/central scheme to tackle epidemic prone diseases as one single group and, therefore, no separate budget is available for epidemic control. For control of epidemics of diseases for which national health programmes are in operation, funds are available through the programme but for diseases for which no national programme is in operation, funds are usually

provided on *ad hoc* basis within the resources of the health care delivery system.

5.10.2 There is no national focal point to tackle epidemic prone diseases. However, National Institute of Communicable Diseases, Delhi; National Institute of Virology, Pune; All India Institute of Hygiene and Public Health, Calcutta; National Institute of Cholera & Enteric Diseases, Calcutta offer assistance to the State governments in investigation of outbreaks and also providing appropriate guidelines for its control. By and large the major responsibility is borne by National Institute of Communicable Diseases, Delhi. It is responsible also for providing appropriate guidelines for prevention and control of any epidemic diseases in any part of the country. For diseases like malaria, kala-azar, Japanese Encephalitis, National Malaria Eradication Programme directorate also shares substantial responsibility.

5.10.3 Most of the State Health Directorates have a focal point in handling epidemic diseases in the State and at the district, District Health Officer or the Chief Health Officer is responsible for management of epidemics/outbreaks. Collectors/District Magistrates or local health authorities at the municipalities are authorised to invoke Epidemic Diseses Act whenever needed.

5.10.4 Though the surveillance machinery is not geared up to detect early warning signal yet once the epidemic is detected and identified the entire health care delivery system gears up and tackle the situation on a war footing to minimise mortality and morbidity. Being an one time activity for a short duration time frame usually response is mostly quick and co-operation and collaboration from all concerned are easily secured and even experts from the medical colleges or other health establishments are rushed to the place to assist the local set up in containing the outbreak early.

5.10.5 Though on a routine basis diagnostic support services may not be available but during the epidemic the diagnostic support services are provided drawing experts and resources from wherever it is available.

5.10.6 As there is no separate programme for epidemic diseases the guidelines for prevention and control are not regularly available on a continuing basis. However, during epidemic every efforts are made to reach everyone concerned with appropriate information for prevention and control.

5.11 OBSERVATIONS, SUGGESTIONS & OVERVIEW:

5.11.1 In summary it could be said that appropriate guidelines for detection of outbreak and early warning signal mechanism for epidemic prone diseases are not nationally available. The same are usually provided on *ad hoc* basis to the implementing agencies by NICD and in respect of some specific diseases like Dengue and JE by National Institute of Virology, Pune.

5.11.2 Even for the diseases which are covered under the National Health Programmes though guidelines for prevention and control are available but the surveillance mechanism does not have provision for identifying outbreak early so that quick response could be initiated. However, if the guidelines for surveillance are implemented properly, the same will generate sufficient data for mounting an appropriate response within a reasonable time frame. However, for epidemic prone diseases detailed guidelines for surveillance including provision of detecting outbreaks early and appreciating early warning signal to mount proper and effective response are though available but the same is not available in the country uniformly as there is no specific disease surveillance programme. CBHI guidelines do not cover early detection of outbreaks and responses thereto.

5.11.3 NICD prepares guidelines and procedures for outbreak investigations and epidemic disease surveillance but the same is not available through out the country under a regularly monitored programme. The same is usually provided on requests to various health agencies on request. Neither these guidelines are regularly updated. The entire mechanism is an *ad hoc* basis.

5.11.4 The notification system in the country is not uniform. The same requires to be updated keeping in view the new, emerging and re-emerging diseases and local situation and immediate efforts need to be made to make the system uniformly implemented through appropriate guidelines. In this context the committee agrees with the recommendations made in this regard by the Central Council of Health in 1969 and reiterated by the Central Council of Health and Family Welfare in its recently held meeting from 11-13 October, 1995[68].

5.11.5 Initiation of a national disease surveillance programme will improve notification system, institution of early warning signal mechanism and prompt response capability and the Committee agrees

[68] Resolution of the 4th Meeting of Central Council of Health and Family Welfare, 11-13 October,95.

with the recommendations of the Central Council of Health and Family Welfare in this regard.

5.11.6 Every State has got ID Hospital. Most of these ID Hospitals are inadequately staffed with poor maintenance. Many of them lack in having the basic diagnostic support services. There is an urgent need that facilities in these ID Hospitals are appropriately reviewed and they are modernised to meet the requirements of infectious diseases management. These hospitals should also have some provisions particularly in the major metropolitan cities for management of cases suffering from dangerous human pathogens.

EXISTING HEALTH SCHEMES

6.0 EXISTING HEALTH SCHEMES

6.1 Rural health service scheme (Health component of minimum needs programme)

6.1.1 Development of health infrastructure:

Health infrastructure in rural areas is of prime importance to realise the objectives set forth in the National Health Policy and for attaining the goal of health for all by the year 2000 AD. Primary health care is accepted as one of the main approach through which comprehensive health care delivery is envisaged and also as the government's concerted efforts to reach the vast rural mass and thus priority has been accorded to the extension, expansion and consolidation of rural health infrastructure.

There are a number of schemes under the Minimum Needs Programme to provide primary health care relevant to the actual needs of the community of the rural areas. The number of health institutions and health manpower in rural area as on 31 March 1995 is as under:

6.1.2 Primary health care infrastructure in India as on 31.03.1995

INSTITUTIONS

1.	Village Health Committees	2,20,545
2.	Sub-centres	1,31,900
3.	Primary Health Centres	22,156
4.	Community Health Centres	2,377
5.	Rural Dispensaries	11,670
6.	Rural Hospitals	3,568

6.1.3 Number of PHCs & Sub-centres required & in position in tribal area[69]

A. Total Population in TSP Area as per 81 Census	776.84 Lakhs
B. Total Population in Tribal pocket as per 81 Census	414.89 Lakhs
C. Total CHCs in position (in Tribal Area)	444
D. Total PHCs required for Tribal Area	3653
E. Total PHCs in position (in Tribal Area)	3243
F. Total Sub-Centres required for Tribal Area	25440
G. Total Sub-Centres in position in Tribal Area	19891

[69] Bulletin on Rural Health Statistics in India, Government of India, March,95.

6.1.4 Level of Achievement of some norms all India position as on 31.03.1995[69]

S.No.	Parameters/indicators	National Norms	Norms achieved/established (Approx.)
1.	Rural Population covered by a Sub-centre	3000-5000 Pop.	4766
2.	Rural Population covered by a PHC	20000-30000 Pop.	28375
3.	Rural Population covered by a Community Health Centre	About 1 Lakh Pop.	2.64 Lakhs
4.	No. of sub centres for each PHC	6 Sub-Centres	5.9 Sub-Centres
5.	No. of Primary Health Centres for each Community Health Centre	4 PHCs	9.3 PHCs
6.	Trained Village Health Guide	One VHG for each Village/1000 population	1.42 Villages/1512 Population
7.	Trained Dai	At least one for each village/1000 Population	1.00 Village 1027 Population
8.	Rural Population served by Health Workers (Male and Female)	M : 3000-5000 F : 3000-5000	10038 2728
9.	Ratio of HA (M) : HW (M)	1 : 6	1 : 3.9
10.	Ratio of HA (F) : HW (F)	1 : 6	1 : 6.9
11.	Average Rural Area Covered by a Sub-centre		23.83 Sq.km.
12.	Average Rural Area Covered by a PHC	-	141.86 Sq.km.
13.	Average Rural Area covered by a CHC	-	1322.35 Sq.Km.
14.	Max. radial distance covered by a Sub-centre (in km.)		2.75 Km.
15.	Max. radial distance covered by a PHC (in km.)		6.71 Km.
16.	Max. radial distance covered by a CHC (in km.)		20.51 Km.
17.	Average number of villages covered by a sub-centre		4-7
18.	Average number of villages covered by a PHC		25-27
19.	Average number of villages covered by a CHC		247-248

Note: The national or state averges often give misleading impression. Due to regional imbalances and variation, local situation in several places is unsatisfactory.

6.1.5 Sub-centres:[20,69]

Sub-centre is established on the basis of one centre for every 5000 population in plain area and 3000 population in hilly and tribal areas. Each sub-centre is required to be manned by a trained female health worker (ANM) and a trained male health worker. The sub-centres were established on the basis of mid 1987 projected population. Department of Family Welfare has not sanctioned additional sub-centre since 1990-91 onwards. Up to 31 March 1995, a total of 1,31,900 sub-centres have been established. Upto end of March'95, 6,476 (4.9%) sub-centres are without any ANMs. 23,004 (17.4%) sub-centres are without any health worker (male). 4,956 (3.8%) sub-centres are without any ANM and health worker (male).

6.1.6 Primary Health Centres:[20,69]

Primary health centres are established on basis of one primary health centre for every 30,000 population in plain area and 20,000 population in hilly, tribal and backward areas. Primary health centre are manned by Medical Officer and other para medical staff. Each primary health centre provides supportive supervision to 6 sub-centres and serve as referral centre for these sub-centres. Up to 31 March 1995 a total of 22,156 primary health centres have been established. 1,139 (5.1%) PHCs are without any doctor. 7083 (32%) PHCs are without any laboratory technician and 1196 (5.4%) are without any pharmacist.

6.1.7 Community Health Centre:[20,69]

Community health centres are rural institutions which are being established by upgradation of primary health centres having 30 beds with basic speciality services like medicine, surgery, mid-wifery, and paediatrics covering a population of 80,000 to 1,20,000. It acts as a referral centre for four primary health centres of the block. Up to 31 March 1995 a total of 2,377 community health centres have been established.

6.1.8 Building for sub-centres, PHCs, and CHCs:[69]

Health Institutions	No. functioning as on 31.3.95	No. of bldgs. constructed/functioning in Go Panchayat Buildg.	No. of bldgs. under construction	No. of bldgs. yet to be constructed
Sub-centre	131900	68112	10740	54031
PHCs	22156	14091	1295	6989
CHCs	2377	1572	516	197

The status of primary health care infrastructure related to MCH&FW though appears to be good but the actual programme implementation is poor. There are deficiencies with regard to skill and knowledge of health personnel, lack of basic facilities and simple equipment for ensuring minimal essential maternal health care.

A recently concluded ICMR evaluation indicates that maternal component of the family welfare component is the weakest and requires maximum attention.[70]

Discriminatory attitude toward female from birth through her life contributes largely to the poor quality of MCH care. Our women folk are burdened with care of large families, are largely illiterate, have poor access to education, good food, nutrition and health thus inspite of the massive infrastructure available quality of MCH care is far from satisfactory which has contributed immensely in weakening the public health system.

In India the health care services delivery is almost entirely through the government channel and it is often not available in remote and inaccessible areas which contributes towards limiting the out reach of the public health system; sometimes the services are not utilised by the people because of improper location of the facility and/or poor quality of the services offered and thus the system gets further crippled.

Large number of sub-centres are still functioning from the MPW female residence or rented building with inadequate space for proper delivery of service. The same needs priority attention.

Though the Sub-centre is required to serve 3000-5000 population it does not take into account the distance and travel time. In some of the Sub-centres ANM is required to cover 10-15 kms and sometimes more. To improve the efficiency of the health care delivery services in these centres, special travel allowance needs to be provided; the same was recommended by the working group on health care delivery service in rural and urban areas.[71] Distance based norm could be thought of in identified areas.

The districts which have high maternal mortality, infant mortality and low couple protection rate should be provided with two female health workers and one male health worker. The same was

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[70] Working Group Report on Safe Motherhood Activities for the Eighth Year Plan (90-95) Planning Commission, June,89.

[71] The Working Group Report of the Planning Commission, Health Care Delivery Services in rural and urban areas - policies and perspectives, June,1989.

recommended by the working group on health care delivery services.[71] However, the same has not been implemented.

The group also recommended 100% assistance only for those centres which have both male and female workers. Alternatively, of the funding 50% of both male or female workers could be implemented. The same will improve positioning of both health workers at the subcentre. However, nothing has been done in this direction.

Many of the PHCs are not functioning in the government buildings and, therefore, adequate space is not there for effective functioning.

The working group[71] recommended positioning of a record clerk or a clerk with training in statistics at PHCs to improve HMIS but the same has not been implemented.

The group further recommended that the post of the Medical Officer at PHC should be made non practicing one but many of the states have not done so.

The group also recommended creation of a post of Public Health Nurse at PHC. The same has not been done by the implementing agencies.

The group also recommended positioning of a public health specialist in the PHC but the same has not been implemented so far.

There is need to review the staffing pattern of new PHCs and Sub-centres taking into consideration geographic situation, infrastructural facilities, available work load under various national health programme, convergence of various developmental activities having direct bearing on health and environment etc.

6.1.9 Urban Health Services

More than one quarter of the population in the country now lives in urban areas. In metropolitan and large cities about 40-50% of the urban dwellers are estimated to be living in slum areas where the health status of the people is as bad as, if not worse than, in rural areas. But infrastructure for primary health care in urban areas hardly exists.

6.1.10 Secondary and Tertiary Care Services

The sub-divisional and district hospitals which are the secondary level medical care institutions, lack adequate manpower and facilities, to be able to discharge their responsibilities satisfactorily.

6.2 Health manpower in rural areas as on 31.03.95:[69]

1. (a) No. of Village Health Guides reported to be working	3,22,609
(b) No. of volunteers trained under Alternative Health Guide Scheme	948
2. Traditional Dais trained	6,12,124
3. ANM/HW (F)	1,32,045
4. Health Workers (Male)	62,629
5. LHV/HA (F)	19,045
6. Health Assistant (Male)	15,916
7. Block Extension Educator	5,658
8. Pharmacist	20,172
9. Lab. Technician	10,715
10. Nurse Mid-wives	11,653
11. Radiographer	1,200
12. Doctors at PHCs	28,135
13. Paediatricians	436
14. Obst.& Gynae.	576
15. Physicians	658
16. Surgeons	703

6.3 Health Manpower in Tribal areas as on 31.03.1992:[69]

Category	sanctioned	In Position	Percentage
Medical Personnel	2568	1986	77.30
Para-medical personnel	16765	13988	83.40

Man power development is essential for delivery of health services. Right man in right place and in right time is essential. More TBAs need to be trained. The para medicals and other health care providers are more curative oriented rather than public health oriented involved in preventive and promotive health aspects.

The ANM who is the main person for delivery for MCH&FW services is not available in several sub-centres[20,69]. This contributes to less than satisfactory qualitative performance of services. The male health workers are grossly inadequate in number as evidenced by large vacancies in several states. This also has contributed significantly in poor performance of the public health system.

Lack of participation of medical college teachers in clinical practice under rural setting, and failure of PSM department in successful co-ordination between community medicine and other departments result in non-exposure of integrated approach to practice of medicine.

6.3.2 Additional assistance to poorly performing districts

Available information indicates that investment in health especially in the primary health care infrastructure is low in many poorly performing states. Recognising the need for special attention and necessity for additional inputs to improve the performance in poorly performing states, one half of the total funds for social safety Net Scheme have been provided to the department of Health and Family Welfare. On the basis of data from 1981 census, 90 districts with crude Birth Rates of over 39 per thousand population, high Infant Mortality Rate and low literacy among women have been chosen and interventions aimed at reduction in maternal and infant mortality and increase in institutional delivery have been initiated in 1992-93. The CSSM programme was also initiated first in the poorly performing districts. Besides Area Development Projects aimed at establishing primary health care infrastructure for providing family planning and MCH services have also been taken up in some poorly performing states. A project aimed at revitalising the Family Welfare Programme in Uttar Pradesh was initiated with assistance from USAID in 1993. Through these projects efforts are made to ensure that funding constraints do not come in the way of achieving the needed improvement in the infrastructure and quality and coverage health and Family Welfare programmes to the population in dire need of it. The progress of work in these projects through process and impact indicators are being assessed and monitored.

6.4 Training of professionals and para-professionals:[69]

6.4.1 Dais Training Programme

Dais training programme aims at imparting training to all traditional practising Dais in the country and is receiving priority attention in order to reduce the maternal and infant mortality rates by conducting aseptic deliveries and providing better ante-natal and postnatal care. The duration of training is one month. A total of 6,12,124 Dais have been trained so far.

The Working Group Report of the Planning Commission, Health Care Delivery Services in rural and urban areas - policies and perspectives, June,1989[71] recommended the programme to be reviewed by all the State governments and all untrained practising Dais should be trained and if already trained need to be retrained expanding their role to:

- Early registration of pregnancy
- Identifying high risk pregnant
- Referral to the health workers
- Conducting aseptic and hygienic delivery
- Detection of low birth weight babies
- Getting mothers and children immunised

Several States have not done such reviews. The same need to be undertaken as still most of the deliveries in rural areas are being conducted by Dais.

6.4.2 ANM Training Programme:[20]

Each sub-centre is manned by one male and one female health worker. In order to train required number of ANMs in rural areas, there are 461 ANMs training schools functioning in the country with an annual capacity of 20,156. The duration of training is 18 months. These training institutions are also being utilised to provide continuing education/ training in addition to provide basic training.

6.4.3 Lady Health Visitor(LHV)/Female Health Assistant Training Programme:[20]

One female health assistant has to supervise the work of six sub-centres in the rural areas. She provides technical guidance, supervision and support to the ANMs who work at the sub-centre. The senior ANM trained for further six months can take up the post of LHV, which is a promotional post. 44 LHV training schools are functioning the country with an annual admission capacity of 2,768. These training

schools are also utilised for giving continuing education to female health assistants besides providing training programmes of six months duration.

6.4.4 Multi-purpose Worker (Male):[20]

As per the norms each sub-centre is required to be manned by a trained female health worker (ANM) and a trained male health worker known as multi-purpose worker (male). Uni-purpose workers working under various disease control and health programmes were converted to multi-purpose worker in 1978 which continued till 1990. However, due to acute shortage of male MPWs, a scheme of basic training for MPW (male) was initiated during the Seventh Plan period. Under this scheme, 10th pass candidates were selected and trained for a period of one year before they were inducted into service.

The basic training of MPW (male) was initiated in 47 health and family welfare training centres (HFWTC) in various States as 100% centrally sponsored scheme. As these schools were found to be inadequate, financial sanction to 50 new basic MPW (male) schools were given by the Government of India. At present, there are 44 HFWTCs and 28 new basic MPW (male) schools which provide basic training to MPW (male).

6.4.5 Orientation Training of Medical and Para-Medical Personnel:[20]

This is a centrally sponsored scheme under the family welfare programme to provide training to both medical and para-medical personnel (medical officers, health assistants, health workers, block extension educators, key trainers of ANM training schools) working at the CHCs, PHCs and SCs and is provided mostly at HFWTCs.

6.5 Village Health Guide Scheme:

On the recommendation of the Shrivastava Committee on Medical Education and Support Manpower in 1975[72], the Community Health Workers Scheme was launched on 2nd October, 1977[20] as a Centrally sponsored scheme in all the States except Tamil Nadu, Jammu & Kashmir and Arunachal Pradesh. The scheme was renamed as Village Health Guide (VHG) Scheme in 1981 when it was made 100% centrally sponsored scheme under family welfare programme. According to the scheme, the community selects the volunteer as VHG who after training for three months at the primary health centre acts as a link between the community and the government health functionaries. During the training period a stipend of Rs.200/- p.m.

[72] Shrivastava Committee of Medical Education and Support Manpower in 1975.

was paid to the workers and on completion of training these workers were provided a kit containing common articles of uses and medicines and the manual for functioning as a VHG. The VHG was given an honorarium of Rs.50/- p.m. and medicines worth Rs.50/- p.m. for carrying out their function as VHG. About 4.16 lacs VHG have been trained till now and about 3.24 lacs VHG are under the roll of State governments/UTs. The scheme has been studied intensively and extensively by Government of India and by independent agencies[73,74]. Following review in 1984 it was decided to dispense with the existing male health guide to be replaced by female health guide and the State governments were advised accordingly. Honorarium to the male health guide was advised to be discontinued from July, 1986. Following the above decision, a number of writ petitions were filed in various courts of the country. Due to a variety of reasons, the scheme had not been functioning well and accordingly it was reviewed by the State health secretaries in January, 1993 where most of the states except West Bengal, Mizoram, Punjab and Maharashtra opined that the scheme had not served any useful purpose. However, reports of evaluation of scheme by National Institute of Health & Family Welfare in collaboration with other institutions, Planning Commission and Department of Health were in favour of continuation of the scheme and it was stated that the scheme is a major asset to the Panchayati Raj system with respect to fulfilment of health related function assigned to the Panchayats and accordingly an Expert Committee under the chairmanship of Director General of Health Services was constituted which recommended to initiate a new scheme *Panchayat Swasthya Seva Scheme* on a pilot basis in two district of each state and one district each of Union Territory in the current plan and to cover the entire country in phases by the end of the 9th plan. One *Panchayat Swasthya Sevak* will be for a population not exceeding 1000 in plain areas, and 700 in hilly, tribal and difficult areas and they are to be provided an honorarium of Rs.300/- p.m. and medicines worth Rs.100/- p.m. However, the Central Council of Health & Family Welfare in its fourth meeting held recently from 11-13 October, 1995[68] recommended not to introduce the new Village Health Guide Scheme. Insofar as the existing Village Health Guide Scheme is concerned, it is left to the State governments to take a decision. It recommended further that available resources be used to strengthen the health infrastructure and not to introduce new agencies. However, the Chairman of the Council advised that this is to be reconciled..

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[73] Evaluation of Community Health Workers on Peripheral Level - ICMR sponsored study, University College of Medical Sciences, New Delhi.

[74] Repeat Evaluation of Community Health Volunteer Scheme, National Institute of Health & Family Welfare, 1979.

6.6 Mini Health Centre Scheme of Tamil Nadu:

The need for re-orienting the health care delivery scheme and making it community based and family centred prompted launching of the village health volunteer scheme in October, 1977 in the central sector. Tamil Nadu being in a favourable situation with regard to availability of medical manpower, rural roads and transport and having large number of satisfactory functioning voluntary organisations opted for Mini Health Centre Scheme. Basically the scheme provided an opportunity for voluntary organisations interested in health to collaborate with the government and supplement its efforts in the delivery of community based health care to the rural population. It also encouraged medical practitioners to start voluntary organisations for this purpose[75] . The state of Tamil Nadu has been implementing Mini Health Centre Scheme as an alternative to VHG Scheme since 1977-78 with the approval of the Central Government. A mini health centre is a multi-purpose unit organised by voluntary organisation in collaboration with government for the delivery of curative, preventive and promotive services to the rural population catering to around 5000 population and starting with a part-time doctor, two para-medical workers and three lay first aiders chosen from the village community. Evaluation carried out by National Institute of Health & Family Welfare in 1991-92[75] concluded that the Mini Health Centre Scheme being the first attempt by the Tamil Nadu government to involve voluntary sector in delivery of health care had certain in-built rigidity regarding budgetary allocations and pattern of expenditure which do not suit the ground reality in different parts of Tamil Nadu and also the diverse pattern in the background and the capabilities of voluntary organisation. Therefore, in its present form it should be concluded and replaced by a projectised approach with a time frame of 3-5 years to initiate integrated community development scheme with primary health care activities with appropriate Grants-in-aid support. This new mini health centre project should heavily rely on family health volunteers with appropriate training with honorarium not lower than statutory daily wages prevailing in the State. In order that the voluntary sector contribute in a big way the new projects should include outreach physical facilities by way of village level labour rooms and 1-2 beds for lying in facility for maternity cases. Dependence on government's grants should be gradually reduced with increasing involvement and participation of the community by appropriately dovetailing the health component within the integrated approach for rural development having aspects of income generation, employment, water supply, basic sanitation, increased production and availability of foods and,

[75] Report on the Evaluation Study of Mini Health Centre Scheme in the State of Tamil Nadu, National Institute of Health & Family Welfare, 1991-92.

therefore, while screening the new mini health centre project preference will be given to those who adopt multi-sectoral approach.

- For effective functioning close referral linkage should be developed through proper guidelines for laboratory and other investigations and also for treatment beyond the scope of mini health centres.

- As the voluntary organisation has different backgrounds and capabilities, uniform funding pattern may not work very satisfactorily and, therefore, provision of modifying at the local level within the overall funding limit should be available.

- Staff of the mini health centres should be uniformly trained through identified institutions in Tamil Nadu so that the new mini health centres can function satisfactorily.

- Financial monitoring of the new MCH projects should be carefully done and reliable selected private chartered accountants firms may be nominated for the same.

6.7 Rehbar-i-Sehat Scheme in J & K:

The State of Jammu & Kashmir has been implementing Rehbar-i-Sehat Scheme in place of Village Health Guide Scheme. Large number of Rehbar-i-Sehat Scheme workers are teachers and the services rendered by them in first aid, curative services in common ailments, health education about common health problems were found to be very satisfactory and the major strength of the project was with the health care services at the door step of the community, care for the poor and neglected, provision of spraying, treatment and promotion of health education. The Scheme was reviewed by National Institute of Health & Family Welfare in 1985[76] and this evaluation indicated that this has been functioning satisfactorily. During the recent problems in J & K with enhanced terrorist activities it is the Rehbar-i-Sehat Scheme which has been found to be functioning satisfactorily compared to any other health care activities which are often found utterly absent.

6.8 Child Survival and Safe Motherhood Scheme:

The Child Survival and Safe Motherhood Scheme was launched on 20th August, 1992 by the President of India. The programme is directed at achieving 9 of the 17 goals of the National Health Policy which are related to maternal and child health[77].

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[76] Research Studies of National Institute of Health & Family Welfare, 1977-90.

[77] National Child Survival and Safe Motherhood Programme, Ministry of Health & Family Welfare, Government of India, June, 1994.

The Central and State governments have accorded a high priority to this programme as it addresses the major causes of morbidity and mortality in women and children which are preventable by readily available cost effective interventions. The programme has the following components:

- Sustaining and strengthening the on-going immunisation, oral rehydration therapy and prophylaxis scheme for Iron and Vit.A.
- Improving maternal care at the community level by providing training to the traditional birth attendants and desirable delivery kits.
- Expanding in a phased manner the programme for acute respiratory infections in children below five years of age.
- Set up in a phased manner a network of sub district level first referral units for improving the emergency obstetric care.

6.9 Universal Immunisation Programme:[20]

Universal Immunisation Programme was launched in 1985 which was converted as one of the technology missions in 1986 as a part of overall national strategy to bring down infant and maternal mortality in the country[20]. At the beginning of the programme in 1985-86 the vaccine coverage levels ranged between 29% for BCG and 41% for DPT. By the end of March, 1994 coverage levels have improved significantly and they ranged 82% for tetanus toxoid and 97% for BCG. The year-wise and the vaccine-wise achievement during the last decade 1985-86 to 1993-94 given in Table.

Table

Achievement as percentage of annual targets
(compiled on the basis of reports of states/UTs)

YEAR	Targets (in lakh)		DPT	OPV	BCG	MSL	TT(PW)
	INF	P.Women					
1985-86	128.55	128.55	41.12	35.66	28.84	1.34	39.85
1986-87	152.00	152.00	56.55	48.41	52.19	16.17	45.27
1987-88	169.32	169.32	72.23	60.46	70.70	44.06	56.48
1988-89	180.44	226.64	79.61	74.83	79.29	55.17	65.15
1989-90	191.41	251.24	82.93	82.30	89.04	69.32	58.83
1990-91	223.39	252.66	100.72*	101.54*	102.99*	90.85	79.70
1991-92	233.34	261.31	90.84	91.22	92.93	85.07	77.51
1992-93	242.90	270.08	90.28	90.88	96.47	85.75	79.40
1993-94	247.90	275.55	92.85	93.23	96.69	88.30	82.12

Note: Measles vaccine was introduced in the programme from 1986-87.
* Due to inclusion of children over one year of age.

6.10 Surveillance of Vaccine Preventable Diseases:

Immediate reporting of Polio and Neonatal tetanus has been made mandatory. There has been a significant decline in the reported disease incidence of these diseases as shown in Table.

Table

Reported incidence of vaccine preventable diseases : India

YEAR	1985	1986	1987	1988	1989	1990	1991	1992	1993
Dip.	15686	9426	12952	17146	9790	8425	12550	6810	7131
Per	184368	167225	163786	145469	137374	113016	73520	61648	47612
Tet*	37647	30994	31844	24343	17762	14043	15036	12023	1535[illegible]
Neo-natal Tetanus*	--	--	--	11849	11114	9313	11241	6687	6606
Polio	22584	20169	28257	24257	13307	10408	8670	@8801	@405[illegible]
Measles	160216	155072	247519	157800	162560	87446	79655	92297	6507[illegible]

* : Tet includes cases in adults and NNT upto 1987 (Source: CBHI, Directorate General of Health Services)

@: As reported by district to MCH Division.

The programme of Universal Immunisation made significant contribution towards reduction of vaccine preventable diseases. In fact polio eradication and neonatal elimination are expected in very near future. The programme also contributed immensely towards decline in infant mortality rate.

The country is self sufficient in all vaccines except BCG and Oral Polio. The Oral Poliovaccine is being made available from the imported concentrate.

6.11 Testing of Oral Poliovaccine:

The testing of field samples for Oral Poliovaccine for potency so as to check quality and effectiveness of cold chain system under Universal Immunisation Programme was started in 1985 with three OPV centres at NICD, Delhi, CRI, Kasauli and Enterovirus Research Centre, Bombay and at present 13 testing centres in the country are functioning and few more centres will become functional in near future. During the last several years, testing of OPV results indicate phenomenal improvement in cold chain system as shown in Table given below:

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TABLE
POTENCY TEST REPORTS OF FIELD SAMPLES OF OPV

Year	Samples Tested	Samples Satisfactory	% age Sample Satisfactory
1987	1290	790	61
1988	2196	1454	66
1989	5423	4580	84
1990	8148	7550	93
1991	9208	8354	91
1992	13936	12287	88
1993	16513	14781	90
1994	17281	15621	90

POTENCY TEST RESULT IN INDIA DURING 1994

S.No.	Name of Institute	No. of Samples received	% age Satisfactory
1.	NICD, Delhi	2561/2554	63.4
2.	EVRC, Bombay	3065/3062	92.0
3.	CR1, Kasauli	1559/1538	99.74
4.	STM, Calcutta	1088/1088	83.73
5.	1PM, Hyderabad	940/939	93.2
6.	BJMC, Ahmedabad	1703/1703	99.0
7.	PII, Coonoor	1354/1354	99.0
8.	K1PM, Madras	3078/3078	98.9
9.	BHU, Varanasi	699/699	90.0
10.	RMRCT, Jabalpur*	193/147	94.55
11.	NIV, Bangalore	773/773	90.0
12.	P11, Shillong	348/346	95.72

* Centre have become non-functional in 1995.

The programme was reviewed jointly by a large number of experts from Government of India, WHO and UNICEF in 1992.[78]

Some Salient observations:-

- The UIP has been in operation for a varying length of time in different parts of the country resulting in unequal impact of the programme in different areas. Therefore, the goals of polio

[78] Review of the Universal Immunization Programme: Country Overview, September-1992. MOH&FW, GOI.

eradication & NNT elimination will have to be phased accordingly.

- The States of Maharashtra, Haryana and Tamil Nadu as a whole have done extremely well and have high levels of development, easy access and well-developed physical and managerial infrastructure and are capable of taking up additional measures for polio eradication and NNT elimination. Some districts within other states are also capable for the same.

- With surveillance of polio getting augmented effective use of improved clinical and laboratory criteria for confirmation of cases and discarding non-polio cases should be emphasised.

- In less developed States poor infrastructure, lower awareness amongst the people, areas of difficult physical access, considerable distances, less motivations and commitment amongst key staff are important problems.

Several recommendations made by the team like strong active surveillance, wider laboratory support, identification of high risk areas and their elimination through focused mass vaccination, close monitoring of surveillance through state level computerisation of data compilation and analysis, using software designed specifically for that purpose etc. have been poorly implemented.

Following big success of polio plus programme of Rotary International and Pulse Immunisation in Delhi, Bombay, the government introduced National Immunisation days covering the entire country during 1995-96.

6.12 Oral Rehydration Therapy for Diarrhoea control among children:

The Oral Rehydration Therapy (ORT) programme was started in 1986-87 with the objective of preventing diarrhoea associated deaths in children due to dehydration. Studies have revealed that 90% of the children suffer from diarrhoea can be managed successfully at home by mothers by administering home-made or home available fluids at the onset of diarrhoea. Only 10% of the cases need oral rehydration salts[79]. The goal set under the programme is reduction of deaths due to diarrhoeal diseases in children by 30% by 1995 and 70% by the year 2000 AD The coverage envisaged were:

[79] Child Survival and Safe Motherhood Programme - India, Ministry of Health & Family Welfare, July, 1991.

1. Improve use of ORT plus feeding rate to 50% by 1995 and 80% by 2000 AD

2. Improve access to ORS by making available ORS in every village/urban slums by 1995; access to ORS to be improved to 80% of the population by 1995 and 100% by 2000 AD

3. Improve maternal knowledge on home case management from existing level to 80% by 1995 and 100% by 2000 AD

4. Improve access to case management at health facilities or providers from existing level to 80% by 1995 and 95% by 2000 AD

Strategies used were : Increase in use of home made fluids and ORS at home levels plus continued feeding, improve maternal knowledge, increase in accessibility of ORS through government channels and private sector by appropriate social marketing, standardisation of ORS packets, better case management by the workers as well as medical practitioners at all service facilities and surveillance of cases and deaths from diarrhoea.

ORS supplies are being organised by the Government of India centrally and 379.3 lacs packets were procured and supplied to the states and union territories during 1993-94. The districts covered by Child Survival and Safe Motherhood Programme are receiving ORS as a part of the sub centre kit.

Considering 135 million children population below 5 years and at least 2-3 episodes of diarrhoea each child will be having per year, 27-40 million episodes will require ORS packets. Therefore, ORS supply still falls short of our requirement. With the promotion of ORS many episodes of diarrhoea will be treated with ORS even if home made fluids would have been sufficient to take care of. Therefore, actual shortage of ORS compared to the total needs is much more than what the figure shows. The success of ORT is basically linked with its appropriate and uniform distribution through social marketing where mothers are involved in administration of ORS through high profile community awareness programme and in this context literacy plays a major role.

Though some smaller studies have been undertaken but large impact assessment study has not been done so far. The same is needed to be undertaken. The programme has been designed to prevent deaths from diarrhoea and it does not reduce incidence of diarrhoea which is linked with sanitation, water supply, environment, knowledge, attitude and practice pattern of the people.

6.13 Programme of Acute Respiratory Infection:

Pneumonia is another leading cause of death in infants and young children accounted for 20% of the under 5 deaths. The Acute Respiratory Infection (ARI) control strategy developed during 1989 and implemented in 24 districts on pilot basis during 1991. The review carried out during 1991 indicated that the ARI could be implemented through the trained health workers at the sub centre level . Now, the rational treatment of ARI and prevention of deaths due to Pneumonia is an integral part of Child Survival and Safe Motherhood Programme and the health workers are being imparted training in ARI management. Cotrimoxazol the important drug in ARI is supplied through the CSSM drug kit. The programme has a goal of reducing deaths due to ARI by 20% by 1995 and 40% by 2000 AD Specific objectives are: reduction of deaths due to Pneumonia in children under 5 years through standard case management, reduction of inappropriate use of antibiotics in treating ARI other than pneumonia, prevention of deaths due to pneumonia by developing linkage with immunisation, diarrhoeal diseases control, nutrition and MCH. Strategies of the programme are primarily home care for coughs and colds, access to standard case management through health facilities, enhancing maternal knowledge when to seek care, referral of severe cases to hospitals, promotion of immunisation to cover all eligible children, training of staff including doctors and para medical staff and surveillance of cases and deaths from pneumonia in children.

Prophylaxis programme against Iron deficiency and Anaemia in mothers and Vit.A deficiency in children:

6.14 Iron Deficiency:

Anaemia is one of the leading causes of maternal mortality contributing towards 20% of the maternal deaths in the country in 1990-91[20]. Deficiency of anaemia also aggravates in conditions of eclampsia, sepsis and haemorrhage. Though the programme is in operation for quite sometime but it received high priority under the programme of Child Survival and Safe Motherhood Programme. During 1993-94 as many as 18.3 million pregnant women were provided with recommended doses of iron and folic acid.

The major problems related to National Anaemia Prophylaxis Programme has been poor reach and inadequate utilisation of services and lack of strategy that addresses additional needs of moderate and severe anaemic cases[79]. Iron and folic acid is administered to pregnant women to prevent as well as control anaemia. Prior to 1990, 100 tablets (each 60 mg of iron and 0.5 mg folic acid) were given but iron and folic acid in those doses can not control anaemia from therapeutic point of

view in cases having anaemia and the programme did not have the component to provide additional doses of iron and folic acid to anaemic women. Taking into consideration the crude birth rate of around 28-29 more than 25 million pregnant women will be requiring iron and folic acid tablets and, therefore, the actual coverage through iron and folic acid is still far from satisfactory. In many women iron and folic acid needs to be supplemented by deworming in places of high intestinal parasitic infections. But in several areas that is not being done contributing to the less than satisfactory performance of the scheme.

6.15 Vitamin A deficiency:

Vit.A deficiency which can lead to blindness has been widely prevalent in our country because nutritional deficiency is widely prevalent amongst pre-school children. The programme has been in operation for quite sometime but with the initiation of Child Survival and Safe Motherhood Programme, the programme has been further strengthened. Earlier the strategy for control of blindness due to Vit.A deficiency has been to cover children of the age group of 1-5 years with administration of 0.2 million international units twice a year to each child having the eligible target population of more than 100 million a year. Due to resource constraints and limited reach of services only around 30 million children could be covered annually. Therefore, most of the children could not be reached with appropriate Vit.A at the recommended frequency. For the prevention of Vit.A deficiency in children under the Child Survival and Safe Motherhood Programme priority was given to the children of age group of 1-3 years and during 1993-94, 15.5 million infants were administered the measles linked doses while DPT, OPV booster linked dose was given to 5.6 million children in the age group of 1-2 years. In the present strategy, two dimensions have been included. The recent stduies have indicated that the prevalence of Vit.A deficiency is most in children below 3 years of age and the programme now visualises mega doses of Vit.A in children between 9 months and 3 years. Secondly, therapeutic measures for Vit.A deficiency have also been included in the programme. Children with Vit.A deficiency will be treated. Five per cent of children of 1-3 years age will suffer from signs of Vit.A deficiency and will require therapeutic doses. The programme needs evaluation.

6.16 Safe Motherhood Services for Pregnant Women:

The SRS data indicates that the proportion of deliveries attended by the untrained hands is still very high particularly in the rural areas of Assam, Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh which contributes to the higher maternal mortality. Therefore, in addition to strengthening the traditional birth attendants through

training and re-training and promoting clean and safe deliveries actions have also been initiated with emphasis on essential obstetric care for all, early detection of complications and emergency services for those who need it. Essential obstetric care for all shall include early registration at 12-16 weeks, check up at least 3 times, anaemia prevention and control, immunisation and care at birth, early detection of complications, attention on clinical examination to detect anaemia, bleeding to know APH/PPH, blood pressure examination to detect toxaemia, weight gain to detect toxaemia, fever to detect sepsis and prolonged labour (more than 24 hours). For emergency services for those who need it in a health institution selected rural health facilites are being upgraded as the first referral centre with a post of Gynaecologist and a operation theatre. One such first referral unit will be established for a population of 3-5 lacs in addition to the district hospital hospital in each district. 6-12 such first referral units are being established in six high IMR/MMR states viz. Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Orissa and Assam. Other states are being asked to mobilise their own resources for upgrading the health facilities for providing emergency obstetrics care and medical treatment of maternal complications. Such referral centres should have the facilities for vacuum extraction, administration of anaesthesia, blood transfusion, caesarean section, manual removal of placenta, suction evacuation, dilatation and curettage for incomplete abortion, inserting intra-uterine devices and perform operations.

Many more such referral units are required. Such marginal input will hardly have an impact on the total scene of the country.

6.17 Care of newborn and infants:

Almost 50% of the infant deaths occur within one month of birth and half of the same occurs in the early neonatal period. Over 30% ofthe babies born in India are of low birth weight (less than 2500 gms) which are at enhanced risk to such mortality. It is estimated that 80% of neonatal deaths are associated with low birth weight. Therefore, high priority is being accorded to the care of new borns and infants through identification of low birth weight babies, teaching the mothers and families to take appropriate care of new borns at homes with particular reference to proper feeding, warmth and prevention of infections. Babies requiring hospitalisation and special care should be taken care by the referral units. The training of medical and para-medical personnel should have a component of new born care, immunisation, early establishment of exclusive breast feeding, continued feeding during the illness particularly when dealing with episodes of diarrhoea and ARI, proper hospital practices to facilitate rooming-in practice and maternal counselling etc.

Though the Child Survival and Safe Motherhood Programme has sound components of intervention measures of achieving the goal set for under the programme in our giant efforts to reach health for all by 2000 AD yet the programme has not yielded the desired results due to a variety of factors. The attempt to improve the health of women should have strong components of changing unfavourable cultural norms to more favourable ones in the light of available scientific information like attitude to marriage, age at marriage, the values attached to fertility and sex of the child, the pattern of family organisaton and ideal role demanded by women by social conventions because this determines the status of the women in the family influencing immensely her access to medical care, education, nutrition and health. This calls for more attention from early childhood to adolescent for the female child.

Amongst the poorest section women are all the more vulnerable and they are forced to work for a longer period that too in a very low paid occupation. In addition early marriage and early motherhood are all contributing to the poorer health of mother leading to a serious impact on the public health system.

National Health Policy document clearly outlines the need for securing health and strength of workers men and women, adult and children through proper opportunities and facilities which is only possible through establishment of a new social order based on equality, freedom, justice and the dignity of individual as enshrined in our Constitution.

Though effective delivery of health care services are dependent largely on the nature of medical education, training and proper orientation towards community health and all categories of medical and health personnel and their capacity to function as an integrated team, the same has not been achieved because of poor coordination between different programme managements between the centre and the States, between states and the districts, between districts and the community health centre and between community health centres and the sub centres.

Delivery of health has a major component of caring with a human approach which requires emotional involvement and personal commitment apart from providing only a professional service devoid of personal touch. Unfortunately the exisitng public health system has not been able to develop in that direction making the system more acceptable to the people. Though a very elaborate health care delivery infrastructure has been developed and several important professionally managed programmes are being implemented still the health care delivery remains under-utilised to a major extent and many a primary health centres/community health centres are unable to

function as a cohesive team. If the primary health centre/community health centre does not function properly referral system almost becomes non-functional leading to no referral or delayed referral contributing towards high morbidity and mortality which indirectly creates non appreciation of the health facilities leading to poorer utilisation of the facilities.

6.18 National Malaria Eradication Programme:

Before the National Malaria Eradication Programme was initiated malaria was a major public health problem in India with 75 million cases and 0.8 million deaths leading to large scale human misery. To tackle the problem of malaria, National Malaria Eradication Programme was launched in 1958 with the objective to eradicate malaria from India in 7-9 years i.e. 1966-67[80] . During the attack phase, the strategy was indoor residual spray to interrupt the transmission. After three years of spray and on satisfying the criteria laid down by the WHO and assessment by the Independent Appraisal Team area would enter into the consolidation phase[81] . During the consolidation phase the surveillance operations were carried out through active and passive case detection services. On two years of successful completion the consolidation phase units entered into maintenance phase the responsibility for which rested with the general public health service. The Indian campaign was considered to be the largest public health endeavour in the world and it contributed immensely towards the global eradication of malaria in 1965. Only 0.1 million cases with no deaths due to malaria was in India which facilitated immensely agricultural, industrial and other developmental activities. Afterwards the set back started due to a variety of technical, administrative and financial reasons. Increasing number of outbreaks were reported and the number of malaria cases started rising which stood 1.32 million in 1971 and went upto 6.46 million in 1976 and malaria deaths started reporting from 1974. Concerned by the reappearance of malaria in the country, several committees were constituted and then ultimately on the recommendations of the Consultative Committee of Experts, the Modified Plan of Operation was introduced with effect from 1.4.77. During the years 1960-74, several committees were constituted namely, Hinman Committee (1960)[82] , Chadha Committee (1963)[83] , Mukherjee Committee (1966)[84] , Madhok Committee (1967)[85] , In-depth Evaluation

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[80] Malaria and its control, Directorate of National Malaria Eradication Programme.

[81] National Institute of Health & Family Welfare, National Malaria Eradication Programme, National Health Programme Series 4, reprinted May, 1990.

[82] A critical review of the NMEP in India (Hinman Committee), November, 1960.

[83] Special Committee of the Preparation for Entry of the NMEP into the Maintenance phase (Chadha Committee), Ministry of Health, November, 1963

[84] Committee to recommended the staffing pattern of the PHC Complex (Mukherjee Committee), Ministry of Health, 1966

Comittee (1970)[86] , Second In-depth Evaluation Committee (1974)[87] and Consultative Committee of Experts (1974)[88] .

The large number of committees established duing that period but without major impact on the malaria situation indicated several of the recommendations of these committees were not fully implemented and the major problem with the NMEP was shortage of insecticides from 1965. Close studies of the situation show that compared to the 1970 rate of increase was three times in the maintenance phase obviously on account of the inability of the health network under the general health services[89] to tackle malaria. However, when the malaria incidence became worse the Modified Plan of Operation was implemented which provided immediate relief in terms of reduction of malaria cases and deaths. It may be stated here that based on the recommendations of the Madhok Committee in 1969 which observed more and more urban areas had been contributing to malaria cases urban malaria scheme came into existence in 1971 covering 23 towns initially and later on expanded to cover more areas. A special programme of *P.falciparum* Containment Programme was also initiated in 1977 in view of the facts of the increase of *P.falciparum* incidence, development of *P.falciparum* resistance and spread to other areas of the country. Initially started with 55 district later on it was extended to 110 districts. In 1983 the programme was rephased and ultimately the programme was wound up in 1989 with the withdrawal of SIDA assistance. The programme continued for sometimes on a skeletal scale till the available SIDA funds were exhausted. The Modified Plan of Operation paid rich dividend and the number of cases came down to around 2 million in 1983 and thereafter it almost remained stationary and the Government of India appointed the Third In-depth Evaluation Committee with national and international experts in 1985[44] which observed that:

- The problem of malaria in India is grossly underestimated.
- The MPO which was intended as a strategic approach to avert country-wide epidemics of malaria, is not able to project itself in the framework of a sound long-term control programme.

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[85] Special Committee constituted to review with working of the NMEP and to recommend measures for improvement (Madhok Committee), Ministry of Health, October,1969.
[86] Evaluation in-depth of the NMEP of India, November,1970.
[87] Committee to study in-depth all relevant aspects of NMEP (1974), Ministry of Health & Family Welfare, January, 1974.
[88] Consultative Committee of Experts to determine alternative strategies under NMEP, Ministry of Health & Family Welfare, August,1974
[89] Ray, A.P. (1976) - Resurgence of Malaria after achieving eradication, Swasthya Hind, Central Health Education Bureau, Vol.20 No.12, page 373.

- The effective control of malaria has been seriously jeopardised due to lack of adequate professional support and varied commitment on the part of the state Governments.

- The increasing extent of the technical problem i.e., vector resistance to insecticides and resistance of *P.falciparum* to antimalarial drugs have substantially reduced the efficacy of the tools available to the programme.

- The low level knowledge generating capability through research, stands in no proportion to the financial outlays and operational complexity of the programme.

- The total lack of inter-sectoral co-ordination has led to a dramatic increase of malaria such as in urban areas and development projects.

- Active community participation and health education has neither been promoted adequately nor supported in spite of being laid down as a basic approach in the MPO.

- Due to indifferent implementation, the present standard of vector control measures are largely suboptimal and subject to diminishing returns.

- The drug distribution by volunteers and Government institutions has had a significant positive impact in reducing mortality and morbidity due to malaria.

- The inadequacy of the epidemiological services in their ability to guide operations in the face of a constant and rapidly changing malaria situation is resulting in the gradual loss of sense of direction of the programme.

- The PfCP has made an effective contribution towards control of malaria in most of its original areas of operations; however, it has been unable to keep up with the changing distribution of *P.falciparum* malaria in the country and the potentials of the PfCP have not been adequately exploited in increasing the professional standards of the programme as a whole.

Some of the recommendations were malariogenic stratification of the country, training in malariology and allied fields by creation of more training centres at the national and state level, ensuring community participation and health education, establishing Division of Planning and Epidemiological Assessment and Operational Research and Training at the national headquarters of NMEP and also at the State headquarter of NMEP by the end of 1986 and to reduce continued

dependence on insecticidal spray and promote environmental measures through effective inter and intra sectoral co-ordination.

For malariogenic stratification of the country, Government of India constituted a committee which submitted its report in 1987 and also the training activities were enhanced and more efforts were put to ensure community participation in health education. However, the Divisions of Planning and Epidemiological Assessment and Operational Research and Training have not been established. To secure inter-sectoral co-ordination in anti-malaria activities various ministries and departments were approached by the Union Ministry of Health for creating an in-built infrastructure to combat malaria but there was no useful response in this direction. Taking broader area into view recently the matter was discussed in the Fourth meeting of the Central Council of Health & Family Welfare which has recommended that a formal co-ordination mechanism should be evolved at all levels involving all other related ministries namely, Ministry of Environment and Forests, Ministry of Rural and Urban Development, Human Resource Development, Chemicals and Fertilizers, Industries, Railways etc. and such mechanisms should not only be established at the centre, it should also be established at the State, district, taluka and Panchayat levels. As the situation is still not improving as evidenced from the surveillance data and in view of the recent large scale outbreak of malaria a committee has been constituted by the government under the Chairmanship of Dr S Pattanayak. The report was submitted in 1995[46] which observed that though proper technology for control of malaria is available in different epidemiological paradigms of malaria, the administrative indifference, the organisational weakness, the low prioritization to malaria under the health services and apathy of middle level and periphral workers in the states have led to periodic epidemic and high mortality. The committee identified four high risk areas namely epidemic prone areas covering 141 million population in Punjab, Haryana, Western Uttar Pradesh, Rajasthan, Madhya Pradesh, and a few pockets in other States, tribal areas in 7 North Eastern states, and North Indian peninsular areas covering 69 million population and project areas which require special dispensation. The committee also reviewed urban malaria situation and identified 29 worst affected cities contributing over 80% of the urban malaria problem.

The drug distribution centres and the fever treatment depots which were established under MPO and gave very good results in containing the rising trend of malaria have over a period of time have become non-functional. The same needs to be re-established in all epidemic prone areas with proper support of link workers between the DDCs/FTDs to the government functionary and these link workers should be compensated for their travel which will facilitate early detection of cases and hence the detection of the outbreaks.

Under the MPO the laboratory services have been decentralised to the block level PHCs but with the establishment of PHCs for 30 thousand population many of these PHCs are without a microscope and the microscopist. Therefore, urgent action needs to be taken to provide this laboratory microscopy service in these Primary Health Centres.

The Committee also observed that the insecticidal spray is erratic with poor coverage and timing of spray does not match the actual technical time frame resulting in poor results from the spray. That is why the committee wants to put a word of caution as vehemently as possible that the strategy as laid down will not lead to any impact on malaria situation until and unless the organisation, administration and execution at the state and peripheral level are strengthened with appropriate responsibility at every level in making available the right type of insecticide, release of funds in time, undertaking spray in right time as per the epidemiological needs, proper supervision of the spray with appropriate community awareness and participation, the desired impact of malaria reduction will not be achieved. The committee suggested that the District Malaria Officer/district health authorities should continuously monitor the efficiency of the case detection and timely intervention measures *vis-a-vis* the malaria incidence in the community including vector resistance for increase in transmission potential so that the advance action can be appropriately undertaken. The committee also suggested establishment of mobile teams to combat outbreaks at the district level with proper supervision of insecticides spray equipment, spraymen and anti-malarials for immediate containment of outbreaks.

The committee also suggested that in place of piecemeal changes in malaria control, the Central government should appoint a team of administrative and technical experts in planning, finance, information, education, communication, epidemiology and malariology to review the entire malaria problem *vis-a-vis* the health care care delivery system in the country. However, it is stated that malaria control has very serious linkages with the socio economic development of the country through industrial and agricultural revolutions and the tempo of progress may come to a grinding halt if the adequate attention is not given in malaria control and, therefore, until and unless resources are made available, proper decisive changes are made on emergent basis on the recommendations of the committee backed by proper political will, the public health system will continue to remain as suspect with chances of break down whenever intervention measures slackens either through faulty surveillance, non-availability of anti-malarials or insecticides etc. The *P.falciparum* Containment Programme review[90]

[90] Evaluation Report of the *P.falciparum* Containment Programme under NMEP of India - January/February, 1989.

indicated that the active surveillance under NMEP can not be maintained because of large scale vacancies in the number of male multi-purpose workers and after the introduction of multi purpose workers scheme the surveillance mechanism has been severely strained.

6.19 NATIONAL LEPROSY ERADICATION PROGRAMME:

The Leprosy is an age old scourge of mankind and a few decades ago the disease was one of neglect; the affected were put in leprosarium maintained by charitable trust and organisations. With the establishment of Indian Council of British Empire Leprosy Relief Organisation in 1925 renamed as Hind Kushth Nivaran Sangh in 1949 the foundations were laid for the beginning of organised leprosy work in India[91] . The National Leprosy Control Programme was initiated by Government of India in 1955 which was later on converted into National Leprosy Eradication Programme (NLEP) in 1983 with the objective of elimination of leprosy by the year 2000 A.D. based on early detection of cases and their regular treatment with multi drug therapy. Before eradication programme was initiated the estimated case load was about 4 million. The same has been brought down to only 0.70 million at the end of June, 1995[92] . Elimination of Leprosy in numerical terms has been placed at a level where leprosy case load will be less than 0.1 per thousand population because it is expected that with the prevalence at that level, there will be no active transmission of the disease. The programme strategy is around domiciliary treatment with multi-drug therapy, mobile leprosy treatment services in moderate/low endemic districts, early case detection and treatment, health education to patients and their families and the community rehabilitation of those. The organisational structure of the programme management is the National Leprosy Eradication Commission which functions as a policy making body to guide the National Leprosy Eradication Board to implement the plan and policies as laid down through the Directorate General of Health Services, Directrors of Health Services, Leprosy Bureaus in States and Union Territories; district and zonal leprosy officers implement the programme. The leprosy prevalence has been brought down to a significant level and now elimination by 2000 A.D. is a distinct possibility. The Government of India and all State governments have already , repealed the discriminatory Lepers Act. The programme has been reviewed in the recently concluded fourth Conference of Central Council of Health & Family Welfare from 11-13 October,1995 which has observed the efficiency of the multi drug therapy in leprosy and, therefore,

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[91] National Leprosy Eradication Programme, NHP Series 6, National Institute of Health & Family Welfare, 1990.

[92] Agenda Notes of the Conference of Central Council of Health & Family Welfare, October 11-13, 1995.

population is being protected through recurring anti-larval measures by 206 control units and 198 clinics[98] . NFCP operates mainly in the urban areas and hardly anything exists for rural areas. The programme was initiated in 1955. However, during the last four decades nothing much has been achieved. The programme has been periodically assessed by experts through the ICMR in 1960s, 1970s and 1980s. Low priority, poor allocation of funds, growing rapid urbanisation and poor intersectoral co-ordination and non-implementation of the specific bye-laws by the municipal bodies resulted in very poor functioning of the programme[99] . Though newer technology for control of filariasis is available and considered to be effective but the same is yet to be implemented. The programme receives so low priority that even in the recently concluded Conference of Central Council of Health & Family, there is no agenda item on filaria.

6.22 NATIONAL GUINEAWORM ERADICATION PROGRAMME:

Encouraged with the success of smallpox eradication, the Ministry of Health launched National Guineaworm Eradication Programme in 1983-84 with the objective of eradicating the guineaworm disease from the country with NICD functioning as nodal agency for planning, co-ordination, guiding and evaluating the guineaworm eradication programme in seven endemic States namely, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Tamil Nadu. The strategies followed are guineaworm case detection and continuous surveillance through regular periodic active search operation and monthly reporting, case management, control of vector through application of insecticides in unsafe water sources eight times in a year, use of fine nylon mesh/double layered cloth strainers, health education and provision and maintenance of safe drinking water on priority in guineaworm endemic villages through the Public Health Engineering departments under Rajiv Gandhi National Drinking Water Mission. When the programme was initiated in 1984[100] , the number of cases recorded were 39,792 in seven States in 89 districts which was reduced to 371 in 1994 and as on date 59 till September that too from only 3 districts of Rajasthan and the rest of the endemic districts/states are free and it is expected that no further transmission will occur after 1995. The programme succeeded primarily due to well designed programme strategy in collaboration with Public Health Engineering departments. The collateral benefits of this programme has been in the improvement of public health system through

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[98] Annual Review of National Filaria Control Programme 1991, NMEP, India.

[99] Operational Constraints and their Feasible Solutions for efficient functioning of National Filaria Control Programme (NFCP) Units in the country - Report of National Workshop - 10-12 December, 1991, NICD, Delhi.

[100] Guinea Worm Eradication Programme in India - Operational Manual, NICD, 1989.

provision of safe drinking water in large number of districts and large number of villages. The strength of the programme has been its regular periodic monitoring and evaluation through the programme management as well as through independent evaluation. The 5th Independent Evaluation was undertaken in 1993[101]. The programme is periodically reviewed by the Task Force and the 17th Task Force Review was held in January, 1995 which recommended preparatory work for certification of eradication, holding of an international evaluation which is currently being processed and accorded top priority to achieve zero transmission.

6.23 NATIONAL AIDS CONTROL PROGRAMME:

Human deficiency virus has spread all over the world cutting across all the barriers of geographical, economic, social and ethnic distinctions and this pandemic during the last one and a half decade has posed a grave health challenge in this century and the way it is spreading, if appropriate and specific preventive measures and drugs are not available, the situation will pose a grave danger to the human civilisation. Rightly, therefore, WHO has taken up a wide and determined global effort to prevent and contain the further spread of infection. According to WHO estimates around 2 million were infected with HIV in 1993 raising the total infected since the start of the pandemic to more than 15 million including one million children[102]. The evidence of HIV infection was first recorded in May, 1986 in India when HIV infection was found amongst six prostitutes in Tamil Nadu. Since then over the years it has spread to the different parts of the country and it has assumed a major public health problem. Upto the end of 30th September, 1994, the total number of HIV sero positive cases detected in India is 15,619 and the number of AIDS cases detected so far are 849 from 21 States and UTs[102].

National AIDS Control Cell established in the DGHS in 1986 has grown into National AIDS Control Organisation (NACO) and the current prevention of AIDS under National AIDS Control Programme was launched with World Bank assistance on 23rd September, 1992 and the budgetary allocation for 1992-97 is 220.60 crore. Since AIDS has no cure the scheme mainly aims at slowing down the infection, creation of awareness, ensuring blood safety and STD control. The organisational component of the programme is a National AIDS Committee under the chairmanship of Hon'ble Union Minister of Health & Family Welfare and Multi-sectoral Committee under the chairmanship of Secretary (Health) who provide policy directives in order to ensure efficient programme management. A National AIDS

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[101] Guinea Worm Eradication Programme in India - Report and Recommendations, NICD, 1993.
[102] National AIDS Control Programme in India - Country Scenario - An update - September, 1994, NACO, Ministry of Health & F.W., Govt. of India.

Control Board has also been constituted under the chairmanship of the Secretary. Besides the above the Technical Advisory Committee has also been established under the chairmanship of Director General of Health Services. Similarly co-ordinating/management bodies have been created in the States in order to form Empowered Committee, State AIDS Cell and State Technical Advisory Committee. The Empowered Committee has been constituted by the States either under the chairmanship of Chief Secretary or Additional Chief Secretary as per the National AIDS Control Board. Review of the programme indicates that utilisation of funds during the last three years has been very little and huge unspent balance remained with the State. The Standing Committee of Parliament also has expressed a concern over the slow utilisation of huge unspent balance lying with the States[100]. Slow utilisation of funds is mainly due to non-release of funds by the State Finance departments. There is a strong view that the grants released under the programme are being diverted to meet requirements in other areas. The issue of ensuring the safety of blood is also not getting adequate attention. Many of the States have indicated that they have more number of STD clinics and blood banks than that indicated by NACO. However, NACO has already conveyed government's approval covering STD clinics under the programme and covering of the additional number of blood banks is awaiting clearance[92].

The growing gap between the number of HIV cases being detected and the number of AIDS cases reported indicate poor efficacy of the surveillance mechanism with particular reference to detection of AIDS cases. For strengthening surveillance mechanism there is an urgent need for manufacture of HIV testing kits indigenously. Even after 10 years of AIDS/HIV detection in the country no significant progress in generating indigenous capability in manufacturing of HIV kits has been noticed. All the major National Health programmes get appropriate institutional support to assist the programme management in various operational research, training, evaluation etc. The programme management is yet to generate adequate institutional support and no formal national evaluation/independent appraisal has been undertaken for the programme. There is an urgent need for the same. The programme has been recently reviewed by the Central Council of Health & Family Welfare in its Conference held in New Delhi from October 11-13, 1995 which observed that the Empowered Committee at the Sate level is not adequately functional and hence be re-constituted under the Secretary, Department of Health. Poor utilisation of funds under the programme could be improved through channelising the funds directly through district health societies. To ensure blood safety the blood bank system should be improved to the extent that not only blood is tested for HIV but it is also tested for syphilis and hepatitis. IEC activities need to be stepped up

appropriately to generate awareness amongst all sections of society and known discriminatory attitude of the health care facilities should be immediately dispensed with for treatment of HIV cases.

6.24 NATIONAL KALA-AZAR CONTROL PROGRAMME:

Kala-azar was endemic in Bihar, Assam, Tamil Nadu and was responsible for considerable morbidity and mortality during pre DDT era. However, with the launching of National Malaria Control Programme in 1953 and National Malaria Eradication Programme in 1958 mass insecticidal spraying was undertaken for malaria control and as a collateral benefit Kala-azar control was achieved and in fact the disease almost disappeared[80]. With the withdrawal of insecticidal spraying from the maintenance areas of NMEP, Kala-azar reappeared with built up of vector population and subsequently kala-azar transmission was established in Bihar and West Bengal. Initially it was in few districts of Bihar in early seventies and now 31 districts of Bihar and 9 districts of West Bengal have become endemic for kala-azar having 75 million people living at the risk of kala-azar. Before 1991 the assistance for the kala-azar was being provided by the Government of India out of the NMEP budget provision. However, separate funds for kala-azar control was provided from 1991 with an allocation of 4.06 crore. Since then the Government of India has considerably enhanced the inputs raising the allocation in 1994-95 to 20 crore. The strategy is broadly through interruption of transmission, reducing vector population by undertaking indoor residual insecticidal spray twice annually, early diagnosis and complete treatment of kala-azar cases and health education for community awareness. In view of the financial constraints faced by the State government the Government of India provides the total cost on medicines and insecticides for kala-azar in Bihar. Similar facilities are also being provided for West Bengal from this year. The programme has been reviewed recently by the Central Council of Health & Family Welfare in its fourth Conference held in New Delhi from 11-13 October, 1995[68] which observed that the appreciable decline had occurred compared to 1992. However, it has come to the notice that in recent times the timely budgetary release is not being obtained which is very essential in appropriate functioning of the programme.

6.25 NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS:

Of the total estimated 30 million blind persons (visual aquity less than 3/60) for the world 6 million are in India. Two major surveys were conducted to find out the prevalence of blindness in the country. The first survey was carried out by ICMR on a National Sample in 1974 and arrived at a figure of 1.38% prevalence rate for the economically blind. For the second and the latest NPCV/WHO survey (1986-89) the prevalence rate has been found to be 1.49%. The increase being

attributed to change in age structure and also due to mounting backlog[103] . Prevalence of blindness is high in States like J & K, Madhya Pradesh and Rajasthan. In absolute terms more than 2/3rd of blind persons are in Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh. No major survey has been conducted in India to know about the incidence rate. However, a survey by ICMR has estimated that about 2.2 million sujects turned economically blind (visual aquity 6/60) every year in India. Studies show that poor suffer more than the affluent because of low nutritional status, longer hours of working outside the houses and gross negligence of the disease in the early stage and little access to health services. With the launching of the National Programme of Trachoma in 1963 the first organisational effort to control blindness at national level started. The programme continued for a decade without much change in the strategy. Then on better appreciation of the survey results carried out by ICMR the Central Council of Health & Family Welfare in its meeting held in 1975 resolved that one of the basic human rights was the right to see and, therefore, it has to be ensured that no citizen go blind nutritionally or being blind does not remain so if by reasonable deployment of skill and resources his eye-sight could be prevented from deteriorating and if already lost could be restored[104]. Based on the recommendations made by the Central Council of Health, National Programme on Trachoma was renamed as National Programme for Visual Impairment and Control of Blindness and launched in 1976 as a 100% centrally sponsored programme. Various activities of this programme included establishment of regional institutes of ophthalmology, upgradation of medical colleges and district hospitals, development of mobile eye units, recruitment of required ophthalmology manpower and provision of various ophthalmoligcal services. National survey was conducted during the period 1986-89 to evaluate the programme. The prevalence of blindness revealed by the survey was 1.49%. The survey also showed that 80.1% of these blind people are blind on account of cataract. The survey observed that activities under this programme are yet to show an impact in reducing the prevalence of blindness to the goal level of 0.3% by the year 2000 A.D[92]. In the year1994-95 the budgetary allocation got a quantum leap from 25 crore in 1993-94 to 40 crore. In 1995-96, it has been further enhanced to 94 crore.

Voluntary organisations are playing very significant role in the programme. With the success achieved and experienced through pilot district projects, district blindness societies have been established through out the country and 411 societies have already been established[100]. During 1994-95, 21.64 lacs cataract operations have been

[103] The Present Status of National Programme for Control of Blindness, DGHS, 1993.

[104] Proceedings of the Joint Meeting of the Central Council of Health & Central Family Planning Council, 17-19 April, 1975.

undertaken. WHO and Danish International Development Agency have been assisting the programme significantly through development of manpower, supply of equipment to mobile units, PHCs and district hospitals, preparation of health education materials etc. During the first phase of the Danish assistance (1978-88) an assistance of 10.12 crore was provided and during the phase second (1989-94) 34.53 crore was provided. Apart from the external assistance provided by the above two organisations to strengthen the programme, World Bank has been assisting blindness control project since 1994-95. Accordingly some specific guidelines have been provided[105] ,[106] . The proposed expenditure of the project is 554.56 crore for a period of seven years. The project is being implemented in seven major states namely, Andhra Pradesh, Madhya Pradesh, Maharashtra, Tamil Nadu, Orissa, Uttar Pradesh and Rajasthan. Major inputs will be for upgrading the ophthalmolgical services expanding the coverage in rural and tribal areas, establishment and functioning of district blindness control societies, training of ophthalmology manpower, improving the management information system, and creating awareness about the programme. The programme has been reviewed in the recently concluded Conference of the Central Council of Health & Family Welfare from 11-13 October, 1995. The council observed that the decentralisation of the programme has been one of the remarkable feature which has improved the functioning of the programme and suggested to strengthen the programme through establishment of district societies, establishing identified eye beds and detecting operation theatre in district hospitals and medical college hospitals, establishment of at least one mobile unit in each district centre, emphasis on quality of cataract operation, mass awareness campaign particularly for the remote and tribal areas and more attention to the urban slums and establishing a co-ordinaton mechanism with the social welfare ministry for the rehabilitation of the visually handicapped.

6.26 NATIONAL IODINE DEFICIENCY DISORDERS CONTROL PROGRAMME:

It has been estimated that 1.5 billion people in the developing countries are at risk for living in iodine deficient environment. About 90 million people suffer from goitre, more than 3 million are overt cretins and millions more suffer from intellectual deficiency[92]. Iodine is an essential micronutrient which is required 100-150 mgms daily for normal human growth and development. There is an increasing incidence of widespread distribution of environmental iodine

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[105] National Programme for Control of Blindness - Guidelines for District Blindness Control Society - Revised - August, 1995, DGHS, Minitry of Health & F.W.

[106] National Programme for Control of Blindness, Schemes for Participation of Voluntary Organisations (Part I) 1995, DGHS, Ministry of Health & F.W.

deficiency not only in the Himalayan regions but also in the sub Himalayan terai areas, reverine areas and even the coastal regions. It affects from development of foetus to all ages of human beings. It results in abortion, still birth, mental retardation, deaf mutism, squint, dwarfism etc. It is estimated that 167 million people are at risk of iodine deficiency disorders and the study conducted by ICMR and medical institute has demonstrated that not a single state/UT is free from the problem of iodine deficiency disorders. It has been estimated that 54.4 million people are suffering from endemic goitre and about 8.8 million are mental/motor handicapped. Sample survey carried out in 25 States and 4 Uts of the country have revealed that out of 245 districts surveyed, iodine deficiency disorders is a major public health problem in 211 districts[92].

Government of India launched a 100% centrally sponsored Goitre Control Programme in 1962 which was renamed as National Iodine Deficiency Disorders Control Programme in view of wide spectrum IDD. On the recommendations of the Central Council of Health in 1984[107] , the Government of India took a policy decision to iodize the entire salts in the country by 1992. The programme started in April, 1986 and today the annual production of iodized salt is 34 lac MT.

In order to ensure use of only iodized salt all the States and Uts have been advised to issue notification banning sale of salts other than iodized salts for edible purposes under PFA Act. So far 24 States/UTs have completely banned the same while another 5 has banned partially[20].

The Salt Commissioner in consultation with the Ministry of Railways arranges transportation of iodized salt from the production centres to the consuming states under priority category B, a priority second to Defence. 25 States and Uts have established IDD Control Cell at the Directorate and a National Reference Laboratory for monitoring has also been established at NICD.

Government of India/UNICEF project 1993-95 has been in operation in 17 selected endemic districts for extensive monitoring and IEC activities and the same are going to be expanded to 106 selected districts of 13 States including North Eastern States. This programme is also included in the 20 point programme of the Prime Minister. The programme has been reviewed in the recently concluded Conference of the Central Council of Health & Family Welfare. All States/UTs should ban sale of non-iodized salts and set up IDD Control Cell and establish IDD Monitoring Laboratories. The Council also suggested

[107] Proceedings of the 10th Conference of Central Council of Health & Central Family Welfare Council, 9-11 July, 1984.

examining providing subsidy to the manufacture and distribution of iodized salts.

6.27 NATIONAL DIABETES CONTROL PROGRAMME:

In pursuance of the recommendations of the Working Group and the Expert Sub Group on Diabetes Mellitus the National Diabetes Control Programme was included in the 7th Five Year Plan as one of the central health sector programmes and a sum of Rs.25 lacs was allocated to initiate district Diabetes Control Programme in five districts of the country[108] . It was envisaged that infrastructure for monitoring and evaluation at the national level (under the National Co-ordinator) be created during 1986-87 and initiate the programme in two districts during 1987-88, two additional districts in 1988-89 and finally one district in 1989-90. Two districts viz. Salem and South Arcot in Tamil Nadu were taken up. The Working Group found satisfactory performance of clinical and laboratory facilities at 69 community health centres and the efforts made at strengthening diabetes care infrastructure, education and training of requisite health manpower, preparation of learning resource materials, dissemination of information with a view to generate community awareness and leadership satisfactory. One district in J & K also was taken up and Rehbar-i-Sehat scheme contributed immensely in the implementation of the programme. A sub committee set up in 1989 recommended establishment of the National Documentation Centre with the objective of collation and dissemination of data relating to epidemiology, pathophysiology, etiology, drug management, nutrition, counselling, care of complication etc. and suggested that the centre be located in close proximity to the co-ordination, monitoring and evaluation centre located at AIIMS. The Working Group further recommended to extend the district diabetes control programme to 25 districts.

During the 8th Plan period some of the states have initiated State Diabetes Control Programme as a part of the State Plan scheme. The State of Karnataka has initiated the programme in two districts and now proposes to extend to three more districts. Andhra Pradesh, Rajasthan, Maharashtra, Himachal Pradesh and Punjab have indicated that they intend to initiate District Diabetes Control Programme during 1995-96. Training material and health education materials in local language is available in Tamil Nadu, Karnataka, Maharashtra and J & K.

The programme does not receive the priority that it should have and there is no agenda item to discuss this important issue in the

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[108] Working Group Report on Containment of Non-communicable Diseases for the 8th Five Year Plan (1990-95).

recently concluded Conference of the Central Council of Health & Family Welfare.

6.28 NATIONAL CANCER CONTROL PROGRAMME:

Cancer is increasingly becoming a major health problem. Around 7 lacs new cases of cancer occur in India every year and nearly 2/3rd are advance and incurable at the time of diagnosis[92]. Nearly half of this die of the disease each year. It has been estimated that by 2026 the cancer deaths will increase nearly threefold. Considering the gigantic problem the Government of India launched National Cancer Control Programme in 1975-76 through provision of Central assistance for purchases of cobalt therapy for treatment of cancer patients. Subsequently 10 major institutions were recognised as regional cancer centres with grants-in-aid from the government. During the 7th five year plan 19.34 crore were released by Government of India and strategies are around primary prevention through detection, secondary prevention through early diagnosis and treatment, strengthening of existing therapeutical services and provision of palliative care in terminal cancers.

Though 11 centres have been established so far but they cover hardly 10% of the population and the level of expertise in these regional centres need further upgradation. A large proportion of the cancer cases are being cared for by the medical colleges and private hospitals which often lack expertise, manpower and facilities. Against the required norm of one cobalt unit per million population only 200 cobalt units are available in the country. During the Eighth Plan, emphasis has been placed on primary prevention, early diagnosis of cancer and augmentation of treatment facilities through:

a) Development of Oncology wings in medical colleges and hospitals to fill up geographical gaps in the availability of the cancer treatment facilities. So far financial assistance has been provided for development of Oncology wing in 23 medical colleges/hospitals in the country under the scheme.

b) Scheme of district cancer control programme for preventive health education, early detection and pain relief. The project is linked with regional cancer centre and 24 projects have been undertaken so far in ten States.

c) Assistance to voluntary organisations for undertaking health education and early detection. So far 15 VOs have been brought under the scheme.

d) Supply of Palliative medicines like Morphine. So far 26 districts have been identified by the Government of India. In identified districts five beds are kept for Palliative care.

A National Cancer Board has also been constituted and similar boards were also suggested at the State level and the Working Group reported that 14 states/2 Uts have constituted their Cancer Control Board.

The Working Group[108] reviewed the programme and suggested three operational levels of the cancer control. Level 1: which includes sub centre PHC and community health centre and district hospitals not having the facilities for treatment of cancer. Level 2: which includes district hospitals having facilities for treatment of cancer, medical colleges and dental colleges and Level 3: which includes regional cancer research and treatment centres.

During the 7th five year plan only levels II & III were involved in cancer control so the group recommended that level 1 also to be utilised during the 8th plan. The group also recommended that the regional cancer research and training centres should not only act as a referral centre but for complicated and difficult cases it should also act as an apex body for taking up activities such as development of diagnostic test, development of health education, dissemination health education materials, training of professional and para professional personnel. In states where no regional centre is available, medical college hospitals should be identified and developed. Indian System of Medicine professionals should be appropriately involved in primary prevention. Early detection of cancer through organised oncology screening programme, has brought down incidence and mortality from cervical cancer in developed countries. Towards this end the Institute of Cytology & Preventive oncology has done very good work and found the following interventions like raising the marriage age beyond 18 years, observing small family norms, maintaining successful and obstetric hygiene, control and containment of genital infection through control promiscuity using various contraceptives will provide very good dividend in reduction of cervical cancer and, therefore, the same should be field tested widely to realise their actual potential. The District Cancer Control Programme has been initiated in 27 districts to undertake level-1 Cancer Prevention activities. The programme has been recently reviewed by the Central Council of Health & Family Welfare in its fourth Conference held in New Delhi from 11-13 October, 1995. The council noted with concern and disappointment that its earlier recommendations specifying measures administration and legislative for curbing consumption of tobacco and tobacco products have not been implemented. The same should be immediately implemented. The council also recommended strengthening of

national cancer registration programme of ICMR to generate more useful epidemiological data, strengthening of the cancer control cell of the DGHS, augmenting the district cancer control programme by covering more districts, and augmenting coverage of more medical colleges to develop oncology wings for providing therapeutical services.

The council also recommended more involvement of the NGOs in cancer control programme.

6.29 OBSERVATIONS, SUGGESTIONS & OVERVIEW:

6.29.1 In the chapter large number of health schemes implemented through the Ministry of Health & Family Welfare have been described. In addition to that there are large number of schemes having tremendous impact on human health and quality of life. These schemes are being implemented through several other ministries. Some of the important ones which have a direct bearing on the Public Health System are Rajiv Gandhi National Drinking Water Mission (RGNDWM), Rural Sanitation, Accelerated Urban Water Supply Programme, Urban Sanitation, Urban Basic Services for the Poor, Urban Solid Waste Management, Sewerage and Sewage Treatment, Prevention of Water and Air Pollution, Nutritional Programmes like Integrated Child Development Services, Special Nutritional Programme, Balwadi Nutritional Programme, Midday Meal Programme etc. All these schemes have been conceptualised to improve the Public Health System. But as different agencies are involved and co-ordination between different agencies are not so easily achieved, experts are of the opinion that until and unless a formal mechanism of co-ordination and co-operation are established involving all concerned and having guidelines indicating detailed responsibilities in respect of all participating units, even inspite of individual schemes appearing to be technically sound, the same have not been able to deliver what is expected of them in improving the Public Health System. Experts opine that such mechanism is very vital in the implementation of the health schemes and will strengthen Public Health response capability significantly.

In this context it is stated that the recently concluded Central Council of Health & Family Welfare (CCH&FW) in its meeting on 11-13 October, 95 resolved that such mechanism should be established immediately at all levels and as it pertains to human health, the Ministry of Health & Family Welfare should be the nodal agency for such mechanism.

The committee has deliberated at length on this issue and is of the opinion that to establish such mechanism of collaboration and co-

operation should be a priority area of action on part of the Government. As all the schemes are linked to human health, creation of a new Ministry of Human Welfare could be conceptualised giving the responsibility of undertaking all such activities. In this context decentralisation of the administrative mechanism through the Panchayati Raj will provide a very good operative tool for co-ordinating all the activities pertaining to the human health and thus strengthening Public Health System.

6.29.2 For all the schemes funding are separate and hardly there is authority which allow at the delivery point adjustments of funds from one to the other depending upon the local situation. Delegating financial and administrative responsibilities to the Panchayati Raj systems to adjust funds from one another through a predetermined flexible operating financial accounting & expenditure scheme will allow in a given local situation administrative and operational tools to utilise the funds more effectively and thus the impact of the various health schemes on the Public Health System could be reviewed in its totality.

6.29.3 Public Health System requires expertise from a variety of disciplines. Sometimes experts responsible for different schemes do not appreciate its impact on the Public Health System covering expertise of another discipline; for example Public Health Engineering Department is responsible for supply of potable water for drinking. The department also is to take care of establishing an appropriate drainage mechanism for the waste water. In case the same is not being attended to, it will create potent source of vector breeding and insanitary environments, leading to vector/water borne and thus putting strains on the resources of another department. Therefore, while providing the specific services where several disciplines are involved, the leadership of undertaking such jobs should preferably be task oriented and other concerned should provide the requisite support through a well designed programme guidelines.

6.29.4 Though a huge health infrastructure and a large number of schemes are in operation in the country, yet the same has not been able to improve the Public Health System as envisaged because of poor coverage, poor infrastructure, poor monitoring & evaluation and host of other factors. Many schemes have been initiated on pilot basis in a limited areas and there after extended. For the successful functioning of several of these schemes, several complementary health schemes are required. For example : When Kala-azar epidemic struck Bihar efforts were made to undertake Kala-azar control through NMEP but the area where the Kala-azar epidemic was spreading there was hardly any NMEP organisational structure/expertise left for undertaking spray because Malaria entered in the maintenance phase long before in these

areas. As a result though the insecticides were available there was no operative infrastructure present. This necessitated establishing these operative infrastructure and thus delaying greatly in initiating Kala-azar control scheme.

6.29.5 Several schemes are in operation and health workers are given operative guidelines in implementing various intervention measures under different scheme and some of these guidelines often do not provide simplified uniform instructions and often act as a factor in enhancing confusion amongst them - thus affecting the quality of Public Health System. Therefore channelising all the schemes through the Panchayati Raj Administration for providing uniform set of instructions in simple manner will go a long way in strengthening the Public Health System.

6.29.6 Large number of vacancies exist in Medical/Para-Medical personnel in PHC/CHC. Dearth of several specialists also is present in CHC. Orientation in Public Health is also poor. This has resulted in poor technical capacity of the existing rural health service. Therefore the national education policy in health sciences should be implemented through a time bound programme. In that case appropriate experts will be available in the concerned health sector with more updated professional competent support for better management of disease control programme and transfer of new technologies for controlling various emerging diseases/health problems at the grass root level.

6.29.7 Powers and responsibilities in the health & family welfare sector should be transferred to Panchayat bodies and Nagar Palikas alongwith financial resources for better management of various schemes. Adequate flexibility also needs to be provided to them through the states.

6.29.8 Serious attempts will have to be made to develop urban health services. Organic linkages need to be forged with the urban development schemes including Urban Basic Services for a comprehensive development of health and welfare services. Local hospitals should be made responsible to run these centres and treat them as their extension counters for providing health services to the community. Voluntary organisations and local bodies would be encouraged to develop partnership and ultimately taking full responsibility for carrying out these programmes. Health system research to develop a model of urban primary health care services is also required.

6.29.9. The medical college hospitals and specialised hospitals have to be used exclusively as tertiary care centres and for health manpower development. Important pre-requisites for this would be improvement

in the facilities and standards of care available at secondary care level and development of strong referral system.

6.29.10 There is a need to review the staffing pattern of new PHCs and they need to be adequately strengthened to enable them effectively functioning for delivering comprehensive health care services.

7.0 NATIONAL FAMILY WELFARE PROGRAMME

7.1 Introduction

One of the crucial problems facing the nation today is the increasing population, which has been growing at an alarming rate. Census of 1991 had indicated the population of India as 846.3 million, up from 342 million in 1947. During the decade 1981-91 the All India average annual exponential growth rate has been of the order of 2.14%, marginally lower than 2.22% during the preceding decade but is still very high in comparison to the developed nations of the world. On 2.4% of the world's land area, India supports more than 16% of the world's total population. The rapid increase in population has serious implications on the over all socio-economic development of the country. Therefore the containment of population growth is one of the priority objectives.

7.2 Family Welfare Programme During The First Seven Five Year Plans

With a view to check the growth of population the Family Planning Programme (since renamed Family Welfare Programme) was taken up in the country since 1952. The programme aims to provide family planning services within the broader context of maternal and child health care. It disseminates information and education to enable couples to make voluntary and informed choice regarding the size of the family and spacing through contraception. A large scale variations and diversities in the demographic situation, socio-economic and cultural milieu between and within the states and regions of the country made the task of population control a challenging and formidable one.

7.2.1 The approach under the programme during the First and Second Five Year Plans was mainly "Clinical" under which facilities for provision of services were created. However, on the basis of data brought out by the 1961 census, the clinical approach adopted in the first two plans was replaced by "Extension and Education approach" which envisaged expansion of service facilities along with spread of message of small family norm.

7.2.2 In the Fourth Plan, high priority was accorded to the programme and it was proposed to reduce birth rate from 35 per thousand in 1968-69 to 32 per thousand by the end of Plan. For achieving this objective, 16 million sterilisations and 8.6 million IUD insertions would have to be performed, and the level of conventional contraceptive users was to be raised to 10 million. To accomplish this, concerted efforts were made to establish and strengthen the basic infrastructure needed for provision of services especially in the rural

areas. However, despite these efforts, including the strategy of holding mass vasectomy camps, higher compensations to acceptors and greater expenditure on media and publicity, only 16.5 million couples, constituting about 16.5% of the couples in the reproductive age group, could be protected against conception by the end of Fourth Plan.

7.2.3 In the Fifth Five Year Plan, the objective before the programme was to bring down the birth rate to 30 per thousand by the end of 1978-79. For achieving this goal, it was envisaged to raise the level of couples protected against conception to 40 million by 1978-79. The programme was included as a priority sector programme during the Fifth Plan with increasing integration of family planing services with those of Health, MCH and Nutrition to make the programme became more readily acceptable. A new project was also planned under which unipurpose workers working in various health programmes were to be converted into multi-purpose workers following suitable orientation training. During the period the family planning programme had received a set back and the effective couple protection rate came down from 23.9% in 1976-77 to 22.5% in 1980.

7.2.4 In the Sixth Five Year Plan, the working Group on population and Policy set up by the Planning Commission recommended the adoption of long-term demographic goal of reaching net reproduction rate of unity by 1996. However, in the National Health Policy (1983) the long term demographic goal of reaching net reproduction rate of unity was postponed to be achieved by 2000 A.D. The implications of this were to achieve the following by the year 2000 A.D.

1. Reduction of average size of family from 4.4 children in 1975 to 2.3 children.

2. Reduction of birth rate to 21 from the level of 33 in 1978 and death rate from 14 to 9 and infant mortality rate from 127 to below 60.

3. Increasing the couple protection level from 22% to 60%.

Keeping in view the long term objective of reaching the NRR of 1 by 1996 and also the past performance, present capacity and future potential, a target of 24 million sterilisations, 7.9 million IUD insertions and raising the level of CC users to 11 million during 1984-85 was fixed for the Sixth Five Year Plan (1980-85) for which an outlay of Rs. 1010 crores was agreed to by the Planning Commission against an expenditure of Rs. 493.94 crores during the Fifth Plan (1974-78). The achievement was 17 million sterilisations & 7 million IUD insertions, 9.31 million CC users were enrolled during 1984-85.

7.2.5 The Seventh Five Year Plan envisaged a target of 31 million sterilisations, 21.25 million IUD insertion and increasing the annual number of CC, OP users to 14.50 million in the last year of the Plan. With the achievement of these targets, the Couple Protection rate was expected to increase from 37.5% in March, 1987 to 42% in March, 1990.

The Seventh Five Year Plan was formulated on the basis of the report of Steering Group on "Population Stabilisation and Maternal and Child Health Care". The Programme during this period carried out on a purely voluntary basis with emphasis on promoting spacing methods, securing maximum community participation and promoting maternal and child health care. The strategy of implementation of the Family Welfare Programme was reviewed during 1985-86, under the direction of the Prime Minister so as to redesign the programme and draw up a time bound Action Plan to bring about a swift decline in the birth rate.

In order to provide facilities/services nearer to the door steps of population, the following steps/initiatives were taken during the Seventh Plan period:-

I. It was envisaged to have one sub-centre for every 5000 population in plain areas and for 3000 population in hilly and tribal areas. At the end of Seventh Plan i.e. 31.3.90, 1.30 lakhs sub-centres were established in the country.

II. The Post Partum programme was progressively extended to sub-district level hospitals. At the end of Seventh Plan, 1075 sub-district level hospitals and 936 Health Posts were sanctioned in the country, out of which the number functioning were 1012 and 870 respectively.

III. The Universal Immunisation Programme started in 30 districts in 1985-86 was extended to cover 448 districts in the country by the end of the Seventh Plan.

IV. A project for improving Primary Health Care in Urban slums in the cities of Bombay and Madras was taken up with assistance from the World Bank.

V. Area Development Projects were implemented in selected districts of 15 major states with assistance from various donor agencies.

The broad achievements of the Family Welfare Programme ending the Seventh Five Year Plan (March, 1990) are summarised below:-

I. Reduction in crude birth rate from 41.7 (1951-61) to 30.2 (SRS:90).

II. Reduction in total fertility rate from 5.97 (1950-55) to 3.8 (SRS:90).

III. Reduction in infant mortality rate from 146 (1951) to 80 (SRS:90)

IV. Increase in Couple Protection Rate from 10.4% (1970-71) to 43.3% (31.3.1990).

V. Setting up of a large network of service delivery infrastructure, which was virtually non-existent at the inception of the programme.

VI. Aversion of over 118 million births by the end of March, 1990.

The approach adopted during the Seventh Five Year Plan was continued during 1990-92. A major new initiative undertaken during 1991-92 is the Child Survival and Safe Motherhood Project, an integration of Universal Immunization Programme with expanded/intensified MCH activities in high IMR states/Districts of the country. World Bank assisted Area Development projects IPP VI (U.P., M.P. and Andhra Pradesh) and IPP VII (Punjab, Haryana, Gujarat, Bihar and J & K) and UNFPA assisted Area Development projects for Himachal Pradesh and Maharashtra were operationalised, starting of indigenous production of Cu-T, an important birth-spacing contraceptive device, and introduction of non-steroidal weekly oral contraceptive pill, a product of indigenous research were important landmarks during this period. IEC efforts were intensified to improve the capacity and skill of Population research Centres(PRCs).

7.2.6 Achievement under family welfare programme

The achievements of the Family Welfare Programme since its inception are summarised below:

S. No	Parameter	1951-61	1981	1994	NHP Goals by 2000
1.	Birth Rate	41.7	37.2*	28.6 (SRS 94)	21
2.	Death Rate	22.8	15.0*	9.2 (SRS 94)	9
3.	Total Fertility Rate	5.97	4.5	3.6 (SRS 92)	-
4.	Net Reproduction Rate		1.48		1
5.	Infant Mortality Rate (Per 1000 live births)	146	110	73 (SRS 94)	Less than 60
6.	Couples Protection Rate (Percent)	10.4 (1970-71)	22.8	45.8 (Prog. Data 31.3.94)	60
7.	Cumulative Number of births averted (in million)	0.04	43.4	182.76 (Prog. Data 31.3.94)	-

* refers to period 1971-81.

It is estimated that if the averted births had taken place, the average annual exponential growth rate of population during the 1981-91 decade would have been of the order of 2.72%, as against 2.14% actually registered in 1991 census.

7.2.7 Eligible couples and per cent effectively protected is given in the table below:-

Year	No. of Eligible couples (millions)	Percent effectively protected (CPR)
1951	65	NA
1961	79	NA
1971	94	10.4
1980-81	116	22.8
1981-82	118	23.7
1982-83	121	25.9
1983-84	124	29.5
1984-85	126	32.1
1985-86	129	34.9
1986-87	132	37.5
1987-88	135	39.9
1988-89	138	41.9
1989-90	141	43.3
1990-91	145	44.1
1991-92	–	–
1992-93	152	43.4
1993-94	155	45.1
1994-95	-	45.1
1995-96	-	45.3

7.2.8 Year-wise medical termination of pregnancies performed since inception of the Programme is given in the table below:-

Year	Number of facilities	Number of abortions
1972-76	1877	381,111
1976-77	2149	278,870
1977-78	2746	247,049
1978-79	2765	317,732
1979-80	2942	360,838
1980-81	3294	388,405
1981-82	3908	433,527
1982-83	4170	516.142
1983-84	4553	547,323
1984-85	4921	577,931
1985-86	5528	583,704
1986-87	5820	588,406
1987-88	6126	584,870
1988-89	6291	582,161
1989-90	6681	596,357
1990-91	6859	580,744
Cummulative total since inception of the Programme upto march, 91		7,565,170

7.2.9 In order to give new thrust and dynamism to Family Welfare Programme, an area specific microplanning was suggested in a background document submitted by the Planning Commission, as a result of which, a sub-committee of National Development Council on Population was constituted. The report of the Sub-Committee was considered and endorsed in the meeting of the National Development Council held on 18th September, 1993. The Department of family Welfare has initiated follow-up action to implement the recommendations. The major recommendations of the NDC are:

I. Strengthening of infrastructure of the delivery of primary health care and family welfare services both in rural and urban areas by providing physical facilities, filling up of vacant posts and ensuring supply of essential drugs, dressing and other consumables.

II. Providing facilities for medical termination of pregnancy sterilisation should be created at every primary health care.

III. An integrated programme for all developmental activities including family welfare should be worked out to achieve inter-sectoral co-ordination.

IV. Panchayats should be involved in planning and implementation of different developmental activities aiming towards achieving combined goals with special reference to programmes aimed at women development and family planning.

V. Mechanism should be developed for the purpose of formulation of National Population Policy directives, plan of action, over-viewing and monitoring the programme and obtaining support from all sections from within and outside the Government. Similar mechanisms should be developed at state and districts levels.

VI. Differential approach in programme formulation and implementation should be adopted to meet area specific requirements with particular reference to poorly performing districts.

VII. Mechanism for securing commitment and support of leadership, including people's elected representatives and religious leaders, should be developed. The organised sector and associations of professionals, trade and industry, journalists, NGOs, etc. should be involved for population control efforts.

VIII. Steps should be taken to raise the age at marriage and literacy status of women and to remove the gender gap in selective demographic determinants.

IX. The quality and outreach of Maternal & Child Health Services should be further strengthened.

X. Poverty alleviation schemes administered by central and state Governments should be used as effective instruments for propagating family welfare programme.

XI. A set of incentives and disincentives have also been recommended by the Committee with the provision that legal and administrative implications of these be got examined once these are accepted in principle. NDC desired in-depth discussion prior to implementation.

XII. A National Population Policy and Development of necessary mechanisms for its expeditious and effective implementation may be formulated.

Recognising the fact that reduction in infant and child mortality is an essential prerequisite for acceptance of small family norm, Government of India has attempted to integrate MCH and FP care as a part of Family Welfare Services at all levels. The NDC in 1991 approved the modified Gadgil Mukherjee Formula, which for the first time gives equal weightage to performance in MCH sector (IMR reduction) and FP sector (CBR reduction) as part basis for computing central assistance to nonspecial category states (**Table**). At secondary and tertiary care level FP services are closely integrated with Obst/gyn and paediatric care. At the primary health care level the PHC Doctor and the ANM provide both MCH and FP services.

TABLE

1% ALLOCATION OF CENTRAL ASSISTANCE UNDER GADGIL MUKERJEE FORMULA TO NON-SPECIAL CATEGORY STATES

(Rs. Crores)

Non-Special Category States	Annual Plan	
	1994-95	1995-96
1. Andhra Pradesh	3.96	6.50
2. Bihar	5.66	2.03
3. Goa	6.80	8.29
4. Gujarat	4.00	4.15
5. Haryana	6.36	3.61
6. Karnataka	4.11	5.72
7. Kerala	6.80	8.29
8. Madhya Pradesh	2.11	5.85
9. Maharashtra	5.64	7.00
10. Orissa	3.02	5.88
11. Punjab	4.32	6.49
12. Rajasthan	4.09	2.31
13. Tamil Nadu	5.69	8.29
14. Uttar Pradesh	5.50	2.01
15. West Bengal	3.94	7.93
Total :	72.00	84.35

(Source : FR Division, Planning Commission)

SELECTED INDICATORS FOR MAJOR STATES

States	1993-94 Rs. In Crores				CBR	IMR	OPR	Life Expectancy
	Outlay		Expenditure		(1993)	(1993)	Mar 94 (Provisional)	(1986-90)
	Health	MNP	Health	MNP				
1.	2.	3.	4.	5.	6.	7.	8.	9.
India	113501.03	113501.03	89858.12	33117.32	28.7	74	45.4	57.70
MAJOR STATES								
1. Andhra Pradesh	2759.40	2759.40	2686.00	761.83	24.3	64	48.2	59.10
2. Assam	3920.00	3920.00	5253.00	1649.00	29.5	81	23.6	53.60
3. Bihar	12014.00	12014.00	2370.00	1818.82	32.0	70	24.1	54.90
4. Gujarat	4132.00	4132.00	4402.00	1748.17	28.0	58	58.2	57.70
5. Haryana	2591.71	2591.71	2224.00	811.47	30.9	66	54.9	62.20
6. Himachal Pradesh	2460.00	2460.00	2432.00	987.70	26.7	63	56.5	62.80
7. Karnataka	11242.00	11242.00	6990.00	3245.00	25.5	67	50.3	61.10
8. Kerala	2450.00	2450.00	1738.00	461.00	17.4	13	51.5	69.50
9. Madhya Pradesh	7640.00	7640.00	6261.00	2277.78	34.9	106	43.1	53.10
10. Maharashtra	10604.00	10604.00	9379.00	4440.79	25.2	50	54.0	62.60
11. Orissa	3040.00	3040.00	2318.00	804.97	27.2	110	39.0	54.40
12. Punjab	4600.00	4600.00	2521.00	717.00	26.3	55	77.4	65.20
13. Rajasthan	5621.00	5621.00	4900.00	2173.00	35.1	82	30.3	55.20
14. Tamil Nadu	7158.00	7158.00	7259.00	2554.89	19.5	56	54.9	60.50
15. Uttar Pradesh	9833.00	9833.00	7778.00	3492.23	36.2	94	36.5	53.40
16. West Bengal	2906.00	2906.00	2749.00	800.00	25.7	58	34.9	60.80

** Relate to the year 1990.

STATE WISE OUTLAY AND EXPENDITURE UNDER FAMILY WELFARE PROGRAMME

(Rs. IN LAKHS)

STATE	1992-93		1993-94		1994-95	1995-96
	Outlay	Expenditure	Outlay	Expenditure	Outlay	Outlay
1. Andhra Pradesh	5445.33	7316.54	5550.30	9139.67	6412.87	5686.59
2. Arunachal Pradesh	147.48	58.09	157.16	67.90	153.17	138.76
3. Assam	2551.73	1754.64	2127.81	2299.50	2036.79	4169.49
4. Bihar	4800.15	6914.11	5188.59	7435.86	6999.29	6890.98
5. Goa	125.19	94.77	122.84	100.06	125.66	133.91
6. Gujarat	3386.66	4942.94	3740.57	6057.38	4090.20	3477.35
7. Haryana	1520.05	2322.01	1531.18	2800.81	1729.21	1375.84
8. Himachal Pradesh	993.11	1364.48	1409.82	2188.34	881.67	922.25
9. Jammu & Kashmir	1137.92	1222.58	1003.36	1295.31	2788.68	992.62
10. Karnataka	3094.07	4158.06	3333.15	4515.54	3624.74	6482.55
11. Kerala	2493.69	3100.44	2347.72	3815.43	2231.23	2402.52
12. Madhya Pradesh	5201.07	6325.25	6575.01	8155.46	5745.48	5356.93
13. Maharashtra	6491.20	8367.25	6824.49	9510.43	5979.41	6048.42
14. Manipur	373.48	478.49	368.69	347.96	351.80	390.08
15. Meghalaya	254.10	234.41	257.31	275.38	248.97	265.28
16. Mizoram	152.01	159.91	166.88	167.35	170.90	187.99
17. Nagaland	217.48	229.21	213.89	256.58	217.94	209.65
18. Orissa	3196.64	3486.35	2824.57	2465.07	4521.42	2900.31
19. Punjab	1841.37	3247.65	1915.42	3553.01	2619.43	1785.82
20. Rajasthan	3762.22	5002.37	5037.44	5439.35	3716.58	6294.46
21. Sikkim	131.41	190.37	173.59	266.25	203.08	236.86
22. Tamilnadu	4441.96	7221.54	4530.30	4790.10	5125.47	3976.78
23. Tripura	299.30	556.94	316.83	340.21	302.66	326.65
24. Uttar Pradesh	12838.90	14526.10	16506.92	19945.65	16228.41	13721.94
25. West Bengal	4895.05	5841.06	5349.45	6317.42	4761.27	6561.74
Union Territories						
1. Andaman & Nicobar	70.15	72.94	65.10	77.14	70.90	76.41
2. Chandigarh	103.25	102.45	115.75	122.62	138.25	155.75
3. Dadar & Nagar Haveli	20.10	14.01	21.80	18.73	24.00	24.72
4. Daman & Diu	13.30	13.71	18.52	37.53	21.25	25.51
5. Delhi	619.10	299.68	675.10	816.55	1173.00	1518.07
6. Lakshadweep	7.35	3.00	8.22	5.67	9.30	10.65
7. Pondicherry	63.10	61.33	68.00	78.80	80.00	88.01
Total	70387.92	89682.38	78545.78	102703.06	82783.03	82834.89
Other (Cent. Sect./ Cost Of Supplies)	29612.08	19357.62	48546.22	28559.22	60227.00	61165.11*
Arrears Paid to States		10000.00		21000.00		14100.00**
Grand Total	100000.00 (104100.00)	119040.00	127092.00 (142357.00)	152262.22	143010.03 (153800.00)	158100.00

FIGURES IN BRACKETS ARE REVISED ESTIMATE

** PROVISION MADE FOR ARREARS

7.2.10 Family Welfare Programme during Eighth Five Year Plan

It has been stated in the Eighth Five Year Plan document that the growth rate of population would be about 1.78% per annum during the Eighth Plan and would come down to 1.65% during 1996 to 2001. It has also been stated that NRR-1 would now be achievable only in the period 2011-16 A.D.

The Eighth Five Year Plan has laid down following goals to be achieved by 1997[109] .

	Indicator	Goal to be achieved by the end of the 8th Plan
a)	Crude Birth Rate (Per 1000 population)	26.0
b)	Infant Mortality Rate (Per 1000 live births)	70
c)	Couple Protection Rate	56%

7.2.11 To impart new dynamism to the Family Welfare Programme, several new initiatives have been introduced and ongoing schemes revamped. The broad features of these initiatives are as under:

A result oriented Action Plan has been evolved in consultation with the Government of States/UTs. The Action Plan highlights the need for reaching a national consensus in support of Family Welfare Programme and to obtain the participation of all sections of society.

Area Projects which seek to upgrade infrastructure, have been continued during the 8th Five Year Plan. Two new Projects namely India Population Project (IPP)-VIII and IX have been initiated during the 8th Plan. The IPP-VIII project aims at improving health & family welfare services in the urban slums in the cities of Delhi, Calcutta, Hyderabad and Bangalore. IPP-IX will operate in the states of Rajasthan, Assam and Karnataka.

An USAID assisted project named "Innovation in Family Planning Services" has been taken up in Uttar Pradesh with specific objectives of reducing TFR from 5.4 to 4 and increasing CPR from 35% to 50% over the 10 years project period.

Recognising the fact that demographic and health profile of the country is not uniform, 90 districts which have CBR of over 39 per thousand (1981 census) have been identified for differential

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109 Eighth Five Year Plan, Planning Commission

programming. Enhanced allocation of financial resources, amounting to Rs. 50 lakhs per year per district, have been made for upgradation of health infrastructure in these districts. This amount is being used for providing well equipped Operational Theatres, Labour Room, a six bedded observation ward and residential quarters for para-medical workers in 5 PHCs of each districts per year.

Realising that Government efforts alone in propagating and motivating the people for adaptation of small family norm would not be sufficient, greater stress has been laid on the involvement of NGOs to supplement and complement the Government efforts. Four new schemes for increasing the involvement of NGOs have been evolved by the Department of Family Welfare.

Contraceptives, namely Conventional Contraceptives (Condoms), IUD, Oral Pills and Sterilisation (male and female) are provided free of cost. Oral pills and C.Cs are also made available at subsidised cost under the Social Marketing Scheme. The per capita expenditure on the contraceptive services (Excluding sterilisation) during the year 1993-94 was only about Rs. 17/-, which is quite low. Therefore, in order to enhance the coverage of the programme, the expenditure on contraceptive services needs to be increased. This is also justified in view of the large unmet demand for family planning services.

A non steroidal weekly contraceptive named Contchroman, developed through indigenous R&D efforts, has also been taken up for commercial marketing.

Concerned with the increasing imbalance between the number of vasectomies and tubectomies, which indicate that presently women bear the brunt of sterilisation operations, every efforts is being made to popularise vasectomy. One of the steps taken recently in this direction is the introduction of the simple technique of vasectomy known as "No Scalpel Vasectomy". Research and trials are on in new methods like vaso-occlusion of the male duct and contraceptive vaccines to give a wider choice of contraceptives to males and to increase male participation in the Family Welfare programme.

Given the younger age distribution of the population, much more vigorous steps are called for promoting spacing methods among the younger age couples. It is estimated that females in the age group 15 to 29 years account for 77% of all births and females in the age group 30 to 49 years account for only 23% of all births.

An attempt has been made during the 8th Plan to reorient the Information, Education and Communication activities which seeks to

carry the Family Welfare Programme to the community, provides full and integrated support to the community oriented services for mother and child health, and encourage adoption of small family norm. Electronic media have been used effectively to communicate all aspects of family welfare programme. However, there has been a clear recognition of the limitation of the print/electronic media owing to high level of illiteracy and non accessibility to radio and TV sets. Efforts have therefore also been made to cover those districts and villages which are not reached by radio and TV through alternative means like video vans and integrated media like folk dance and folk troupe'. Specific State level action plans with district level micro plans incorporating a media-mix joint training of sectoral functionaries and counselling have been recognised as an area of greater attention. The need for inter personal communication has been clearly recognised and at the village level, women's groups named Mahila Swasthya Sanghas are being organised. Over 49,000 Mahila Swasthya Sanghs have already been set up in the country.

To improve the quality of services, special emphasis has been laid on the training of medical and para-medical personnel. Existing scheme of continuing education provide two weeks training after every five years to Medical Officers in the PHCs, Health Assistant (Male & Female), Health Workers (Male & Female) and key trainers of the training school. Crash Training Programme of LHVs/ANMs in IUD insertion and oral pill administration has been taken up to enable them to independently take charge of the job and provide these services. Special emphasis is being placed on the training of Dais in order to ensure clean and safe deliveries. The payment of reporting fee to the TBAs has been enhanced to Rs.10/- per case and efforts are on to provide each of the trained Dai with a kit for conducting safe deliveries.

In pursuance of the recommendations of the NDC's Committee on population, a group of Experts was constituted on 19th July' 1993 under the Chairmanship of Dr. M.S. Swaminathan for preparation of a preliminary draft of the National Population Policy. In addition to the Chairman, it had 9 members. The Chairman and Secretary of the group submitted the draft National Population Policy on 24-5-94. The view/comments of various Ministries/Department of Government of India and of State Governments/U.T's are being obtained. The report has been tabled in both houses of the Parliament on 14th June 1994.

Concerned with the successive decline in the sex ratio the department of Family Welfare had introduced Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Bill, in the Parliament in 1991. The Bill, as reported by the Joint Parliamentary Committee, has been passed by both the Houses of Parliament in the

Monsoon Session, 1994, received the President's approval, the published as an Act in the Gazette of India. The Bill seeks to permit pre-natal diagnostic techniques on women only in specified conditions and in approved institutions. Penalties have been prescribed for violation of law for the owners of the institutions, doctors and other staff conducting the test and for the family members of the pregnant women as well as the pregnant women, unless it is proved that she was compelled to undergo the test. Rules have been framed, and the Act, as well as the rules will be brought into force shortly.

For ensuring stronger political commitment, the Constitution (79th Amendment) Bill 1992 has been introduced in the Rajya Sabha. The Bill seeks to incorporate promotion of population control and small family norm in Article 47 dealing with the Directive Principles of the State Policy and including in the list of Fundamental Duties (Article 51-A), a clause on joining the citizens of India to promote and adopt the small family norm. The Bill proposes to add an additional schedule under which a person shall be disqualified prospectively from being elected or holding office as a Member of either House of Parliament or on Legislature of a State if he/she has more than two children. The Bill has been recommended by the Parliamentary Standing Committee on Human Resource Development for passage in Parliament.

7.2.12 TARGETS-VIII PLANS

(a) For the Revised 8th Five Year Plan (1992-97), the following provisional targets have been worked out:-

(Figure in Millions)

Year	Sterilisation	IUD Insertions	CC Users	OP Users	Estimated CPR ($)
1992-93	5.54 (5.28)	6.88 (6.38)	17.79(16.47)	3.36 (4.58)	46.5
1993-94	6.02 (5,18)	7.48 (7.33)	19.34(19.34)	3.65 (5.00)	47.7
1994-95	6.44 (5.33)	8.00 (7.87)	20.67(21.78)	3.90 (5.47)	51.2
1995-96	6.84 (5.06)	8.51 (7.55)	21.98*	4.15 (3.32)	53.4
1996-97	7.25	9.00	23.27*	4.39	55.4
	32.09	39.87			

N.B. - Figures within brackets are the targets actually fixed
($) - based on provisional proposed targets
* - No targets to be fixed for CC users from 1995-96

(b) Family Planning targets/ELAs and achievements during 1992-93, 1993-94 and 1994-95 (upto August, 1994) at the national level are presented below:

F.P. Methods/ Items	1992-93	1993-94*	11994-95*	1995-96*
1. Sterilisation				
Target/ELAs	5.28	5.18	5.33	1.72$
Achievements	4.29	4.50	4.51	1.33
%age Achvts	81.2	86.7	84.6	65.1#
2. IUD Insertions				
Target/ELAs	6.38	7.33	7.87	2.59$
Achievements	4.74	6.01	6.58	2.68
%age Achvts	74.2	82.0	83.7	94.4#
3. CC Users				
Target/ELAs	16.47	19.35	21.78	$$
Achievements	15.00	17.28	17.47	12.85
%age Achvts	91.1	89.3	80.2	–
4. OP Users				
Target/ELAs	4.58	5.00	5.47	5.39$
Achievements	3.00	4.30	4.83	3.76
%age Achvts	65.5	85.9	88.3	65.5#
5. Couple Protection Rate (%)	43.5 (31.3.93)	45.4 (31.3.94)	45.8 (31.3.95)	

$ Proportionate
$$ Targets not fixed under this programme during current year
* Provisional
# Calculated after excluding achievements for target free states

The above table reveals that the achievement levels in case of sterilisation and CC users remained over 80% during the first three years of the plan and in case of IUD and OP users, the percentage achievement was less than 80 during 1992-93 due to short supply of Oral Pill and Copper "T". However in 1993-94 and 1994-95, the achievement level in respect of these two also went up to a level of 32.09 million in 1993-94 as against 27.03 million in 1992-93 and further to 33.39 million in 1994-95. The Couple Protection rate (CPR) has gone up from 43.5% in 1992-93 (as on 31.3.93) to 45.4.% in 1993-94 (as on 31.3.94)

7.2.13 MODALITY/NATURE OF FINANCING OF NATIONAL FAMILY WELFARE PROGRAMME

The Family Welfare Programme has been and continues to be a cent percent Centrally sponsored programme right from its inception in 1952. As the Programme is delivered through health facilities, which are maintained by the States, there exists an indirect contribution to the programme by the States. The entire cost of operating the programme through out the country is met by the Government of India. The policy principles for guiding the programme as well as the staffing pattern for organisations established at different levels for implementing the programmes are laid down by the Centre. While the State Governments are charged with the responsibility of administering the programme the spectrum within which they have to operate the programme is laid down by the centre. The entire expenditure incurred by the States is reimbursable by the Central Government in strict conformity with the approved pattern of schemes.

Expenditure/Outlays during Seventh Five Year Plan (1985-90), Annual Plans 1990-91 and 1991-92 and first four years of Eighth Plan

The year-wise allocation vis-a-vis expenditure as reported by the States is as follows:

Year (1)	Outlays (2)	Expenditure (3)
1985-86	500.00	479.68
1986-87	530.00	568.86
1987-88	585.00	584.17
1988-89	600.00	671.84
1989-90	675.00	800.66
1990-91	675.00	849.89
1991-92	749.00	1022.40
1992-93	900.00$	1090.40
1993-94	1060.00$	1312.62
1994-95	1280.00$	1521.85*
1995-96	1440.00$	1772.17@

* Provisional
$ Excluding Provision of arrears
@ Anticipated

7.2.14 Monitoring of Family Welfare Services.

In order to conduct research on various socio-economic, demographic and communication aspects of population and Family Welfare Programme, 18 Population Research Centres are at present functioning in various parts of the country. These are located in universities and institutions of national repute. The Centre are

provided with 100% grant-in-aid and by the Centre. For quick evaluation of the family planning programme, the Deptt. of Family Welfare has constituted regional evaluation teams which carry out regular verification and validate acceptance of various contraceptives. Planning Commission has suggested, that the Department may explore the feasibility whether these evaluation teams can be used to obtain vital data on failure rates, continuation rates and complication associated with different family planning methods.

The Office of the Registrar General of India works out the annual estimates of crude birth rate, crude death rate and infant mortality rate through their scheme of Sample Registration System. The system provides an independent check/evaluation of the impact of the Family Welfare programme in the country. Besides, the decennial growth rate as estimated by the office of the Registrar General of India on the basis of the census also provides indirect evaluation of impact of the Family Welfare programme.

In 1992-93 the International Institute of Population Sciences has carried out through the Population Research Centres the National Family Health Survey. The survey provides information on some of the vital indicators of the heath and family welfare programmes.

7.3 OBSERVATIONS, SUGGESTIONS & OVERVIEW:

7.3.1 NDC Committee on Population:

Department of Family Welfare has taken up implementation of the recommendation of the NDC Committee on population especially those which could be carried out without major policy and financial commitments.

In the year 1995-96, the Department of Family Welfare has exempted 2 states- Kerala and Tamil Nadu from method specific targets. In addition, one district from each state has also been exempted from methods specific targets. Data on acceptance of different method will be collected and reported in the same manner as the rest of the states. It is expected that in a couple of years information of the impact of removal of method specific targets allocation on acceptance of suitable contraceptive method by eligible couple will become available. This experiment is in line with the NDC Committee's recommendation that decentralised planning and area specific approaches should be adopted for improving performance in terms of reduction in crude birth rate. The progress under this programme has to be carefully monitored to assess the impact and also to see whether any midcourse correction are needed.

Some of the recommendations of the NDC Committee on Population which involve large financial and policy implications are under consideration. The Department should convene the meeting of the Chief Ministers of the States for wider consultations regarding some of the recommendations of the Committee such as sharing of Non plan expenditure for FW, using personal incentives and disincentives to improve acceptance of small family norms.

7.3.2 Funding:

In view of the critical importance of the programme to the country's development, the FW programme remains a totally centrally funded programme. In the last few years, there had also been substantial increase in external assistance both for infrastructure creation and provision of commodities. Utilising all these, there had been planned expansion and improved outreach of the services during 8th plan period. In spite of the fact that in this Centrally Sponsored Scheme infrastructural norms for all the States have been similar, there had been substantial difference in the performance between States. At one end of the spectrum is Kerala with mortality and fertility rates similar to developed countries proving that per capita income is not a critical determinant of these Family Welfare indices. At the other end are the four large northern States (UP, Bihar, MP and Rajasthan) with high IMR and fertility. Recognising the need for special attention and additional inputs to improve the performance in these States (with nearly 40% of India's population) the Department of Family Welfare had taken steps to provide additional funding to improve the quality and coverage of MCH/FP services in 90 poorly performing districts. The decentralised planning, implementation and evaluation at district level is being attempted in these projects. These need be closely monitored.

In this totally centrally funded programme, the norms for the construction costs, personnel costs and expenditure on drugs at the primary health care level were evolved decades ago and have not been revised taking cost escalation into consideration. As the Centre has to reimburse the cost incurred by the States in running the programme according to the 'norms' set by Central Government, there had been considerable payment of 'arrears' year after year. In view of all the problems this practice creates, it is contemplated to undertake a realistic appraisal of the costs involved in running the programme at the current prices so that appropriate allocations are made every year.

7.3.3 Manpower - Infrastructure Creation:

In order to improve the outreach of the programme it is imperative that the primary health care services are made available as

per the norms envisaged in the Eighth Plan. In order to ensure adequate emphasis on primary health care specific earmarked funding has been provided in the Plan allocation. Inspite of this the utilisation of funds under the MNP is suboptimal in some States. This in turn will adversely affect access to services. Yet another crucial factor is the quality of services, which need considerable improvement in many states. Once the National Education Policy in Health Sciences is endorsed in Parliament, comprehensive sectoral review of the manpower policy, training and skill development and deployment of the vast infrastructure in the Family Welfare Programme shall be undertaken without any further delay so that the existing lacunae are detected and remedied.

7.3.4 Immunization:

There has been a massive improvement in immunisation coverage over the last decade, but the target of 100% coverage against six vaccine preventable diseases before the infant becomes one year old is yet to be achieved. Yet another problem is the occasional slip up in the performance of the field workers, thereby affecting the quality of the services and resulting in occasional morbidity and rare mortality. There is a need to improve both timely coverage and quality of immunisation services.

7.3.5 Pre-Natal Care:

Attempts to improve antenatal and intrapartum care have also ;shown considerable improvement. Coverage of pregnant women for the tetanus toxoid and iron folic acid is, however still below 80%. Antenatal or intrapartum care services of acceptable quality are still not available to majority of rural population and the maternal and perinatal mortality rates remain unacceptably high. With the initiation of Safe Motherhood and Child Survival Programme and intensification of MCH activities it would appear that the target of IMR of 60 by 2000 A.D. is an achievable reality. However, it is essential to achieve the target in all the states of the country, both in urban and rural areas. It may be necessary to improve it further because in the next decade, the adverse consequences of HIV epidemic on maternal and child health will inevitably start manifesting themselves. Every effort should be made to optimally utilise the available funds, avoid duplication of efforts and quality of services should be improved so that their utilisation increases.

7.3.6 Vasectomy:

Over the last 20 years there had been a steep and continued fall in number of vasectomies done in the country. Vasectomy is the safer,

easier than tubectomy and the procedure is well suited to primary health care services. There is an urgent need to increase acceptance of vasectomy.

7.3.7 Couple Protection Rate:

The current level of Couple Protection Rate has been estimated at 45.8 as on March, 1995. Achievement of Eighth Plan target i.e. increased level of Couple Protection Rate to 56% by 1997 would call for improvement both in coverage and quality and care.

7.3.8 Improvement in quality of Services:

Huge infrastructure has been created for family welfare services delivery in the rural areas. The access to, as well as quality of services being offered need to be improved. Improving the quality will definitely enhance the acceptability of the various methods of family planning.

7.3.9 Gadgil Mukherjee Formula:

The States should be convinced about the importance of the population control programme. A message to the States must be conveyed in an amplified form that the allocation of funds to the States under modified Gadgil Formula is not only based on the population criteria but it is also linked to the decline in birth rate and IMR. Educating the States about the linkages of Gadgil Formula with the performance in the social sector can activate the States to show improved performance under family welfare.

7.3.10 Improving Coverage of Younger Couples:

Family Planning Programme is dominated by the acceptors of older age group having more than two children. Thus, the impact of the family planning programmes is not as per the inputs being put in and hence not as per the expectation. Measures may have to be taken to increase the acceptance of family planning among, younger couples having less number of children.

7.3.11 Inter Sectoral correlation:

Keeping in view the correlation between the acceptance of the family planning methods and the development in related socio-economic sectors, the programme should not be carried out in isolation and concerted efforts need to be put in not only in health sector but also in other sectors such as education, social welfare, poverty

alleviation etc. The programme also needs to be integrated with Minimum Needs Programme (MNP).

In view of the close linkages between population and developmental activities inputs from other departments such as Rural Development, Education, Social Welfare, Women and Child Development should be sought and utilised in achieving the goals laid in the National Health Policy.

7.3.12 Improving MNP

There is a wide gap in the physical and financial progress of the MNP with regard to the health sector. There is a need to assess the reasons for the under-utilisation of funds in an objective manner and corrective measures initiated immediately. The funds for MNP should not be diverted to other programmes and must be utilised only for creation and strengthening of infrastructure for providing basic health care facilities.

Department of Family Welfare may critically review the utilisation of funds allocated for the Minimum needs Programme and Social Safety Net and the impact of SSN on the availability and utilisation of delivery care services.

7.3.13 Research:

Besides, basic research for contraceptive development and testing, socio-demographic and operations research are required to support the programme in terms of management and devising newer interventions. Newer contraceptive technology development e.g. vaccines for men and women, testing contraceptives which are known to be effective in ISM and tribal culture should receive due attention. Research in social and behavioural aspects of family planning to understand the perceptions, customs and practices of the people should be given due attention. Operational research to improve quality and coverage of eligible couples with appropriate effective contraceptives through existing health infrastructure should receive very high priority.

7.3.14 Involvements of NGO's

There is a need for greater involvement of NGOs in the family welfare programme. The NGOs working in other sectors e.g. education, rural development, and nutrition etc. should also be encouraged to include family welfare as part of their activities. The current efforts to involve NGOs especially women's organisations working in rural areas, urban slums and difficult areas in promoting

small family norm and providing contraceptive care need to be strengthened and encouraged.

The Ministry of Health & Family Welfare has initiated several programmes involving several programmes involving NGOs in efforts to improve Family Welfare Programme. These include:

(i) revamping of Mini Family Welfare Centre where couple protection rates are below 35%
(ii) involvement of ISM & H practitioners
(iii) area specific IEC activities through NGOs
(iv) establishment of State Standing Committees for Voluntary Action (SCOVAs) to fund NGO projects promptly
(v) identification of Govt./NGO organisation for training of NGOs in project formulation, programme management and monitoring.

There efforts should be strengthened and closely monitored.

7.3.15 Village Health Guide Scheme

The Village Health Guide Scheme (VHG) which was started in 1977 for the purpose of providing primary health care and health education in villages. The Dept. of Family Welfare took up the funding of the Scheme since 1981. Currently, more than three lakh Village Health Guides are available in the country.

The Scheme should be revamped taking into account the lessons learnt from the past experiences so that VHGs can play an effective role in improving community participation and effective utilisation of the Health and Family Welfare services.

ENVIRONMENTAL HEALTH AND SANITATION

8.0 ENVIRONMENTAL HEALTH AND SANITATION

8.1 INTRODUCTION

India's population has expanded from 342 millions in 1947 to 846 millions in 1991. It is estimated that India's population will cross the one billion mark by 2000 AD. The Standing Committee on Population has projected that the country's population will be 1003.1 million in 2001, 1082.2 millions by 2006 and 1250 millions by 2015 AD. The level of environmental health and sanitation both in urban and rural areas continues to be poor. The health and environmental consequences of increasing population density, lack of safe drinking water and inadequate sanitation are likely to become further aggravated unless steps are initiated to improve the situation.

The increasing frequency of outbreaks from different parts of the country, recent outbreak of plague and malaria are clear pointer to deteriorating environmental health and sanitation facilities and poor response capability of the Public Health System.

Historically speaking, India has rich traditionally good environmental health and sanitation practices as evidenced from the ruins of Mohanjodaro and Harappa. The Charaka and Sushruta Samhitas and other ancient texts have glorious examples of holistic approach in maintenance of human health through proper environmental and sanitary measures. However, over the period the environmental and sanitary practices have detoriated adversely affecting the quality of life.

During British period health services including sanitation and environmental hygiene were concentrated mostly in the cantonments and district headquarters. This trend continues till it was realised that health, sanitation and environmental hygiene of the working population was closely linked with the productivity of the nation and its capacity to generate revenue. The Bhore Committee[5] for the first time highlighted the importance of safe water supply and sanitational measures on a country-wide basis. There after it also received priority in the national five-year plans.

After Independence, the Ministry of Health, Government of India constituted *the Environmental Hygiene Committee (1948-49)* for an overall assessment of the country-wide problems of Environmental Hygiene[9]. A comprehensive plan to provide water supply and sanitation facilities for 90% of the population within a period of 40 years, was recommended by the committee. In 1953 a National Level Technical Body (Central Public Health Engineering Organisation) was established in the Ministry of Health to undertake national water

supply and sanitation programme, which was initiated as a part of the health schemes in 1954. A Model Public Health Act was prepared by the Ministry of Health. The same was drafted by B C Dasgupta and circulated to all the States for its adoption with modifications in a given local set up, if necessary. The Model Public Health Act was prepared to act as a guide for framing the public health acts by the States, municipal corporations and municipalities and to serve as a reference book for public health practitioners. The Act had wide ranging provisions covering the entire gamut of public health activities viz. water supply, drainage, sanitation facilities, buildings, food sanitation, control of offensive trade, prevention and control of communicable diseases including vector borne diseases, control of insects, sanitary and health regulations during fairs and festivals and special provisions for lodging houses, health resorts, health camps, parks, play grounds and green spaces, slaughter houses, markets, etc.

For the first time, a Research-cum-Action (RCA) Project on Environmental Sanitation was initiated by the Ministry of Health, Government of India during 1956-61, at Singur (West Bengal), Ponamallee (Tamil Nadu) and Najafgarh (Delhi).

In 1973 the subject of water supply and sanitation was transferred from the Ministry of Health to the Ministry of Works and Housing and Local Self Government (presently redesignated as the Ministry of Urban Affairs and Employment).

The Water (Prevention and Control of Pollution) Act of 1974, was another milestone in the prevention and control of water pollution in the country. For implementation of the Act, a Central Pollution Control Board (CPCB) at the national level and State Pollution Control Boards (SPCBs) at the State levels were established in 1974. The act was amended in 1988. The Air (Prevention and Control of Pollution) Act, 1981 was the first step towards prevention and control of air pollution and environment. CPCB and SPCBs were entrusted with the task of implementing the Act under the nodal Ministry of Environment and Forests. The act was amended in 1987.

In 1981 the International Drinking Water Supply and Sanitation Decade (IDWSSD) (1980-91) was launched in India by the Ministry of Works and Housing (presently redesignated as the Ministry of Urban Affairs and Employment).

To improve sanitation further a Centrally Sponsored Rural Sanitation Programme (CRSP) by the Department of Rural Development (presently redesignated as MORA&E) and a Centrally Sponsored Low Cost Sanitation Programme for conversion of dry latrines into low cost sanitary latrines and rehabilitation of scavengers

by the end of the Eighth Five-Year Plan (1992-97) by the Ministry of Urban Development (presently redesignated as MOUA&E) were launched in 1986 and 1991 respectively.

In spite of all these efforts, recurring outbreaks of water borne diseases like cholera, dysentery, viral hepatitis etc., vector borne diseases like malaria, dengue, plague etc. in recent years show the insufficiency of our efforts in promoting environmental health and sanitation. The low level of urban, peri-urban and rural sanitation is a matter of deep concern.

8.2 Constitutional obligations for Environmental Health and Sanitation

Public Health and Sanitation is a State subject as given in the Seventh Schedule, Article 246, list II-6 of the Indian Constitution. At the national level, the Department of Health of the Ministry of Health and Family Welfare, Government of India is the nodal agency for public health. The Ministry of Health was responsible for implementing programmes on intervention measures, viz. water supply and sanitation both in rural and urban areas till 1973 when it was transferred to the Ministry of Urban Development (presently MOUA&E). In 1985 the subject was further divided and the urban water supply and sanitation became the responsibility of the Ministry of Urban Development (presently designated as MOUA&E) and the Department of Rural Development (presently redesignated as MORA&E), took up the responsibility of rural water supply and sanitation.

The 73rd and 74th Constitution Amendment Acts, 1992 provide a framework for involvement of Panchayati Raj institutions and Nagar Palikas in all development programmes including Public Health and Sanitation, in rural and urban areas of the country.

The following is a brief account of various on-going sanitation programmes and their broad impacts.

Sanitation Programme and/or Sanitation-Linked Programmes under different Ministries

S.No.	Nodal Ministry at the National Level	Programme
1.	Ministry of Health and Family Welfare	Rural Health Services through Primary Health Care system
		Health and Hygiene Education component in various National Diseases Control Programmes
2.	Ministry of Rural Areas and Employment (MORA&E)	Rural Water Supply
		State Sector MNP
		Centrally Sponsored Rural Water supply Programme
		Rajiv Gandhi National Drinking Water Mission (RGNDWM)
		Rural Sanitation
		State Sector MNP
		Centrally Sponsored Rural Sanitation Programme
		Dovetailing funds of Jawahar Rojgar Yojana (JRY) for Rural Sanitation
3.	Ministry of Urban Affairs and Employment (MOUA&E)	State Sector Urban Water Supply Programme
		Accelerated Urban Water Supply Programme
		Urban Sanitation
		Urban Basic Services for the Poor
		Centrally Sponsored Low Cost Sanitation Programme
		Environmental Improvement of Urban Slums
		Night Shelters/Sanitation Facility to Footpath - Dwellers in Urban Areas
		MEGA City Scheme
		State Sector Sewerage and Sewage Treatment
		State Sector Urban Solid Waste Management (USWM)
4.	Ministry of Environment and Forests (MOEF)	Waste Management and Linked Programme
		Implementation of the Water (Prevention and Control of Pollution Act, 1974 as amended in 1988) (CPCB is the implementing agency)
		National River Action Plan (NRAP)
		Proper management practices of Municipal Wastes (National Waste Management Council is the implementing agency)
		Environmental Epidemiological Study (Sponsored study on the subject is being carried out by the MOEF)
5.	Ministry of Welfare	National Scheme of Liberation and Rehabilitation of Scavengers and their Dependants

8.3 Water Supply

The National Water Policy (1987) gives priority to drinking water supply. Considerable efforts were made in India towards providing safe drinking water to its people during the International Water Supply and Sanitation Decade (1981-1990).

8.3.1 Rural Water Supply

Provision of drinking water supply in the rural areas is the responsibility of the States. In order to ensure maximum inflow of scientific and technical expertise into the rural water supply programmes and to deal with problems of quality of drinking water and sustainability, the National Drinking Water Mission (NDWM) was launched in 1986 (renamed as the Rajiv Gandhi National Drinking

Water Mission in 1991). Special problems are tackled through five specific Sub-Missions, viz. (i) Control of Brackishness, (ii) Eradication of Guineaworm, (iii) Removal of Excess Iron, (iv) Control of Fluorosis and (v) Scientific Source Finding and Conservation of Water and Recharging of Aquifers. 509.45 million rural population has been provided with drinking water facilities upto November, 1994. The population coverage by water supply (as on 31 March 1990) was 444.65 million (73.87%) in rural areas. By November 1994 population coverage in rural areas increased to 509.465 million (81.03%).

8.3.2 Urban Water Supply

The Ministry of Urban Areas and Employment is the nodal agency for this sector. Urban Water Supply is provided under:

a. State Sector Urban Water Supply Programme

b. Centrally Sponsored Sector Accelerated Urban Water Supply Programme

The requirement of drinking water at present is only 7% to 10% of the water available on the surface and 4% to 5% of the groundwater potential. The population coverage by water supply (as on 31 March 1990) was 182 million (83.40%) in urban areas and as on 31 March 1992 in urban areas it was estimated at 185.67 million (84.90%).

8.4 Sanitation:

Sanitation is one of the major indices of the quality of life. 611 million rural and 115 million urban people (total 726 million) out of 844.32 million (86%) remained unserved at the end of water supply and sanitation decade (1981-90) in so far as basic sanitation facilities are concerned. It indicates a very poor status of the sanitation in the country. According to a sample survey by the National Institute of Urban Affairs, 40% of the population in 50 Class I sampled towns were reported to have been covered by sewerage systems in 1986-1987. However conditions under which slum-dwellers and the urban poor live are far from satisfactory. 61% of the sampled households in 50 class I cities used open spaces for defecation, creating an unhygienic environment and a breeding ground for excreta-borne diseases, besides creating other social problems as revealed in the sample survey carried out by NIUA in 1988.

According to the National Sample Survey (NSS 1989) about 76% households in the country had no access to toilet facilities (9.48% in rural areas, 63.85% in urban areas). In a recent National Family Health Survey (92-93) by International Institute of Population Sciences,

Bombay[16A] involving 88,562 households (26.1% - urban, rest- rural) covering 24 States and National Capital Territory of Delhi it was observed that 68.2% of households had provision of drinking water from pipe/pump and 69.7% of households had no toilet facility.

In 1954, a Sanitation programme was introduced by the Government of India. Since then, sanitation has made a slow progress compared to the Rural Water Supply Programme. A decadal programme was launched during 1981 which envisaged that 25% of the rural population would be covered by March 1991. In 1986, a programme was launched to construct one million sanitary latrines in the houses of the SC/ST population under the Indira Awas Yojana (IAY) Housing Scheme; and to provide 2,50,000 additional latrines to health sub-centres, schools, Panchayat Ghars, Anganwadis, etc. under the National Rural Employment Programme (NREP) and Rural Landless Guarantee Employment Programme (RLGEP). During 1987, the Rural Sanitation Programme was included in the State sector under MNP. The efforts made under the various programmes indicated above were highly inadequate. They did not achieve the desired goal of covering 25% of the rural population by 1991, as envisaged in the decade programme launched in April 1981. By 31 March 1992, it was reported that about 2.73% of the rural population had been provided with sanitary latrines.

Lack of initiative at all levels, inadequate financial resources, poor perception of the importance of sanitation, lack of felt need by the people and lack of people's participation, contributed to poor achievement under the programme.

UNICEF offers substantial support to the government's efforts in providing rural sanitation in eight States of India through rural sanitary marts. Rural Sanitary Marts (RSMs) are outlets for materials required for construction of latrines and other sanitary facilities. It also provides designs of various low cost sanitary facilities. They also serve as service centres. An assistance of Rs.50,000 for each Mart. Managerial subsidy is provided up to Rs.18,000 per annum for a period of two years. One-time assistance up to Rs.12,000 is provided for publicity, etc. Where UNICEF assistance is not available for setting up RSMs, the State governments/UT administrations can set up Rural Sanitary Marts with assistance from the Central Government through reputed voluntary organisations/Panchayati Raj Institutions in difficult areas where proper marketing facilities for sanitary components do not exist. Such voluntary organisations need to be carefully selected by assessing their ability to carry out the task[11-B].

8.4.1 Programme Components

The components of the rural programme are as under:

- Construction of individual, subsidised (80%) sanitary latrines for households below the poverty line, where demand exists.
- Setting up of sanitary marts.
- Construction of village sanitary complexes exclusively for women by providing complete facilities for hand pump, bathing, sanitation and washing on a selective basis where adequate land/space within the premises of the houses does not exist and where village Panchayats are willing to maintain them.
- Conversion of dry latrines into low cost sanitary latrines.
- Total sanitation of villages by constructing drains, soakage pits, solid and liquid waste disposal plants.
- Intensive campaign for generating awareness and health education by creating felt need for personal, household and environmental sanitation facilities.

The standing committee on urban and rural development (1994-95) reviewed the progress of the programme of sanitation and recommended[9]:

(i) Serious thoughts should be provided to the problems of rural sanitation and available ways & means should be explored through result oriented action plan for the interest of rural population.

(ii) A time bound programme should be chalked out not exceeding 5-10 years and the allocation should be substantially raised to Rs.100 crore during 94-95 and to Rs.300 crore for 95-95.

8.4.2 Urban Sewerage and Sewage Treatment

Sewage is defined as untreated excrement from human and other animals while sewerage is the conduit through which sewage flows. Sewerage and sewage treatment facilities are currently provided in urban areas under the following programmes:

a. State Sector Sewerage and Sewage Treatment

b. Sewage Treatment under National River Action Plan (NRAP)

The coverage of urban population with sewerage and low cost sanitation facilities as of 31 December 1991 was 46.63% (101 million). Of the above coverage, about 60% have full-fledged sewerage facilities (61 million) and 40% have low cost pour-flush latrines, septic tanks, pit latrines etc. (40 million).

In India most of the cities and towns do not have any sewerage system. It is common sight to see sewage flowing on roads and collecting in some low-lying areas. In villages, the problem is different because sewage gets absorbed by the soil itself. Surface water resources are polluted to the extent of 75% and 85% of pollution is created by sewage alone opine many experts. 20,000 million litres per day of sewage is generated daily while the total treatment capacity is only 3,000 million litres[11-B].

Of the estimated total of 12145.45 million litres of waste water per day is generated in the Class I cities only 2485.42 mld, 20% gets primary or secondary treatment before disposal. 41% of the total population of the 212 Class I cities lives in 12 metropolitan cities which generate 6462.3 mld of waste water, which is 53% of the total waste water. Treatment capacity in the metropolitan cities is 1903.4 mld, which is 29% of the total waste water generated in these cities. Of the estimated 1297.52 mld waste water is generated from the Class II towns. The waste water treatment capacity existing in the Class II towns is only 26.15 mld which is 2% of the waste water generated in these towns.

Sewage treatment facilities in urban centres are being provided with borrowed funds, own resources and the funds made available to the local bodies by the State governments under the State Plans, under National River Action Plan of the Ministry of Environment and Forests and a portion of 'Cess' funds collected under the Water Prevention and Control of Pollution Act, 1974 as amended in 1988. Sewage treatment facilities are being provided, as a part of the National River Action Plan of the Ministry of Environment and Forests, in cities and towns. This programme needs consolidation and further enhancement with appropriate inputs from the State governments in close collaboration with the Ministry of Urban Affairs and Employment, Ministry of Environment and Forests, Urban Local Bodies/Municipalities and NGOs.

8.4.3 Urban Solid Waste Management

In India the amount of waste generated by individuals is quite low - between 300 and 600 g/person/day. On the basis of available data, it is estimated that the nine major metropolitan centres in India

are presently producing 8.5 million ton (mt.) of solid waste per annum; the figure is expected to reach 12 mt. per annum by the turn of this century[110] . Although the collection percentage seems to be relatively high (92% in Calcutta, 88% in Bangalore, 86% in Bombay, 80% in Madras and Surat, 67% in Ahmedabad and Lucknow, 64% in Delhi and as low as 25% in Patna) in the major cities, an uncontrolled amount piles up, creating a haven for rodents and posing a variety of health hazards. The municipal solid waste problem is compounded by the industrial solid waste which are bio degradable, non bio degradable and hazardous and the same constitutes significant proportion of all the solid waste generated. Of the industrial wastes 10-20% is hazardous wastes from chemical industries. Reliable data base about the disposal practices of hazardous wastes is not available[110].

8.5 Hospital Waste Management

Hospital wastes have always been considered as potentially hazardous in view of the inherent potential for dissemination of infection. In recent years wider variety of potentially hazardous ingredient including antibiotics, cytotoxic drugs, corrosive chemicals and radioactive substances have become a part of the hospital waste[110].

It is estimated that in-patient hospital services in India generate between 1-2 kg of solid waste per person/day. Over 85 per cent of hospital waste is non-hazardous. There is no standardised system of segregating hazardous from non-hazardous waste in majority of the hospitals. Mixing of hazardous with non-hazardous components results in increased quantity of hazardous wastes that require safe disposal[110].

8.6 Drinking Water Quality Surveillance - Legislation and Standards

Water quality surveillance to ensure that drinking water is safe is generally the responsibility of the Department of Health at the State government level. The responsibility for proper operation of the system to produce safe drinking water is that of the water supply agency. The local authority is legally responsible to ensure that drinking water delivered to the consumers is safe. In the case of rural areas, the responsibility is not legislatively defined but the department which is entrusted with the subject of rural water supply is technically responsible for water quality surveillance.

National Water Quality Standards and Codes of Practice have been issued by the Ministry of Urban Affairs and Employment and the

[110] Report of the High Power Committee, Urban Solid Waste Management in India, Planning Commission, Government of India, 1995.

Ministry of Rural Areas and Employment as well as the Bureau of Indian Standards.

8.7 Operation and Maintenance

In urban areas the local authority is responsible for operation and maintenance of water supply system. In rural areas, operation and maintenance of simple systems such as hand pump and gravity flow systems from springs is the responsibility of the beneficiary community. Since many pipe systems are getting out of operation due to poor operation and maintenance, in many States the State PHED/WSDBs have been entrusted with the task of operation and maintenance as well.

In urban areas, monitoring of water quality at the plant/operation level is carried out by the operating agency and samples at different locations of the system are collected and analysed by the Municipal Health Department or the State Public Health Laboratory. The facilities available with the local health authority with regard to monitoring of water quality are so inadequate that surveillance is poor which is compounded by poorer co-ordination between PHED and health departments.

In rural areas, testing of water quality is usually done before commissioning a source of water supply. Routine regular water quality monitoring is seldom carried out. During outbreaks of epidemics or in response to complaints, the health officer and the operating agency take precautionary and preventive measures such as chlorinating, warning the public to boil water, and inspection of sanitary protection measures.

8.8 Industrial Waste Management And Air Pollution Control

8.8.1 Industrial Waste Management

8.8.1.1 Introduction

Environmental pollution is a major problem associated with rapid industrialisation, urbanisation, and rise in the living standards of people. Though the problem is multi-dimensional and calls for integrated efforts by the industry, government policy-makers, environment managers, and research and development agencies at all levels and in all sectors, the most important tool in achieving the goal is the management of industrial wastes.

The National Waste Management Council has been set up by the Government to render special advice to the government on all matters

concerned with disposal and utilisation of wastes which may be in the form of liquid or solid state.

8.8.1.2 Areas of Concern

8.8.1.2.1 Industrial Solid Wastes

Source and Quantum of generation of some major Industrial Solid Wastes

Coal based thermal power plants produce large amount of industrial solid waste. A 1,000 MW station using coal of 3.500 kilo calories per Kg and ash content of 40-45% would need about 500 hectares for disposal of fly ash for about 30 year's operation. In the country 30 million tonnes of fly ash are generated annually. Although the blast furnace slag has potential for conversion into granulated slag which is a used raw material for cement manufacturing it is yet to be practised in a big way. 35 million tonnes steel and blast furnace slag are produce annually in the country. Red mud as solid waste is generated in non-ferrous metal extraction industries like alminium and copper. The red mud at present is disposed of in tailing ponds for settling which more often than not finds its way into the rivers specially during the monsoon. However, red mud has recently been successfully tried and a plant has been set up in the country for making corrugated sheets. Demand for such sheets should be popularised and their use encouraged. **This may replace asbestos which is imported and also banned in developed countries for its hazardous effects.**

2.65 million tonnes of red mud are produced annually; 4.5 million tonnes of phosphogypsum are produced every year.

At present very little attention has been paid to utilisation of phosphogypsum in making cement, gypsum boards, partition panels, ceiling tiles, artificial marble, fibre boards, etc. 3 million tonnes of lime sludge from a variety of industries like paper, sugar, fertilizer etc. are produced annually. Lime sludge, also known as lime mud, thus produced is not recovered for reclamation of calcium oxide for use except in the larger mills. Although few technologies have been developed to desilicate black liquor before burning, **none of the mills in the country are adopting desilication technology.**

8.8.1.2.2 Industrial Liquid Wastes

- Discharge of industrial effluents into rivers and streams are controlled under the provisions of the Water (Prevention and Control of Pollution) Act, 1974. Pollution prevention through recovery of reusable material and by-products could contribute

towards saving of expenditure on raw material. Reuse of waste water within the industry after necessary treatment helps in minimising fresh water requirements and reducing waste water volume for final treatment before discharge. The potential recoverable materials from industrial waste waters are summarised as follows:

Recoverable Matter from Industrial Waste Waters

S.No.	Industry	Recoverable Matter
1.	Pulp and paper	Ligno-sulphate, sodium salts
2.	Fertiliser (phosphatic)	Calcium sulphate, fluoride
3.	Petro-chemicals	Acetone, carboxylic acid
4.	Electroplating	Chromium and nickel salts, silver cyanide
5.	Coke oven	Ammonia, ammonium sulphate, napthalene, phenol, tal, aromatic organics
6.	Dyestuffs	Anthranilic acid, methylaniline, potassium and sodium hydroxide
7.	Textile	Caustic soda
8.	Distillery	Potassium salts, yeast
9.	Rayon	Zinc, sodium sulphate

Source: Science Reporter, CSIR, April-May 1989

8.8.1.2.3 Industrial Gaseous Wastes

- Various waste gases emitted from industrial installations have potential use but are not being utilised. Examples are: natural gas flare in oil rigs, carbon dioxide, sulphur dioxide, etc. Indigenous technology has been developed for recovery of heat from hot gases of cement kilns. **Such technology for other industrial sectors should be developed and its adoption encouraged.**

- Presently the Oil and Natural Gas Commission (ONGC) is flaring gas worth Rs.750 crore per annum. This can be conveniently converted into methanol and used to supplement the requirement of petrol. It has

been established by the Indian Institute of Petroleum (IIP), Dehradun that mixing of **5% of methanol with petrol does not require any modification in the engine of the vehicle.** Besides, the use of methanol in petrol will have proven advantages like **(a) the import of petrol and diesel can be reduced substantially, (b) the highly poisonous CO gas content in automobile exhaust fumes is reduced up to 75% thereby reducing air pollution, and (c) the octane number of petrol is increased.**

- The carbon dioxide emitted from various sources can be used to produce calcium carbonate (chalk). Sulphur dioxide emitted can be converted into either sulphur or gypsum. **Facilities need to be provided within the industry which will produce these as raw materials for other industries and simultaneously reduce air pollution.**

- **Waste heat from hot gaseous emissions can be recovered for optimal energy utilisation.**

8.8.1.2.4 Radioactive Wastes

The majority of such wastes are generated from nuclear power installations. This waste is highly toxic/hazardous in nature and hence careful planning is needed for its disposal and treatment to safeguard public health and environment.

The ministry of Environment and Forests have been making tremendous efforts in tackling industrial waste management through National River Action Plan, National Waste Management Council and Environmental Epidemiological Study.

8.9 Air Pollution Control in India

8.9.1 Air pollution scenario in India

About 50% to 65% of the air pollution in metropolitan cities in India is contributed by the automobile sector. The major sources of air pollution in India are as follows :

Cities	Industrial	Transportation	Domestic
Delhi	29%	65%	06%
Calcutta	46%	35%	19%
Bombay	43%	53%	04%

As compared to several European countries and the USA, the vehicular population in India is still relatively low. But, even with this modest population, the vehicular pollution has become a serious problem in the urban areas. The other reasons of vehicular pollution in urban areas are: types of engines used, age of vehicular congested traffic, poor road conditions and outdated automotive technologies.

The principal pollutants emitted by vehicles are: carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NO_X), and particulate matter (PM). Vehicles using petroleum-based fuels also emit polynuclear hydrocarbons and aldehydes. Varying amounts of SO_2 is also emitted depending upon the sulphur content in the fuel. In addition, the exhaust gases from petrol-driven vehicles contain lead compounds because of the addition of tetra ethyl lead (TEL) in motor spirit. Exhaust pipes are a major source (65%-70%) of air pollution from the automobiles, while about 20% occurs through blowby from the crankcase and the remaining through evaporative emissions from the fuel tank breather, carburettor and spillage losses. Heavy duty diesel-powered vehicles emit more of NO_X and PM while light duty gasoline-powered vehicles and motorcycles are the major sources of CO and HC emissions.

8.9.2 Ambient air quality standards

The CPCB has recently revised the ambient air quality standards. The new standards evolved are based on the effect of air pollutants on human health, vegetation and property. Besides, criteria pollutants, like O_2, NO_X, SPM, CO, and other relevant pollutants in Indian conditions, like Pb and respirable particulate matter, are also included in the standard.

8.9.3 Status of ambient air quality in metro cities

The CPCB through a network of 290 stations is monitoring the ambient air quality in the country. The status of ambient air quality in the major metropolitan cities is as follows:

Ambient Air Quality Status in Metropolitan Cities

Pollutant	Delhi	Bombay	Calcutta	Industrial Area*	Residential Area*
Suspended Particulate Material (SPM)	200-1400	174-504	453-2091	360 mg/cum	70 mg/cum
SO_2	10-70	58-268	47-163	80	15
NO_x	30-200	33-100	34-174	80	15
Pb (Load)	0.8-8.3	1.0-65	0.7-5.6	1 mg/cum	0.5 mg/cum
Poly aromatic hydrocarban (ng/m^3) (Benzopyrene)	36-722	150-744	170-600	10 nanogm/cum	10 nanogm/cum
CO (ppm)	1.5-9	-	-	5 mgm/cum	1mgm/cum

*Air Quality Standard
Note: all units are in-$\mu g/m^3$ except wherever mentioned
Source: Central Pollution Control Board.

8.9.4 Status of Air Pollution Control in major air polluting industries

Because of the increasing menace of environmental pollution, the Government of India has evolved a 15-point Action Plan with particular emphasis on industrial pollution control within a time-schedule.

The present air pollution control status in five major categories of air polluting industries in the country is as follows:

Pollution Control Status in Major Air Polluting Industries

Pollution control status in major air polluting industries is unsatisfactor. Of the 69 thermal power plants only 28 comply with the standards. Of the 97 cement factories 81 comply with the standards. Condition in Iron & Steel plants is worse. Of the seven only 1 complies with standard. Almost similar is the picture in other major industries.

8.9.5 Constraints in air pollution control in India

- Indiscipline in land-use pattern is a serious constraint in India.
- Non installation of air pollution control equipment or their poor functioning
- Obsolete and/or inefficient production processes generating a high percentage of waste co-exist with modern developments in the country.

- Reluctance to change over to cleaner technologies by the industries.

- Lack of appreciation of the social responsibility by the industrialists.

- Poor air quality monitoring programme.

- Fuel efficiency of combustion processes is very poor. Two wheelers (scooters) in the country are operated on two-stroke engines, which cause 30% of the fuel being released unburnt.

- Scientific traffic management is yet to be given due consideration in metropolitan cities. Air pollution due to automobiles could be, to some degree, reduced through efficient traffic management.

- In metropolitan cities, where air pollution levels are already high, liquid fuel should be replaced by gaseous fuel. This aspect is yet to receive adequate attention.

8.10 OBSERVATIONS, SUGGESTIONS & OVERVIEW:

8.10.1 The interactive interdependence of health, environment and sustainable development was accepted as the fulcrum of action under Agenda 21 at the Earth Summit at Brazil in 1992. The essence and essentials of health programmes include control of communicable diseases and reduction of health risks from environmental pollution and hazards. The interdigitation of primary environmental care and primary health care is therefore obvious, as is the substantial synergy that exists between poverty alleviation and environmental protection. While a governmental action can provide the much needed initial trigger, its further amplification depends upon the involvement of people, both individually and collectively as NGOs, who must assume the burden of civic responsibility which is the core requirement for a successful culmination of such endeavours.

8.10.2 A large number of programmes are under operation in the area of environmental health and sanitation and five ministries are involved. Major responsibilities are with the Ministry of Rural Areas and Employment, Ministry of Urban Affairs and Employment and Ministry of Environment and Forests. The impact of the poor delivery of the programmes is on quality of life which is primarily determined by the strength of the public health system and the public health delivery services are primarily the responsibility of the Ministry of Health & Family Welfare. Any lapses anywhere primarily affects man and when man becomes sick the Health Ministry can not escape

shouldering the responsibility. Therefore, there is an urgent need of initiating a co-ordinated programme.

8.10.3 Human health being the focus of attention around which all the public health activities of different ministries are undertaken it will be appropriate that the Director General of Health Services/Ministry of Health & Family Welfare becomes the nodal agency for co-ordinating for improving environmental sanitation activities between the different ministries.

8.10.4 At this point of time in the Directorate General of Health Services hardly any component of environmental health and sanitation exists. The existing institutions with interest and expertise in this area such as AIIH&PH, Calcutta, NICD, Delhi and NEERI, Nagpur should be strengthened.

8.10.5 The Model Public Health Act of 1955 revised and circulated in 1987 to all the states and municipal authorities needs to be vigorously pursued in view of the recent 73rd and 74th constitutional amendments providing more administrative and financial autonomy to the municipalities and Panchayats. The Model Public Health Act could be further reviewed in consultation with the municipalities and Panchayats for their adoption so that uniform legislative support to the public health executive agencies are available.

8.10.6 The resources available with the municipal authorities and Panchayats in dealing with the public health and sanitation is very limited. Fortunately the constitutional amendments have indicated deployment of adequate financial authorities to these municipalties and local bodies so that they can become administratively and functionally effective in implementing various programmes connected with public health and sanitation.

8.10.7 It has been observed that though water supply and sanitation is better in urban areas compared to the rural areas but wide disparities exist even within an urban area and the urban slums still continue to lack basic sanitary facilities. Therefore, while providing the sanitation facilities due emphasis should be given on the needs of the unserved and under sub section of the population and the vulnerable groups.

8.10.8 The committee endorses the recommendations of the Report of the High Power Committee on Urban Solid Waste Management in India[110] with regard to collection and transportation of municipal wastes, hospital wastes, resources, rcovery and recycling etc. The committee also endorses the suggestion of the High Power Committee that it is essential to evolve a National Policy as well as an action plan for management of solid waste.

8.10.9 Poverty and environmental degradation is interlinked. Vast majority of people in the tribal and forest areas are dependant on the natural resources of the country for their basic needs of food, fuel, shelter and fodder for their cattles. Population growth or increased population puts tremendous pressure on the natural resources on the other hand environmental degradation adversely affects the poor who are dependant on the resources for their immediate surroundings. Thus the issues of population growth, sustainable development, environmental health should be viewed together as intimately inter-linked and, therefore, the entire issue of environmental health could provide a much needed impetus to family welfare and health programmes which ae in turn will maintain better environmental health.

EPIDEMIC REMEDIAL MEASURES ROLE OF STATE AND LOCAL HEALTH AUTHORITIES

9.0 EPIDEMIC REMEDIAL MEASURES - ROLE OF STATE AND LOCAL HEALTH AUTHORITIES

9.1 INTRODUCTION:

Health being a State subject, the entire health care delivery services are primarily through the provincial governments. The provincial governments have the full authority and responsibility for the health care services in their states as per the constitutional provisions. Historically the Montegau Chelmsford Reforms came in operation in 1919 when provincial health administration was given autonomy by the Central Government in matters of public health. The Government of India Act 1935[111] gave further autonomy to the states in matters of health care. Under the constitutional provisions states have got absolute authority and responsibility for the health care services which include responding to the epidemic situation. The state is required to maintain an efficient epidemiological service which alone can prevent or minimise epidemics. This will also help early recognition & confirmation of the epidemic situation enabling appropriate control measures thus minimising losses and damage in terms of human morbidity and mortality.

9.2 State Health Directorates:

Almost all the State Health Directorates have a focal point at various levels (Joint Director, Deputy Director and Assistant Director etc.) to respond to any given epidemic situation. It directs and co-ordinates with district health authorities who are directly involved and responsible for containment of epidemic. All the State Health Directorates have a State Bureau of Health Intelligence. The organisational structure of the various State Health Directorates including some of the State Bureaux of Health Intelligence as on June, 1995 is given in the Annexure. In addition to the same the State Health Directorates obtain useful assistance from the medical colleges particularly the Department of Preventive and Social Medicine in undertaking investigation of epidemic as and when necessary. In fact, epidemics are investigated by the state health authority but as the laboratory back up support services are not adequately available in many of the medical colleges, many outbreaks are not properly investigated for identification of the etiological agent and thus often it goes un-noticed. Government of India provides the input only when the outbreaks assume significant level assuming large scale morbidity and mortality. However, it always responds to the request of the state health authorities by sending investigating teams from National Institute of Communicable Diseases, Delhi and sometimes teams are

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111 The Government of India Act 1935.

also sent from National Institute of Virology, Pune, National Institute of Cholera and Enteric Diseases, Calcutta and All India Institute of Hygiene and Public Health, Calcutta. To control epidemic, drugs, insecticides etc., if required in such cases, are also provided by the Government of India but this is purely on *ad hoc* basis.

As the surveillance machinery for identifying an outbreak early is weak the state health authorities face major challenges when epidemic spreads and assumes national importance. Though the expertise for the containment of epidemic is available but sometimes the prevention and control is not up to the mark due to delayed response resulting in large scale mortality and morbidity and this is mostly due to non-availability of drugs and insecticides and lack of diagnostic support services, poor mobility, lack of surveillance etc. The Epidemic Diseases Act 1897 provides appropriate tool to the health implementing agencies to undertake measures/regulations which are necessary to prevent the spread of the disease[112] . This Epidemic Diseases Act is applicable to whole of India. The Act also provides the Central Government to take measures and prescribe regulations which could be enforced to prevent the spread of the disease. This is with particular reference to ship or vessel leaving or arriving at any port, detention of persons who are intending to sail therein or arrive thereby as the case may be. The Act has the provision of punishing anyone disobeying any regulation under this Act under section 188 Indian Penal Code. It also has the provision of protecting the persons under the Act that no suit or other legal proceedings shall lie against any person for anything done or in good faith intended to be done under this Act.

9.3 Municipal Health Authorities:

The Municipal health authorities are responsible for health care delivery services including epidemic control in their respective territories. All municipal authorities have bye-laws which provide some legal instruments in prevention and control of epidemic diseases. However, none of the municipalities barring a few implement the municipal bye-laws in right earnestness. Even if the penal provisions exist under the bye-laws they are not used often and, therefore, non compliance of municipal provisions with regard to public health and sanitation is a usual phenomenon. The Government of India drafted a Model Public Health Act in 1955 and circulated to the states to enable the local authorities and municipal bodies to appropriately modify their municipal bye-laws so that municipal bye-laws in India become uniform and provisions are updated. However, none of the states acted on the same. The same was revised and re-circulated in 1987.

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112 The Epidemic Diseases Act 1897.

However, nothing much has occurred. The recent 74th amendment of constitution 1992 gave more authorities to the municipalities with regard to public health, sanitation and water supply and has provided important tool to the municipalities in responding to epidemic situations. Unfortunately, the available health infrastructure in the urban areas does not have adequate components for effective surveillance and response capability. For the same, more resources will have to be made available to the municipalities to establish an appropriate surveillance and response capability mechanism within the overall framework of national disease surveillance system. That will strengthen the public health system significantly.

9.4 District Health authorities:

District is the most important focal point of all health care activities. All the districts have got a focal point to respond to an epidemic situation. The district maintains a very important liaison with the community health centres, primary health centres and sub centres and on a slightest suspicion of an outbreak normally the district health authorities are capable to respond to the situation for providing assistance to the community health centre/primary health centre in epidemic investigations. However, as the laboratory support services to the district health organisation is weak many of the outbreaks are not appropriately investigated and control measures are taken mostly on the clinical and epidemiological perception of the nature of illness. The surveillance mechanism is mostly around monthly reporting and, therefore, many of the outbreaks are not detected early leading to higher morbidity and mortality. Most of the district health organisations do not have the facilities of computers and, therefore, the analysis of the data are inadequate resulting in loss of useful epidemiological information. Many of the district health officers do not have FAX or direct/STD telephone lines and, therefore, resulting in delay of appropriate intervention measures.

9.5 Primary Health Centre Infrastructure:

Primary health care infrastructure is the vital point in initiating control measures. Surveillance mechanism as it exists today is inadequate to the extent that early detection of outbreak is almost impossible and, therefore, the medical officer or the para medical staff in charge of initiating control measures often responds to the situation very late and it will not be surprising that even the information is available in the press the medical officer of the PHC does know about the event.

9.6 Panchayati Raj System:

Panchayati Raj is a system of rural local self government in India linking the village to the district having three tier structure at the village level, intermediate level and district level. Village level Panchayat is the Gram Sabha which means a body consisting of persons registered in the electoral roll relating to a village within the area of Panchayat at the village level. A Panchayat at the village level will be elected in such a manner as the legislature of a State may by law provide. It may exercise powers and perform such functions at the village level as the legislature of a state may by law provide. The Panchayat at the intermediate level or district level shall be elected by and from amongst the members thereof. The 73rd constitutional amendment has provided immense powers to the Panchayats for taking care of rural housing, drinking water, health and sanitation including hospitals, primary health centres and dispensaries and family welfare. Until and unless these powers are matched with deployment of financial authorities as well the Panchayati Raj System will not be able function adequately. Taking in view this important development the entire health care delivery services including disease surveillance mechanism should be channelised through the Panchayati Raj System which can provide also very supportive important tools of community participation and community awareness which are so vital in appropriate utilisation of the health care facilities that have been established and also in successful delivery of the different health programmes.

9.7 OBSERVATIONS, SUGGESTIONS & OVERVIEW:

9.7.1 The local health authorities both in the rural and the urban areas have constitutional power and obligation to undertake all activities related to public health and sanitation activities. They have the power to clamp appropriate legal provisions which may be necessary in effective functioning of public health and sanitation activities. Unfortunately, adequate resources and expertise are not available at the level of local authorities to build up a strong public health system which can effectively respond to a public health emergency.

9.7.2 Most of the municipalities have very limited capability of generating resources to shoulder public health and sanitation responsibilities and that is quite evident from the state of available basic sanitary facilities in both urban and rural areas described in the earlier chapters. Fortunately the recent 73rd and 74th constitutional amendments have given more responsibilities and authorities to local areas but until and unless these additional responsibilities are matched with provision of additional funds and delegation of financial powers the local authorities will not be able to function as expected of them.

There is an urgent need that additional funds and financial authorities are immediately provided to the local areas (Municipalities & Panchayats) to strengthen their capabilities in building up a strong public health system.

9.7.3 As on today local authority bye-laws are widely different from one another and many of the bye-laws are outdated. Penal provisions are hardly ever implemented. Therefore, non-compliance of local area bye-laws is common and thus there is an urgent need that all the local authorities adopt a uniform Model Public Health Law. In this context, it is stated that the Central Government has already circulated a draft Model Public Health Act. All the local authorities should examine the same and adopt it modifying some provisions if necessary, depending upon the local situation.

CURRENT STATUS OF HEALTH MANAGEMENT INFORMATION SYSTEM AND ITS ROLE

10.0 CURRENT STATUS OF HEALTH MANAGEMENT INFORMATION SYSTEM & ITS ROLE

10.1 INTRODUCTION

The Central Bureau of Health Intelligence (CBHI) of the Directorate General of Health Services in consultation with the National Informatics Centre (NIC) at the Planning Commission and the NIC unit in the Ministry of Health & F.W., State Health Departments and apex health institutions have developed a computer based Health Management Information System (HMIS) which has tried to rectify the existing deficiencies in the area of health information. This system has not been perceived to compete with or to replace the information system of the various health and family welfare programmes. No attempt is being made in this HMIS for major changes within the health care delivery system. It is intended to serve as the foundation and network into other information system serving health sector as a whole. HMIS which has been designed in 1986-88 was field tested in 1989. The CBHI acts as a nodal agency for the operation of health information management system. The State equivalent for the CBHI is the State Bureau of Health Intelligence.

10.2 Evolution of HMIS in India & its current Status

India is one of the signatories to the Alma Ata Declaration 1978. Under this declaration priority has been laid down on the minimum essential components of the primary health care which includes at least, education concerning prevailing health problems, methods of identifying, preventing and controlling them, promotion of food supply and proper nutrition, adequate supply of safe water, and basic sanitation, maternal and child health including family planning, immunization against major infectious diseases, appropriate treatment of common diseases and injuries, promotion of mental health and provision of essential drugs.

The National Health Policy envisages the goal of **"Health for All by 2000 A.D."** which is to be achieved through the primary health care approach. The network of primary health care establishments like community health centres, primary health centres, sub centres set up all over the country with requisite staff following recommendations of Bhore Committee and with subsequent modification by several other committees has been further expanded following the National Health Policy to ensure the effective implementation of the National Health Programme and for efficient monitoring and evaluation of the achievements in conformity with the goals laid down. It was decided that Health Management Information System (HMIS) should be developed as an information support to HFA strategy.

Initially HMIS was started in the States of Gujarat, Haryana, Rajasthan and Maharashtra on a pilot project basis in one district each of these States. The system was manual and the data which was generated as a result of implementation of the pilot project proved very useful. On the basis of the achievement of HMIS which was known as HMIS Version 1.0, the programme officers of various State Governments and experts from the related fields were consulted and the inputs (reporting formats) for each level of institution responsible for health care delivery, were designed and developed.

During 1988-89 National Informatics Centre set up Satellite based computer communication Network called NICNET in every district of the States all over the country. Due to the availability of the computer facility it was decided that the HMIS should be computerised and it should contain the essential minimum core information parameters which may be useful for providing valuable information on the health care delivery system provided through primary health care approach. The modified computerised formats designed and developed have been brought out in the shape of a Booklet "Health Management Information System" Version 2.0 and were implemented in States/Union Territories at district level. Emphasis was laid on district level as the computer facility was available only in the districts. Below the district the system continues to be operated manually.

8th five year plan document suggested :

(i) To monitor the progress of implementation of MNP at the District, State and National levels a health information and management system should be developed and used.

(ii) Establishment of epidemiological cum surveillance centres at district/regional levels and improvement of health management information system for continuous monitoring of the disease situation and taking appropriate and prompt action.

To implement the system effectively and to enable the States to switch over from the manual system to the computerised system WHO agreed to provide financial assistance in terms of :

- Printing of reporting formats, registers (Sub Centres) for one year.
- Assistance for initial one time training of the State officials and peripheral staff.

The funds were released in two or three instalments depending upon the achievements made by the States concerned. Initially funds were released to nine States by 1992. The implementation has the following stages:

1. Training of the trainers (officers) on HMIS strategy. These trainer officers in turn will be responsible to train the district officers (medical and others) and peripheral staff involved in the implementation of the system.;

2. After the training of the State officials is completed and based on any modifications suggested by them, the reporting formats and registers are got printed;

3. Integrated units which are responsible for the collection of the various reporting formats from the different units are to be set up. These integrated units are responsible for data entry in the computer at the NIC district headquarters and with the help of NIC officials generate various reports for use of the programme officers at district, State and central level. In States where State Bureau of Health Intelligence are there, these are responsible for the above activities and where these bureaus are not there, equivalent State Statistical Division are responsible for the above activities.; and

4. The generated reports are to follow a time schedule. The following time schedule is observed:

   - Receipt of reporting formats from the PHC, CHC, district hospitals, VOs etc. by 4-5 of the following month.

   - Entry of the information in the reporting formats in the District NIC computer to be completed by 6-7 of the following month.

   - Generation of the report at district level from 8-10 of the following month at NIC District Centre.

   - At State level the data is directly captured from the district NIC centres by the State NIC Unit and the generated reports are made available by the SBHI/equivalent Statistical Cell at State HQ to the concerned Programme Officers.

   - At Central level CBHI with the help of NIC Unit at Nirman Bhawan gets the reports generated through the NICNET facility as the data is directly captured from the various States.

- To facilitate a decision for making use of the various reports approximately 191 output report formats were designed and developed in consultation with NIC. In all for various programmes 191 reports could be generated through the computer depending upon the requirements of the programme officers.

The State of Haryana was provided necessary training in December, 1992 but due to some operational problems and changes in priorities in the programme, the system has become operational from April, 1994 only. The reports are received via NICNET and distributed to the programme officers at district, State and Centre level.

Besides, Haryana, eleven more States have been sensitized and training workshops for the trainers have been conducted. These States namely, Tripura, Sikkim, Gujarat, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Rajasthan, Karnataka, Pondicherry, Manipur, Punjab and Maharashtra will start the implementation with effect from April, 1995 except Sikkim. In Sikkim the system has become operational from April, 1994.

Under the HMIS, information will flow on all the health care delivery services provided by the various units like PHC, CHC, district hospitals, private hospitals, nursing homes, VHO's, Urban Revamping Centres, MCH Centres etc. on a regular basis at a shceduled time for effective monitoring and evaluation of the achievements vis-a-vis the targets laid down.

However, it may be noted that although efforts have been made to include all the data sources at district level viz. district hospitals, private hospitals, and nursing homes, VHO's Urban Revamping Centres, MCH Centres etc. but it is not mandatory on the part of private hospitals, nursing homes, private practitioners, VHO's etc. to provide data input to the system and therefore, population coverage is not 100%. Further in urban areas and mega cities the municipal areas and hospitals are not covered by it.

To include the urban municipal areas and hospitals it is necessary to bring them under the coverage of HMIS Ver. 2.0. As a first step major health institutions and medical colleges in the country may be connected through NICNET with the responsibility of collecting urban area data through HMIS Ver. 2.0. This would also provide them the facility to report any peculiar/abnormal morbidity pattern of diseases in their respective areas of operation to NICD or any assigned monitoring agecies in thier zones.

The HMIS is directly connected through the Satellite based computer communication Network NICNET at each district centre of the NIC and has on-line connectivity with them for all the 24 hours.

The output reports generated through the computer not only provides information but they are required to provide a basis for effective surveillance, prevention and remedial action particularly where the achievements are not in conformity with the targets laid down for a particular programme. The feed back mechanism component should work as an effective surveillance for improving the health care delivery all over the country.

At present under the manual system the retrievability of the information is remote or very poor. Under the computerised system data could be retrieved for a period of two years at a stretch without loss of time.

There is a need for the rapid implementation of the HMIS all over the country as at present only 40% of the States/UTs stands covered under the project which is under various phases of implementation. When the entire country is covered under the project, meaningful data for the various health conditions and related aspects will be available for effective policy planning and for improving health care delivery system.

The HMIS integrates the health and family welfare programmes such as, family welfare, maternal and child health, immunization, National Malaria Eradication Programme, National Tuberculosis Control Programme, National Leprosy Eradication Programme, National Programme for Control of Blindness as well as programmes on Iron and Vitamin A deficiency. It also includes communicable diseases of national importance and local diseases which are to be given priority by the individual States.

The system also provides valuable information on the staff position and the inventory of drugs which in turn helps in the resource management at various levels.

10.3 The current status of the HMIS implementation in various States is given in the tabular form below:

Sr.No.	State	Training	Implemented
1.	Haryana	Late 1992	Middle of 1993 S/W modified in 1994 fully implemented and data being transmitted regularly every month from mid of 1994
2.	Tripura	Early 1993	Not yet operational
3.	Sikkim	Mid 1993	Fully operational from 1994
4.	Gujarat	Nov. 1993	Not yet operational
5.	Rajasthan	Mid 1994	S/W modified in March 1995 and handed over for implementation
6.	Karnataka	Late 1994	Not yet operational
7.	Punjab	April 1995	-do-
8.	Manipur	Late 1994	-do-
9.	Pondicherry	1994	Modified S/W handed over in March 1995
10.	A & N Islands	1994	Modified S/W sent by post in April, 1995
11.	Dadar & Nagar Haveli	1994	Not yet operational

10.4 **Observations:**

The format for collection of data through the computerised HMIS and through the manual reporting are enclosed as Annexures 12 & 13 for ready perusal. The data have been reviewed for the State of Haryana for the period from April-December, 1994 in respect of diseases like Acute Diarrhoeal Disorders, ARI, pneumonia and viral hepatitis. It has been found that the information obtained through the manual reporting and information received from the computerised HMIS vary because some of the manually available data have not been fed in the computers and hence the computerised data are deficient.

Default with regard to the receipt of the computerised data in time from the districts went upto the extent of 40%. In addition to this, it also does not provide appropriate information with regard to clustering of cases in any particular geographic area and thus it hardly gives any tool for an effective early response mechanism to be mounted. The data received through the computerised HMIS and manually in respect of the above four diseases from April-December, 1994 are given below. Experts are of the opinion that the data generated through the HMIS with regard to epidemic prone diseases are not adequate for an effective surveillance, prevention and remedial action. These data could best be used for planning purposes.

APRIL TO DECEMBER, 1994

	MANUAL	COMPUTER
A.D.D.	2,59,505	2,17,512
A.R.I.	4,25,467	3,28,785
Viral Hepatitis	1,216	1,146
Pneumonia	4,539	Nil

The HMIS was also reviewed recently in the 4th Conference of the Central Council of Health & Family Welfare held in New Delhi from 11-13 October, 1995 and the Council recommended expansion of HMIS to other states quickly. With the expansion of HMIS to other states and its establishment on firm footing the epidemic intelligence component could be appropriately dovetailed within the HMIS and NICD should take up few districts in some states where HMIS has been satisfactorily established incorporating the epidemic intelligence component in the light of the experiences of NICD epidemic prone disease surveillance project and NATHI Projects of CMC, Vellore on a pilot basis. If that proves successful that will strengthen further the HMIS in its response capability. This could form part of operational research support to the proposed National Disease Surveillance Programme.

RECOMMENDATIONS

11. RECOMMENDATIONS

11.1 Short-term

11.1.1 Policy Initiatives

11.1.1.1 Review of National Health Policy

The National Health Policy was formulated and adopted in 1983. During the years since then major changes have occurred through continuing population growth, rapid urbanisation, industrial revolution, changing health and demographic scenario, appearance of new, emerging and re-emerging health problems etc. Two important constitutional amendments namely 73rd and 74th have been passed giving more responsibility and authority to municipalities and panchayats and thus providing appropriate tools to the community to deal with health, water supply and sanitation etc. more effectively. In view of the same, the National Health Policy needs a careful and critical reappraisal. The committee, therefore, recommends constitution of a Group of Experts to prepare the draft of the new National Health Policy by the end of 1996.

11.1.1.2 Establishment of health impact assessment cell

While the link between economic growth and better health is a strong one, growth in income and a developing economy do not necessarily ensure improved health status. Many developing countries are concerned with the possible health impact of economic restructuring and development policies. The Committee, therefore, recommends that there is a need to enhance the capacity and capability of the Ministry of Health & F.W. to undertake health impact assessment for major development projects, industrial units etc. so that the project/industrial authorities could be appropriately advised & guided to incorporate proper intervention measures/changes as the case may be. All large projects of different ministries should invariably have health component in the proposal itself and this should be examined and approved by the Ministry of Health & Family Welfare. Regular analysis of various public policies and practices of other ministries viz. agriculture, industry, urban development, rural development and environment, which have direct link with the health of the people, must be considered as an essential prerequisite for a meaningful inter-ministerial co-ordination.

11.1.1.3 Surveillance of critically polluted areas

In view of the population explosion and unplanned urbanisation and industrialisation, diseases due to ecological and

environmental imbalances are increasing. Health impact and environmental epidemiology related to air, water, and soil pollution need to be monitored and evaluated particularly in the critically polluted areas in the country. Ministry of Health and Family Welfare should initiate actions in this regard urgently, in co-ordination with the Ministries of Environment, Industry and Urban Development. Measures such as a properly maintained data-base, mapping of the vulnerable areas, immediate intervention where possible and continuing surveillance need to be initiated as a well structured programme of action.

This is particularly important in view of the large inputs provided by the Ministry of the Environment and Forests for 100 critically polluted towns and cities. Such surveillance will enable to understand impact of the interventions made and take appropriate corrective measures.

11.1.1.4 Search for alternative Strategy/ strengthening of health services/system research

India is a vast country. Uniform health care strategy for the entire country is not likely to succeed because of a variety of reasons: geographic, socio cultural, ethnic, economic etc. Therefore, a continuous search for alternative health care strategies needs to be undertaken by the health implementing agencies through appropriate health services research. At present, health system/services research receives very inadequate support and poor response from the health directorates. Therefore, the Committee recommends allocation of adequate funds to the Centre, UTs and State Directorate of Health Services enabling them to undertake or commission Health Services/System Research and Intervention Studies and to ensure that such research results are utilised to improve the health care delivery services.

11.1.1.5 Uniform adoption of Public Health Act by the local health authorities

Model Public Health Act revised and circulated in 1987 should be examined by all State health authorities, municipalities and local health authorities carefully and adopted/enacted to suit local and national needs. This will give a uniform, updated and modern tool to tackle many of the old and new, emerging and re-emerging health problems more efficiently. This is all the more important in view of the recent 73rd and 74th Constitutional Amendments providing enormous political, administrative and managerial authorities to local and municipal bodies so as to enable them to take care of human health and development.

11.1.1.6 Establishing National Notification System/National Health Regulations

The notification system as it exists today varies widely from state to state and within the state from area to area. The Committee recommends the constitution of a Task Force drawing experts from states, NGOs, and public health institutions to examine the existing notification system and prepare draft National Health Regulations for adoption by all states. This should be time bound and completed by 1996.

11.1.1.7 Joint Council of Health, Family Welfare and ISM & Homoeopathy

Indian Systems of Medicine and Homoeopathy should be appropriately involved in strengthening further the public health system of the country. Therefore, the committee recommends that the existing Joint Council of Health & Family Welfare should be further broad based to make a Joint Council of Health, Family Welfare and Indian Systems of Medicine & Homoeopathy.

11.1.1.8 Establishing an Apex Technical Advisory Body

In order to ensure a mechanism of continuing review and appraisal, the committee recommends to establish an broad based Apex Technical Advisory Body and advise the government accordingly.

11.1.1.9 Constitution of Indian Medical & Health Services

The Committee reinforces in the strongest terms the need to constitute Indian Medical & Health Services without any further delay. This has been a long felt need and was recommended as early as 1961 by Mudaliar Committee. Many of the central health programme managers have no formal education in public health and management and have never worked in the states, as a result they do not have appropriate perception of the problems of the states leading to poor professional communication and understanding between central and state government health programme managers. Creation of Indian Medical & Health Services will facilitate bridging this gap and improve technical leadership and management both at centre and state levels.

entire team together in addition to training of the individuals. This multiprofessional education approach will provide cohesive functioning of the team and improve quality and coverage of health services.

11.1.3.3 The Union Ministry of Health & F.W. is primarily responsible for public health services but it does not have requisite number of senior level public health professionals. Many programme managers at the national level are without any public health orientation or public health qualifications. The committee, therefore, recommends that positions requiring public health tasks should be filled by appropriate qualified public health professionals and until these professionals are available, these could be operated by general category health professionals through appropriate training in health services administration, management and epidemiology.

11.1.4 **Opening of Regional Schools of Public Health:**

There is a need to open new schools of public health so that more public health professionals and para-professionals could be trained. The existing public health schools also be appropriately strengthened. The committee recommends that at least four more regional schools of public health are set up in Central, Northern, Western and Southern regions. Duly modernised schools could be in the pattern of All India Institute of Hygiene and Public Health, Calcutta and School of Tropical Medicine, Calcutta.

11.1.5 **Strengthening and upgradation of the Departments of Preventive and Social Medicine in identified medical colleges**

Establishing new schools of public health will require several years in terms of obtaining resources, construction of buildings etc. For a vast country like India even establishing few more schools of public health will not be able to meet the entire needs. Therefore, it is recommended that some of the existing medical colleges who have very significant expertise in teaching of preventive and social medicine/community medicine should be further strengthened in the form of establishing an advanced centre for teaching of public health or upgrading the existing departments so that it can take up additional responsibilities of continuing education in public health subjects for health professionals and also to undertake responsibilites for producing more public health professionals to meet the demands of the country. In this context, it is strongly suggested that a centrally sponsored programme of upgradation of few identified departments of preventive and social medicine in the medical colleges could be taken up during the last financial year of this Plan and during the 9th Plan period at least 25% of existing departments may be similarly upgraded.

11.1.9 State Level:

Creation of several positions of Directors at the State level has led to disintegration of earlier integrated pattern of medical and health administration. Earlier practice needs to be restored. It is also recommended that functioning of the Department of Health being mostly that of technical nature a technical man should be the head of the Department of Health instead of a bureaucrat.

The committee recommends that on the general principles suggested for reorganisation and restructuring of the Central Ministry of Health & Family Welfare and the Directorate General of Health Services, the State/UT health ministries and directorates should also be reorganised and restructured.

11.1.10 District level:

Every district should have a strong epidemiological services input through establishment of an epidemiological unit headed by an officer of the level of district epidemiologist and supporting staff. Establishment of this type of unit will also help initiating disease surveillance programme including early warning signal mechanism with appropriate laboratory support. The committee, therefore, recommends to establish such units if not already existing under the National Disease Surveillance Programme.

11.1.11 Establishment of a supervisory mechanism at the Sub-district level:

In many states district levels officers like district malaria officer, district family welfare officer and district health officer have been given responsibility to supervise all health & family welfare programme in part of the districts in addition to supervising the entire individual programme for the entire district. This has not given much dividend, because the officer does not give adequate attention to activities other than the specific health & family welfare programme through which his salary is drawn. In addition disease control strategies/interventions are becoming complex due to variety of reasons viz. addition of more and more sophisticated technologies, problems related to resistance to drugs, resistance to insecticide, ecological changes, management issues covering logistics, cost effectiveness etc. Therefore, supervision of the various health programmes has been suffering and there is an urgent need to institute appropriate supervisory mechanism at the sub district level.

11.1.12 Community Health Centres:

Community Health Centre is regarded as the first referral unit. The National Education Policy in Health Sciences as approved by the Central Council of Health & Family Welfare in 1993 has recommended placement of one public health specialist at the community health centre (CHC) level and if this is implemented the same will contribute immensely in strengthening the public health system and will offer suitable correction to present hospital based disease cure emphasis in health care delivery to make it disease prevention and health promotion oriented as enshrined in the National Health Policy statement. The availability of additional manpower in form of one public health specialist in all the CHCs may not appear immediately feasible at this stage of available public health specialist manpower. However, once a beginning is made and National Education Policy in Health Sciences is implemented in a time bound manner through an appropriate action programme, this will be possible in foreseeable future and thus disease control activities channelled through CHC will have more updated professionally competent support for better management of disease control programme and transfer of newer technologies for various disease control activities at the grass root level.

At the CHC there are four specialists and one PHC Medical Officer. Until such time as a Public health expert is available at CHC level, it is suggested that each of the specialists take up the responsibility of monitoring the public health programme pertaining to their speciality in the population covered by CHC e.g. obstetrician will supervise collection and reporting of data pertaining to Reproductive Health and Family Planning, Paediatrician for immunization and child survival, physician for communicable and non-communicable disease control programme, surgeon for disability limitation rehabilitation and blindness control programmes. The entire data pertaining to all programmes in the CHC population may be put together and reported by the PHC M.O who must be adequately trained in epidemiology and public health management. Thus with the existing staff improvement in MIS, disease surveillance and response and accurate reporting of data pertaining to PHC can be attempted in the CHC. This would also bring about increased awareness of the clinicians to the ongoing public health programmes and result in better integration of clinical curative and preventive medicine components of the important programmes.

11.1.13 PHC/Sub-Centre level:

The organisational structure of the health services at village level should be entrusted to the Panchayati Raj institutions which should decide the nature structure, and priorities of the organisation of

the health care delivery services at the village level depending upon the local situation, resource availability etc. This would ensure participatary management by the community with empowerment for decentralised area specific microplanning. Within such a framework, further co-ordination must develop at all levels of local self-governance.

11.1.14 Village level

With the 73rd and 74th Constitutional Amendments providing enormous political, administrative and managerial powers to take care of the health and development of the people, it is very important that the Village Health Guide scheme continues to be supported with appropriate strengthening through enhancement of honorarium and drugs so that they become more effective in handling the local health problems. The committee is of the considered opinion that the Village Health Guide in the new envisaged role as Panchayat Swastha Rakshak will provide useful support to the Panchayat system at the village level in enhancing community awareness and participation.

11.1.15 Prevention of Epidemics:

11.1.15.1 It may not be possible to completely prevent outbreak of diseases. However, epidemics can be prevented if an appropriate surveillance mechanism is established. In fact price of freedom from disease is appropriate surveillance. The Committee agrees with the recommendations of the Fourth Conference of the Central Council of Health & Family Welfare (1995) proposing initiation of a National Disease Surveillance Programme for strengthening of health surveillance and support services and recommends that this programme should be initiated as a centrally sponsored scheme within the existing health infrastructure with appropriate laboratory support involving already existing expertise in various national institutes, medical colleges, and district public health laboratories. Additional support needs to be provided to modernise laboratory support system through strengthening of conventional techniques and procedures, induction of rapid diagnostic tests, molecular epidemiology capability so that the public health system is updated and modernised to respond to any eventual public health emergency. Initiation of a national disease surveillance programme will improve notification system, institution of early warning signal mechanism and would enhance prompt response capability.

11.1.15.2 With the establishment of National Disease Surveillance Programme, several national institutes at the national, regional and state level alongwith several medical colleges and important public health laboratories will be appropriately linked so that the response

capability becomes faster and expertise available in these institutes promptly could be harnessed by the executive health authorities at the district level to respond to an epidemic situation. These institutions should be appropriately linked and strengthened to maintain an updated expertise for meeting any future challenges.

11.1.15.3 India has established a large number of health institutions at the national, regional and state level. Many of these institutions are suffering due to non-availability of resources and, therefore, even if the human expertise is available the same is unable to provide requisite response capability because of non-availability of support services and resources. Alternatively, in several institutions even if the modern equipments are available they are not being appropriately utilised because of the non-availability of human expertise because of poor allocation of resources, poor quality of continuing medical education, etc. The Committee, therefore, is of the opinion that during the 9th Plan a centrally sponsored scheme may be initiated to upgrade these institutions and laboratories through appropriate allocation of funds so that these institutions can modernise themselves through capacity building. This could be appropriately linked with recommendation under 11.1.7.

11.1.15.4 National Institute of Communicable Diseases prepares guidelines and procedures for outbreak investigations and epidemic disease surveillance but the same is either not available through out the country or not put to practical use under a regularly monitored programme. At present, such guidelines and procedures are usually provided on request to various health agencies. To be optimally useful, these guidelines need to be regularly updated. The entire mechanism as it exists today is on *ad hoc* basis. The committee, therefore, recommends that National Institute of Communicable Diseases should prepare these guidelines regularly under the supervison of a National Task Force, update the guidelines at predetermined interval and send to all health implementing agencies. The guidelines should include details of the mechanism of detection of outbreak and detection of early warning signal.

11.1.15.5 The system of civil registration of deaths, Model Registration Scheme, Sample Registration Scheme subsequently renamed as Survey of Causes of Death (Rural), certification of causes of death should be continuously improved by enlarging its scope and coverage so that it gives more relevant data in the context of the entire country.

11.1.15.6 The processing of weekly epidemiological statistics being provided by CBHI lacks an appropriate feed back channel to the various peripheral agencies. The same need to be developed in the pattern of MMWR (Morbidity Mortality Weekly Report) published by

CDC and National Institute of Communicable Diseases may take up the responsibility for the same and initiate action in this regard to prepare an MMWR type of Bulletin for rapid feed back to all participating agencies, experts etc. CBHI may continue to act as a nodal agency for diseases which are being reported on a monthly basis. The diseases under International Health Regulations and the diseases under National Health Regulations having epidemic potentiality should be the responsibility of NICD which has the due expertise in appreciating the problem and initiating action accordingly.

11.1.15.7 National Institute of Communicable Diseases, Delhi and Christian Medical College, Vellore have worked on Models of obtaining information involving peripheral health workers and physicians in the private sector respectively and if both the models with necessary modifications if any, can be appropriately dovetailed within the existing HMIS, the same will provide early warning signals for detecting an impending epidemic.

The HMIS was also reviewed recently in the 4th Conference of the Central Council of Health & Family Welfare held in New Delhi from 11-13 October, 1995 and the Council recommended undertaking an urgent expansion of HMIS to other states. It is desirable to develop health information system at the district level in order to improve all activities related to Community Health including those in the Environmental, Community Water Supply and Sanitation sectors which will directly lead to an improvement in the health and environmental status of the district's population. Population based information in respect of socio economic, environmental, cultural, demographic and epidemiological issues is vital for choosing priority areas of action and planning public health interventions and evaluating progress.

With the expansion of HMIS to other states and its establishment on a firm basis the epidemic intelligence component could be appropriately dovetailed within the HMIS and a few districts in some states be taken up where HMIS has been satisfactorily established incorporating the epidemic intelligence component in the light of the experiences of NICD epidemic prone disease surveillance project and NADHI Projects of CMC, Vellore on a pilot basis. If found successful, it will further strengthen the HMIS in its response capability. This could form part of operational research support to the proposed National Disease Surveillance Programme.

11.1.15.8 Epidemic Diseases Act 1897 covers the entire country. This Act is about 100 years old. However, not many times regulatory mechanisms are clamped under this Act because of improper professional perception of the nature and spread of the epidemic. If

appropriate provisions under the Act are clamped in time major epidemics could be averted. Therefore, the committee recommends that the Epidemic Diseases Act provisions should be made available to all the health authorities and the provisions under the Act could be continuously reviewed by a designated group to make it more comprehensive in the light of the latest scientific information available.

11.1.16 Upgradation of Infectious Diseases Hospitals

Every State has got one or more ID Hospitals. Most of these hospitals are inadequately staffed with poor maintenance. Many of them lack the basic diagnostic support services. There is an urgent need that facilities in these hospitals are appropriately reviewed and modernised to meet the requirements of infectious diseases management. These hospitals should also have some provisions particularly in the major metropolitan cities for management of cases suffering from dangerous human pathogens.

11.1.17 Water quality monitoring

Inspite of significant progress in the coverage of Urban and Rural Population with public water supply, reduction in the morbidity of water borne diseases, has not been commensurate with the investment made in the water supply sector. One of the key factors behind this failure is the total lack of water quality monitoring and surveillance in most of the rural areas and majority of cities and towns. A recent study by the UNICEF and the All India Institute of Hygiene & Public Health, Calcutta, has demonstrated the feasibility of a community based and affordable model of water quality monitoring and surveillance. Ministry of Health & Family Welfare should take up the matter with the Ministry of Rural Affairs and Employment and Urban Affairs and Employment to initiate a few pilot studies in different locations in the country to examine the feasibility of the same and develop National Action Plan, in this regard.

For full benefits of supply of safe and adequate water, domestic and personal hygiene should be of high order. Therefore, the committee recommends to launch massive IEC programme on personal, domestic and food hygiene practices including excreta disposal.

11.1.18 Urban Solid Waste

The committee endorses the recommendations of the 1995 Bajaj Committee Report of the High Power Committee on Urban Solid Waste Management in India, constituted by the Planning Commission with regard to collection, transportation and safe disposal of municipal

wastes including industrial and hospital wastes etc. The committee also endorses the suggestion of the Bajaj Committee, that it is essential to evolve a National Policy as well as an action plan for management of solid waste.

11.1.19 Inter-sectoral Co-operation:

Large number of health schemes are implemented through the Ministry of Health & Family Welfare. In addition, there are large number of schemes having tremendous impact on human health and quality of life. These schemes are being implemented through several other ministries. Some of the important ones which have a direct bearing on the Public Health System are Rajiv Gandhi National Drinking Water Mission (RGNDWM), Rural Sanitation, Accelerated Urban Water Supply Programme, Urban Sanitation, Urban Basic Services for the Poor, Urban Solid Waste Management, Sewerage and Sewage Treatment, Prevention of Water and Air Pollution, Nutritional Programmes like Integrated Child Development Services, Special Nutritional Programme, Balwadi Nutritional Programme, Midday Meal Programme etc. All these schemes have been conceptualised to improve the Public Health System. But as different agencies are involved and co-ordination between these agencies is not so easily achieved, the Committee is of the opinion that until and unless a formal mechanism of co-ordination and co-operation is established involving all concerned and guidelines indicating detailed responsibilities in respect of all participating units precisely defined, even inspite of individual schemes appearing to be technically sound, the same will not be able to deliver what is expected in terms of effective improvement in the Public Health System. The Committee fully believe that such mechanism is very vital in the implementation of the health schemes and will strengthen Public Health response capability significantly. The committee, therefore, recommends establishment of such mechanism on a formal basis with Ministry of Health & Family Welfare acting as nodal agency.

11.1.20 Nutrition

Interactive interdependence of nutrition, infection and health have been well recognised. The National Nutrition Policy formulated in 1993 has defined the Nutrition goals and the key areas of action. National Action Plan for Nutrition provides the sectoral and intersectoral interventions to achieve these goals. Appropriate indicators and institutional mechanism for monitoring the implementation and impact of the ongoing intervention programmes at local, district, state and national level need be developed, and internalised so that the efficacy and efficiency of the various strategies

can be assessed on a continuing basis and appropriate midcourse correction can be taken.

India is in a state of demographic, economic and social transformation. In this context it is essential that a mechanism of nutritional surveillance at local, district, state and national levels is built up so that early recognition and rapid remedial interventions of existing and emerging nutritional problems becomes possible.

11.1.21 **Decentralised and uniform funding pattern:**

Salaries for the ANMs in the periphery come from the family welfare budget and, therefore, they are subservient to the command of the Family Welfare Department and do not respond adequately for related work in the Department of Health for which instructions come from Department of Health. Similar is the situation in respect of male health workers who receive their salaries from the health budget and, therefore, they do not adequately respond to the instructions issued from Family Welfare Department until and unless specific incentives are provided and in that case he works for Family Welfare only for incentives at the cost of health related work. Therefore, this fragmentation of tasks and commands grossly affects the functioning of the health workers which in turn affects the efficient functioning of the public health system. Therefore there is an urgent need that both the departments are under unified command and the budgetary provisions are made through unified budgeting system. This will also enable adjustment of funds at the peripheral points depending upon the situation which will improve better utilisation of funds etc. There is also a quantitative distortion in the number of filled posts. As the salary for ANM comes from FW programme which is a 100% centrally sponsored one, the posts of ANMS have been created according to the norms. In contrast the salary for MMPW is from the State budget and often more than 50% of the posts are vacant and not filled up. This anomaly needs to be corrected immediately to ensure appropriate involvement of peripheral level functionaries in disease control programme as well as in FP programmes.

11.1.22 **Non-Governmental Organisations (NGOs):**

Non-governmental organisations (NGOs) contribute immensely in the development of public health system and the practices. However, the service coverage is limited due to financial and other constraints. If the NGOs and the private practitioners are effectively involved this will strengthen the public health system and significantly enhance the response capability of the health care delivery system. Therefore, the committee recommends that the NGOs should be

increasingly involved through an appropriately developed action plan with suitable funding.

11.1.23 Involvement of ISM & Homoeopathy:

India has over 5 lakh practitioners in indigenous systems of medicine and homeopathy. Despite the fact that India has a large number of practitioners in ISM&H, of whom a significant proportion are institutionally qualified and certified, this potential manpower resource is yet to be effectively drawn and optimally utilised for delivery of health care in the country. The committee, therefore, recommends their involvement in the health care delivery system to strengthen the public health services and endorses fully the Bajaj Committee Report on Health Manpower, Planning, Production and Management in 1987 in this regard. The practitioners of Indian System of Medicine can be gainfully employed in the area of National Health Programmes like the National Malaria Eradication Programme, National Leprosy Eradication Programme, Blindness Control Programme, Family Welfare and universal immunisation and nutrition. Within the health care system, these practitioners can strengthen the components of (i) health education, (ii) drug distribution for national control programmes, (iii) motivation for family welfare, and (vi) motivation for immunisation, control of environment etc.

11.2 Long-term

11.2.1 Broad set up of Ministry:

The recommendations of the Bhore Committee that the Ministry of Health should be under the charge of a separate Minister is being followed and is currently in practice. However, the members of the committee are of the opinion that the several activities linked with the human health are presently undertaken by Ministry of Welfare, Ministry of Human Resource Development, Ministry of Urban Development, Ministry of Environment, Ministry of Rural Development etc. The work of sanitation and environmental health was earlier with the Ministry of Health but now it is being undertaken by several ministries viz. Ministry of Environment and Forests, Ministry of Rural Areas and Employment, Ministry of Urban Affairs and Employment and Ministry of Chemicals. It has been further seen that the inter-sectoral co-ordination which is very vital in successful implementation of various programmes is not readily available through a formalised mechanism resulting in poor achievements under various programmes. Therefore, involving all the activities pertaining to human health, creation of a new ministry such as Human Welfare may require serious consideration. Alternatively a National Council of

Human Welfare be constituted under the chairmanship of Prime Minister of India, and other members being Deputy Chairman, Planning Commission, Ministers of concerned Ministries, eminent medical and health professionals and representatives of professional organisations and NGOs etc.

11.3 Funding

Appropriate budgetary provisions may have to be made in a phased manner in order to implement the recommendations of the committee during the 9th Plan and beyond.

ACTION PLAN

ACTION PLAN FOR STRENGTHENING OF PUBLIC HEALTH SYSTEM

Taking into account the existing resources and manpower constraints, certain areas have been identified to strengthen the public health system in the country. The same have been given in the Short-term recommendations of the committee. The committee also proposes some action plans to implement the recommendations.

1. A Task Force should be constituted to review the National Health Policy and draft the revised National Health Policy for the consideration of the government. This could be initiated during the last year of the 8th Five Year Plan.

(MOH&FW)

2. Establishment of capacity and capability at the Directorate General of Health Services to undertake health impact assessment of major developmental projects to guide the respective ministries accordingly. This could be taken up during the IXth Plan.

(MOH&FW)

3. Surveillance activities with regard to human health in and around critically polluted areas should be initiated. This could be a part of overall health surveillance and support services and could be initiated during the IXth Plan.

(MOH&FW/DGHS)

4. India is a vast country. Uniform health care strategy will not be yield satisfactory results for all areas. Search for the alternative strategies needs to be continued on a long term basis to develop situation specific strategies for such identified areas. States/UTs should strengthen health system research through appropriate deployment of resources specially earmarked for the same during the IXth Plan.

(State/UTs)

5. All the states, municipalities and local health authorities should be addressed to modify their existing public health laws in the pattern of the Model Public Health Act revised in 1987 and circulated including any modification the local situation may demand. The same should be followed up meticulously so that during the next few years all over the country uniform public health practice codes are available.

(NICD/DGHS)

6. National Health Regulations need to be formulated and distributed to all states, municipalities and panchayats. A Task Force may be immediately established to draft the National Health Regulations in the pattern of International Health Regulations.

(NICD/MOH&FW)

7. To involve the Indian Systems of Medicine more appropriately within the health care delivery system the existing Central Council of Health & Family Welfare should be further broad and a Central Council of Health, Family Welfare and Indian Systems of Medicine and Homoeopathy may be formed.

(MOH&FW)

8. An Apex Technical Advisory Body should be constituted to advise the Ministry of Health & Family Welfare and the Directorate General of Health Services in all major technical issues periodically and also to review the major health programmes.

(MOH&FW/DGHS)

9. Indian Medical and Health Services should be immediately constituted. This has been a long pending demand of the medical professionals and it has been recommended time and again and there is an urgent need that this is considered immediately by the government for its implementation.

(MOH&FW)

10. Immediate action needs to be taken to set the process of administrative reorganisation of the Department of Health & Family Welfare and Directorate General of Health Services in the light of the recommendations made.

(MOH&FW/DGHS)

11(a) A Health Manpower Division should be established in the DGHS; a National Institute of Health Manpower Development may be established to provide appropriate institutional support mechanism to this important activity. This could be initiated during the IXth Plan.

(MOH&FW/DGHS)

11(b) The Bajaj Committee Report on Health Manpower Planning, Production and Management should be implemented without any further delay.

(MOH&FW)

11(c) Positions requiring public health task should be filled by appropriately trained/qualified public health professionals. In this connection Central Health Service needs to be appropriately restructured.

(MOH&FW)

12. Four Regional Schools of Public Health should be set up in the pattern of All India Institute of Hygiene and Public Health, Calcutta and School of Tropical Medicine, Calcutta to train more public health

professionals to meet the growing demands of the health care delivery services. This could be taken up during the IXth Plan.

(MOH&FW)

13. The existing departments of Preventive & Social Medicine in identified medical colleges should be strengthened and upgraded to take up the additional responsibility of continuing education for health and also to produce more public health professionals. This could also be taken up during the IXth Plan.

(MOH&FW/DGHS)

14. The committee suggest that the state/district national health programme management focal points are posted for some time in the Department of PSM in Medical Colleges so that the programme managers get the benefit of updated academic & technical skills and the students are benefitted from the practical experience of the programme managers at the field level. Similarly the teachers of preventive & social medicine be posted for some time as national health programme management focal point at district/state level.

(MOH&FW/DGHS)

15. A Centre for Disease Control be immediately established in the pattern of CDC, Atlanta and National Institute of Communicable Diseases should be substantially strengthened in this direction.

(NICD/MOH&FW)

16. The urban areas have very good tertiary facilities but primary health care infrastructure is very poor. The same needs to be established particularly to reach the under privileged, slums etc. The existing health outposts/dispensaries should be linked to secondary care centres and these in turn linked to tertiary care centres situated in the defined geographic area.

(MOH&FW/DGHS)

17. Reorganisation of the Directorate of Health Services should be undertaken in the light of the recommendations made. Process could be initiated immediately.

(MOH&FW)

18. A strong epidemiological unit needs to be established at the district level. The States which have not done so far should establish so under the National Disease Surveillance Programme. This also could be taken up during the IXth Plan.

(MOH&FW/DGHS/NICD)

19. Every States/UTs should establish a supervisory mechanism at the sub district level. This could be taken up during the IXth Plan.

(MOH&FW/State/UTs)

20. One public health specialist should be posted at Community Health Centre to make the health care delivery team more effective in delivering the national health programmes and other related services.

(State/UTs)

21. Through the 73rd and 74th Constitutional Amendments, panchayats have given more administrative and managerial authorities. To fulfil their obligations towards public health services, the health care delivery system should be channellised through them. This will necessitate establishment of health care delivery component at the panchayat level. This may require provision of some funds as one time grant to the panchayats.

(Planning Commission/MOH&FW)

22. Village Health Guide Scheme should be strengthened and revamped to make it more functional to meet the demands of the health care delivery services. This will necessitate enhancing their honorarium and also the budgetary allocation for procurement of common drugs.

(MOH&FW/Planning Commission)

23(a). National Disease Surveillance Programme be initiated immediately with establishment of District Epidemiology Cell, establishment of linkage mechanism involving the medical colleges, referral institutions, district public health laboratories etc. Microbiology investigative facilities be also established at the district level.

(NICD/MOH&FW)

23(b). The coverage and scope of the Model Registration Scheme and Sample Registration Scheme should be enlarged to generate more scientifically valid data in the context of the entire country.

(RGI)

24. State ID Hospitals need to be upgraded and modernised to meet the reuirements of the infectious disease management. This could be taken up during the IXth Plan.

(Planning Commission/States/UTs)

25. In consultation with the ministries of Urban Affairs and Employment and Rural Affairs and Employment, the Ministry of Health should initiate water quality monitoring on the pilot basis immediately.

(MOH&FW/DGHS)

26. Ministry of Urban Affairs and Employment should implement the recommendations of the Bajaj Committee on Urban Solid Waste Management.

(MOUA&E)

27. Health being a multi ministerial responsibility a formal mechanism of inter-sectoral co-operation and co-ordination needs to be established involving all the concerned ministries.

(MOH&FW)

28. Nutrition surveillance shall be in-built part of National Health Surveillance and Support Services.

(MOH&FW/DGHS)

29. The female multi-purpose workers are funded through the National Family Welfare Programme and due to paucity of resources, the state health authorities have not been able to fill up the positions of male multi purpose health workers. This should receive high priority through higher allocation of funds.

(MOH&FW/State/UTs)

30. Involvement of NGOs is very important. They have been providing very useful services to the people at large. More of their involvement within the health care delivery system will improve the functioning of the various programmes. Therefore, every effort should be taken to involve the NGOs and to meet that higher allocation of funds are necessary.

(State/UTs)

31. The country has large number of practitioners of Indian System of Medicine and Homoeopathy. They should be appropriately involved within the health care delivery system to make it more effective.

(State/UTs)

STRENGTHENING OF PUBLIC HEALTH SYSTEM THROUGH THE REMAINING PART OF THE EIGHTH PLAN AND NINTH PLAN

Sr. No.	ACTION PLAN	Preparatory phase	1st year	2nd year	3rd year	4th year	5th year
1.	Constitution of task force to review national health policy & draft a revised national health policy	XXXXXXXXXXX	XXXXX				
2.	Establishment of Health impact assessment capability in DGHS		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
3.	Suveillance of critically polluted areas		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
4.	Continuing search for alternative strategy		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
5.	Uniform adaption of public health laws	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
6.	Task Force on National Health regulation	XXXXXXXXXXX					
7.	Establishment of Joint Council of Health, Family Welfare & ISM & Homeopathy	XXXXXXXXXXX					

8.	Establishment Apex Technical Advisory Body		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
9.	Constitution of Indian Medical & Health Services	XXXXXXXXXXX	XXXXX				
10.	Merger of the Department of Health & Family Welfare Administrative restructuring of DGHS and MOH&FW	XXXXXXXXXXX					
11a.	Establishment of Health Manpower planning capability and establishment of National Institute of Health Manpower	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
11b.	Implementation of Bajaj Committee Report on Health Manpower Planning, Production and Management	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
11c.	Creation of adequate number of public health positions in the DGHS & restructuring	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
12.	Opening four schools of public health	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX

13.	Upgradation of existing Departments of Preventive and Social Medicine in identified Medical Colleges	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
14.	Re-organised functioning of the Department of PSM in Medical Colleges	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
15.	Establishment of centre for disease control	XXXXXXXXXX	XXXXX	XXXXX			
16.	Primary health care infrastructure in urban areas	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
17.	Re-organisation of State Health Directors	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
18.	Establishment of District Epidemiology Cell	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
19.	Establishment of supervisory mechanism at the district level	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
20.	Availability of Additional Public Health Speciality of the CHC level	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
21.	Establishing health care delivery component in Panchayat	XXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX

22.	Village Health Guide	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
23a.	Initiation of National disease surveillance programme	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
23b.	Enlarging the coverage & scope of model registration		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
24.	Strengthening of I D Hospital	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
25.	Water Quality monitoring	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
26.	Urban Solid Waste Management	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
27.	Intersectoral co-operation mechanism	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
28.	Nutrition Suveillance	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
29.	Provision of funding of male MPW		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
30.	Involvement of NGO's		XXXXX	XXXXX	XXXXX	XXXXX	XXXXX
31.	Involvement of ISM & Homeopathy	XXXXXXXXXXX	XXXXX	XXXXX	XXXXX	XXXXX	XXXXX

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ANNEXURES

Annex - 1

List of Papers submitted to Committee on Public Health System

1. Field trial on village level surveillance of epidemic prone disease and its evaluation - Dr. K K Datta.

2. Control of Communicable Diseases in India - Dr. Jaiprakash Muliyil.

3. Health information system [North Arcot District Health Information System (NADHI)] - Dr. Jaiprakash Muliyil.

4. Blue Print for a Nation-wide Disease Surveillance Programme - Dr. Jaiprakash Muliyil.

5. Renovation of organisational structure of Health Services - Dr. N.S. Deodhar.

6. Holistic and Community based approach for intensification of primary health care and integration with environmental health services - Prof. K.J. Nath.

7. Community based water Quality Surveillance in Rural Areas - Prof. K.J. Nath.

8. Structural, Functional, Operational and Financial Profile of Indian Health System (Strengths and Weakness) - Dr. Harcharan Singh.

9. Proposal for A Feasibility Study to develop a sustainable model of community based water quality surveillance in three districts of West Bengal, Assam and Bihar with high endemicity of diarrhoeal diseases and assessment of the epidemiological impact - Prof. K.J. Nath.

10. A note on Non Communicable Diseases - Dr. Prema Ramachandran.

11. A note on Primary Health Care infrastructure in India - Dr. Prema Ramachandran.

12. Environmental Health : A national plan of action to support primary health care delivery system - Prof. K.J. Nath.

13. Existing HMIS and its capability to provide upto date intelligence for effective surveillance, prevention and remedial action - Dr. K.K. Datta.

14. Draft protocols of surveillance of epidemic prone diseases through the existing HMIS - Dr. K.K. Datta.

Annex - 1A

LIST OF THE MEMBERS OF THE EXPERT COMMITTEE

1.	Prof. J S Bajaj, Member, Planning Commission.	Chairman
2.	Dr Jai Prakash Muliyil, Deptt. of Community Medicine, Christian Medical College, Vellore.	Member
3.	Dr Harcharan Singh, Ex-Adviser (Health), Planning Commission.	Member
4.	Dr N S Deodhar, Ex-Officer on Special Duty, MOH&FW, 134/1/20, Baner Road, Aundh, Pune.	Member
5.	Dr K J Nath, Director, All India Institute of Hygiene & Public Health, Calcutta.	Member
6.	Dr K K Datta, Director, NICD, Delhi.	Member-Secretary

List of the officials who assisted the committee

1. Dr. Prema Ramachandran,
   Advisor (Health),
   Planning Commission

2. Dr. Dinesh Paul,
   Deputy Advisor (Health),
   Planning Commission

3. Dr. A C Dhariwal,
   Joint Director,
   N.I.C.D., Delhi.

4. Dr. S P Rao,
   Chief Medical Officer,
   N.I.C.D.,Delhi.

ANNEX-2

Some Important Recommendations taken in various meetings of The Central Council of Health

Sl. No.	Year	Title of Meeting	Recommendations
1.	January, 1955	Third meeting of the Central Council of Health, Trivandrum	The Central Council of Health welcomes the introduction of the National Water Supply and Sanitation Programme and notes with great satisfaction the rapid progress that has been made already. The Council express the hope that during the Second Five Year Plan this programme will be expanded very considerably and urges the State governments to strengthen their Public Health Engineering Organisations and take full advantage of the facilities for training public health engineers and overseers provided at the All India Institute of Hygiene and Public Health, Calcutta. The Council further recommends that the State Public Health Engineering Organisations should be placed under the administrative control of the Ministers of Health. The Central Council of Health commends the revised scheme for the training of such auxiliary personnel as it will make it easier for the practitioners of modern medicine to render health services to the people for adoption with such suitable modifications as the local conditions may require. The Council further recommends that the syllabus for such a course should as far as possible be uniform throughout the country. The Council also recommends to the Union Ministry of Health to consider the advisability of establishing an All Indian Institute on the lines of the Royal Sanitary Institute, London.
2.	January, 1959	Seventh Meeting of the Central Council of Health, Shillong	The Council further reiterates its earlier recommendation that the Public Health Engineering Departments in the States should function as integral parts of the State Public Health Departments.

3.	October, 1960	Central Council of Health to study and report on the patterns of statistical units for Health Departments.	The Government of India should establish a National Health Survey Unit in the Directorate General of Health Services as a part of the Central Bureau of Statistics. Also this unit should undertake on co-ordinated basis a national health survey during the course of the Third Plan in collaboration with the State Health Departments. A Bureau of Statistics should be established in the office of the Director General of Health Services under a qualified health statistician of wide experience with the status and scale of Assistant Director General of Health Services. The Bureau of statistics of state health directorate would be on a pattern similiar to that of Bureau of statistics at the Centre with the addition of a sub-unit for vital statistics. Properly staffed statistical units should be established in large municipalities and municipal corporations. The State governments should provide financial assistance to the local bodies for the purpose.
4.	Nov., 1963	Eleventh Meeting of the Central Council of Health, Madras	The plan provision for water supply and sanitation should be treated as a committed expenditure and the states authorised to go ahead with advance planning. Steps should be taken to set up regional water supply and drainage boards in order to deal with all rural and urban water supplies in the area.
5.	April, 1963	Special meeting of the Central Council of Health, New Delhi	The committee has proposed that regional organisations should be created and that the staff provided to them should include two or three experts in communicable diseases to relay intelligence reports both to the centre and within the state concerned. As part of the suggested steps to be taken towards expanding and improving infectious disease hospital facilities, it has been proposed that every municipality with a population of 50,000 should have a modern isolation hospital.

			In respect of such large cities as Bombay, Calcutta and Kanpur provision of several isolation hospitals placed in different city zones is advocated by this committee. Important recommendations have been made on the subject of providing public health laboratories. The view is welcomed that the duty of coordinating the programmes and efforts of several agencies likely to be involved in this public health engineer. Preferably, this officer's post should be a component of each district health organisation.
6.	June, 1966	Thirteenth meeting of the Central Council of Health, Bangalore	The Central Council of Health recommends that necessary efforts to be made to intensify measures in the Fourth Plan with adequate provisions for control programmes for these diseases. As for the control of cholera, all gastro-intestinal cases be taken seriously and investigation of such cases be undertaken without delay with the help of local laboratories. State or Central Epidemiological Units and referral services such as available in Calcutta. Health Education be intensified as a preventive measure alongwith cholera inoculations. Regarding plague all vigilance be kept up specially in respect of areas of small foci such as Kolar, Salem, Chitoor and those in Uttar Pradesh, and concentrated efforts be made to eradicate these foci. With regard to goitre control, production of iodised salt be increased so as to meet full requirement of all endemic areas.

7.	October, 1967	Fourteenth Meeting of the Central Council of Health	Improvement of epidemic reporting in rural areas. It was recommended that reporting of outbreak of epidemic through the Panchayats should be revitalised and that the staff of the PHCs particularly the BHWs should also be made responsible for reporting of epidemic diseases. In the resolution passed at the Eighth meeting of the Central Council of Health, amongst other suggestion, the establishment or strengthening of State Health Statistics Units was recommended so as to streamline the health of Health Intelligence in the Directorate General of Health Services has also initiated action on collection of information on cases/deaths due to certain important communicable disease. The present system of reporting of epidemics through the agency of the Panchayats need to be improved and revitalised. The staff of the PHCs, particularly, the basic health workers should also be made responsible for reporting of outbreak of epidemic diseases in their areas. Self addressed and pre-paid cards of different epidemic diseases be printed and supplied to all workers at the periphery not only those of health department but also to panchayat, revenue departments and teachers of the primary schools. The medical officer of the PHC should co-ordinated the reporting system at the block level and pass on the information to the State Health authorities through the Health Officer of the District.

			With rapid industrialisations, air pollution when left uncontrolled is likely to present a major health hazard in urban community life. Air pollution factors must be evaluated in planning new developments and in improving the environments of existing urban areas. Industrial air pollution problems can usually be minimised by properly locating the industries and by establishing suitable air pollution controls before the problem becomes acute. Air pollution survey and control work are still in their infancy in India. Some air pollution survey work for certain Indian cities has been initiated by the central Public Health Engineering Research Institute and much work is yet to be done. It will be, therefore, necessary to encourage air quality monitoring programmes so as to establish the present levels of concentrations of various pollutants so as to assess also future increase in air pollution with increase in air pollution with increased industrialisation. The major corporations and cities should come forward to establish air quality monitoring programmes, as this will lead to better air pollution control and cleaner air in our cities. The availability of such data will pave the way for the formulation of suitable legislation of control of air pollution in this country.
8.	April, 1974	Central Council of Health and Central Family Planning Council, New Delhi.	The Joint meeting of the Central Council of Health and Central Family Planning Council recommeds that for effective support to programmes for the control of communicable diseases, proper and adequate laboratory services need to be organised in every state. That the Centre should assist in organising training programmes for medical officer and laboratory technicians for a period of three to six months on request.

9.	April, 1975	Central Council of Health and Central Family Planning Council, New Delhi.	Cholera endemic areas should continue to receive high priority under the National Water Supply and Sanitation Programmes for expeditious provision of safe drinking water supplies and to achieve it, there should be effective co-ordination between Public Health Engineering Department, LSG Department and Public Health Departments at State and District levels. The cholera endemic States should further intensify the control efforts in the endemic areas and expeditiously set-up the cholera Combat Teams fully utilizing available Central Assistance of equipment and materials. The State and Central Governments should continue to undertake anticipatory preventive measures before the cholera season including chlorination of water supplies, prophylactic inoculation of selected vulnerable population groups, stockpiling of disinfectant, rehydration fluids, etc.
10.	April, 1976	Central Council of Health and Central Family Planning Council, New Delhi.	The underground drainage schemes approved for the towns/cities be expeditiously completed and more such schemes for towns in filaria endemic states/Districts be taken up on priority basis.
11.	January, 1978	Fourth Joint Conference of Central Council of Health and Central Family Planning Council, New Delhi.	All out efforts should be made to enlist people's co-operation in the implementation of the programme. Unless there is full co-operation from the people the huge investment made by the Govenment will not yield adequate results Panchayats, Youth Organisations, Women's Organisations, School teachers, student and medical practioners should also be involved. For drinking purposes, water should be free from disease producing micro-organisms. Purification of water is a highly effective health measures and any pollution in water can create many diseases, such as typhoid, dysentery, gastroenteritis, jaundice, etc.

There is thus a mounting public health concern over chemical constituents of water. Further, there is an utmost need to develop a technology to maintain safe bacteriological quality and to remove many of the potential dangerous chemicals from drinking water. The council, therefore, resolves that this responsibility can best be discharged under the aegis and guidance of the Ministry of Health and Family Welfare.

The council further resolved that as sewage is subject to rapid decomposition with accompanying foul odours and contains organisms causing disease and adequate sewage system is one of the highest importance of health of the community, the most effective agency to deal with subject of sewage is also Ministry of Health and Family Welfare.

The Council also resolved that the subjects of noise and environmental pollution should also be made the responsiblity of the Ministry of Health and Family Welfare as many health problems and/or diseases directly emanate from these factors and the Ministry of Health and Family Welfare should, therefore, be more concerned about it.

12.	April, 1979	Sixth Joint Conference of Central Council of Health and Central Family Welfare Council, New Delhi.	Recalling Resolution No.9 of the Fifth Joint Conference of the two Central Councils held on October, 1978; expressing concern at the meagre budgetary allocation for the health sector and calling for measures to imporve the situation.

The Government of all State/UTs and of the Centre, earmark adequate funds for this purpose, taking into account all available relevant/local/appropriate technology and the planning Commission also helps in this task.

Maximum co-ordination be achieved between this task and health promotional efforts, preferably by integration of these efforts, under a single department and, at the central level, preferably, under the Ministry of Health and Family Welfare.

13.	October, 1978	Fifth Joint Conference of Central Council of Health and Central Family Welfare Council, New Delhi.	Each State should be encouraged to develop its own Cancer registry.
			The Central Government should take appropraite steps for ensuring easy availability of anti-cancer drugs in the country.
			The Central Government as well as the State Governments should provide all possible assistance in the screening and development of indigenous anti-cancer drug in the country.
			The Central Government should continue with the assistance for establishment of Cobalt detection aspects in all the States.
			An extensive mass media programme should be chalked out in the cancer control scheme for public education and awareness in the preventive and early detection aspects of the disease.
			The Central Government should organise a training programmes for all categories of the health professionals involved in cancer control.
			Every district hospital and hospitals attached to the medical colleges should have a properly equipped cell for early cancer detection.
14.	1981	Central Council of Health and Central Family Welfare Council, New Delhi.	(In paragraph 16, the reference to Municipal and Local authorities should read as follows:)
			Municipal and Local authorities need to be supported with resources so as to make effective contribution to preventive and other public health services. The scope for contribution from the community should also be mentioned.

			Further, it should be clarified that sanitary-cum-epidemiological stations will tackle the environmental health problems and participate in the control of epidemics and eradication of disease. It should be clearly brough out that while in rural areas, there has been progress in promotion of integrated, preventive, promotive and curative services. The services under the urban areas remain curative and should be transformed into integrated, preventive, promotive and curative services. The Joint meeting of the Central Council for Health and Central Family Welfare Council took not of the reference made by the Hon'ble Prime Minister, in her inaugural Address to the large number of practitioners of Indian System of Medicine and Homeopathy, who provide curative service to our people, and to her valuable suggestion that "the knowledge and talent of the villages Vaids, and Hakims must be upgraded". Following up on this suggestion, the Joint Council would like the government of India to design a programme of treatment for the registered practitioners of Indian Systems of Medicine and Homeopathy which would enhance their knowledge of their respective systems, in the promotive, preventive and curative aspects.
15.	August, 1982	Eighth Joint Conference of Central Council of Health and Central Family Welfare Council, New Delhi	The desirability of setting up a Technical Committee on Epidemiological and Health Information Services be considered by the Central Government. This Committee should include representatives from Central, State Health Departments, I.C.M.R., Central Statistical Organisation, Planning Commission, Registrar General of India etc. and prepare an Action Plan for consideration at the next meeting of the Council. Suitable legislative measures may be considered to enforce reporting of common epidemic diseases; statutory reporting of epidemic diseases under the municipal/panchayat or other public health Acts should be made obligatory on all the medical practitioners and institutions.

			Noting that the resolution adopted by the Fourth and Fifth Joint Conference in January and October, 1978, respectively and the Sixth Joint Conference in April, 1979, in regard to provision of potable drinking water, sewerage and drainage system and the commitment made at the National level for ensuring supply of safe drinking water to the population living in problem villages as urgently as possible and that non-availability of safe drinking water leads to spread of many water-borne diseases in the community, specially those in the rural areas. Reiterates that the responsibility for ensuring safe drinking water and sanitation to the population at the National level should rest with the Ministry of Health and Family Welfare and in the states the Public Health Engineering Department concerned with water supply and sanitation should be also under the charge of the Ministry for Health.
16	July, 1983	Ninth Joint Conference of Central Council of Health and Central family Welfare Council, New Delhi	Noting that Communicable diseases account for a sizable portion of national morbidity and mortality and the importance that has been given to their control in the National Programmes, the Council recommend that greater emphasis be given to the teaching of the National diseases control programmes by adequately developing the existing departments of Community Medicines in the medical colleges.
17.	July, 1984	The Tenth Joint Conference of Central Council of Health and Central Family Welfare Council, New Delhi	Disease surveillance should be an integral part of primary health care so that, an episode is detected at an early date for initiating prompt control measures to interrupt further transmission. This will involve creating an epidemiological cell at National, State and District level with facility for data collection, processing, analysis, epidemic forecasting and feed back.

			The National programme for control of diarrhoeal diseases should be implemented vigorously. Emphasis has to be given on the training of medical officers and paramedicals in oral rehyderation technology and education of the community on personal hygiene and use of oral rehyderation solution, with the objective of reducing mortality due to diarrhoeal diseases. Provision of safe drinking water supply adequate sanitation and sewerage disposal arrangements are very important features of the Central Programme. A National plan of action to control Viral Hepatitis should be initiated with the help of the regional Viral Hepatitis Surveillance centres. These centres should be strengthened for undertaking epidemiological investigation of outbreaks in the region. A comprehensive rabies control programme should be taken up, which will include, elimination of stray dogs and immunization of pet licensed dogs.
18.	Sept., 1986	The Twelfth Joint Conference of Central Council of Health and Central Family Welfare Council, New Delhi	Taking into consideration that effective Management Information System is essential for planning, reviewing, monitoring and evaluating the various ongoing. Health programmes. It is also necessary for assessing Medical & Health manpower requirement, the Council resolved. That Government of India should take early decision regarding the Integrated Health Information System, which should be introduced in all the districts as early as possible. The state Governments are requested to extend full support for the implementation of the system. That proper orientation and training should be imparted to the concerned staff at all levels for the effective implementation of Health Information System.

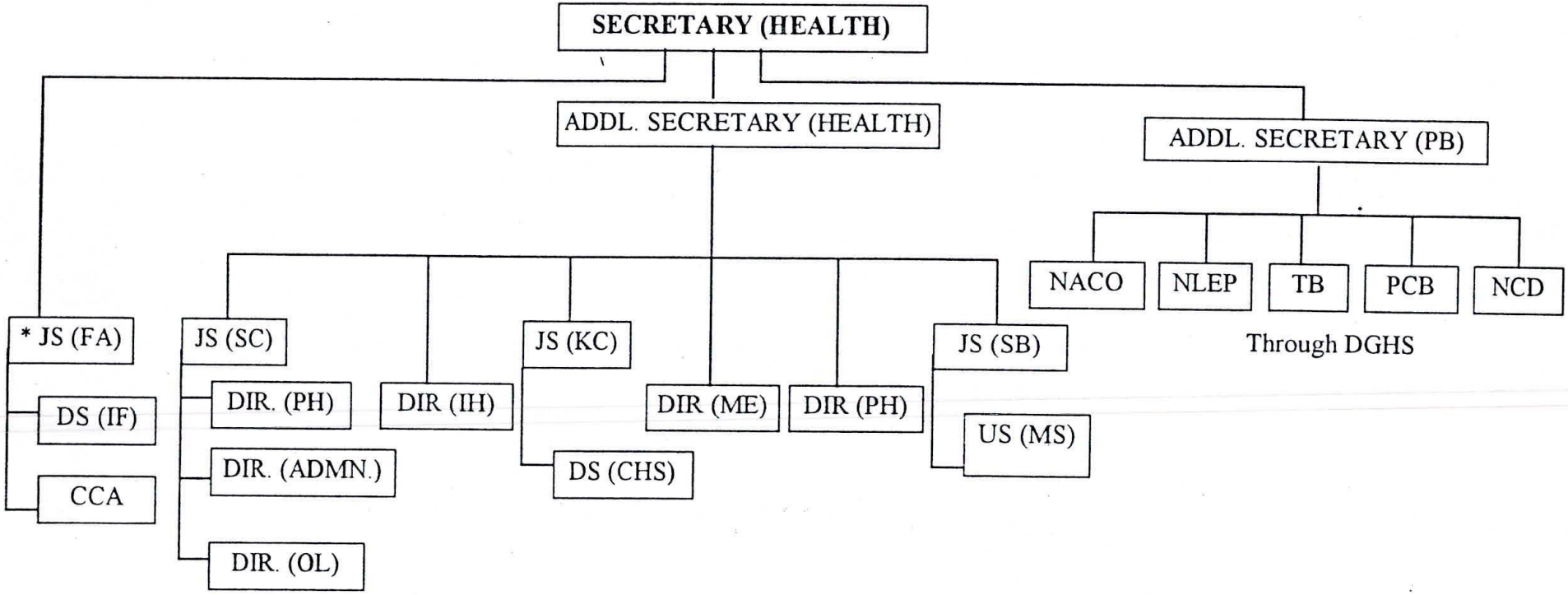
			Control of sudden out-break of epidemic in various parts of the country always causes problems to the State administration and the Government of India, as funds earmarked for other activities are required to be diverted for epidemic control activities. It is therefore, recommended that both the Union Government and the State Government may keep certain funds specially earmarked for epidemic control activities, which could be operated upon whenever any such contingency arises.
19.	February 1988	The First Conference of Central Council of Health and Family Welfare, New Delhi	1. State which have not yet set up the Cancer Control Boards may do this before the end of the current financial year. 2. States which do not have Regional Centres for Cancer may identify nodal institutions where there is scope for developing them into future Regional Centres in the Eighth Plan. 3. All recognised Medical Colleges should have Cobalt units for Cancer. 4. District Headquarters should have Pap Smear facilities by the end of this plan.
20.	February 1989	The Second Conference of Central Council of Health and Family Welfare, New Delhi	The health authorities of States, UTs should strengthen their surveillance and monitoring systems for the early detection of water-borne diseases to initiate early control measures; particularly against cholera and gastro-enteritis. The health functionaries at grass root level should be alerted to report any unusual incidence of diseases at PHC level for initiating immediate epidemiological investigations. Medical College hospitals and other major hospitals should undertake surveillance and inter-act with State/UTs Health departments. In case of infective hepatitis no preventive vaccine is available. However, gama-globulin to high risk groups such as pregnant women should be administered.

ANNEX-3

ORGANISATIONAL CHART

MINISTRY OF HEALTH AND FAMILY WELFARE

DEPARTMENT OF HEALTH

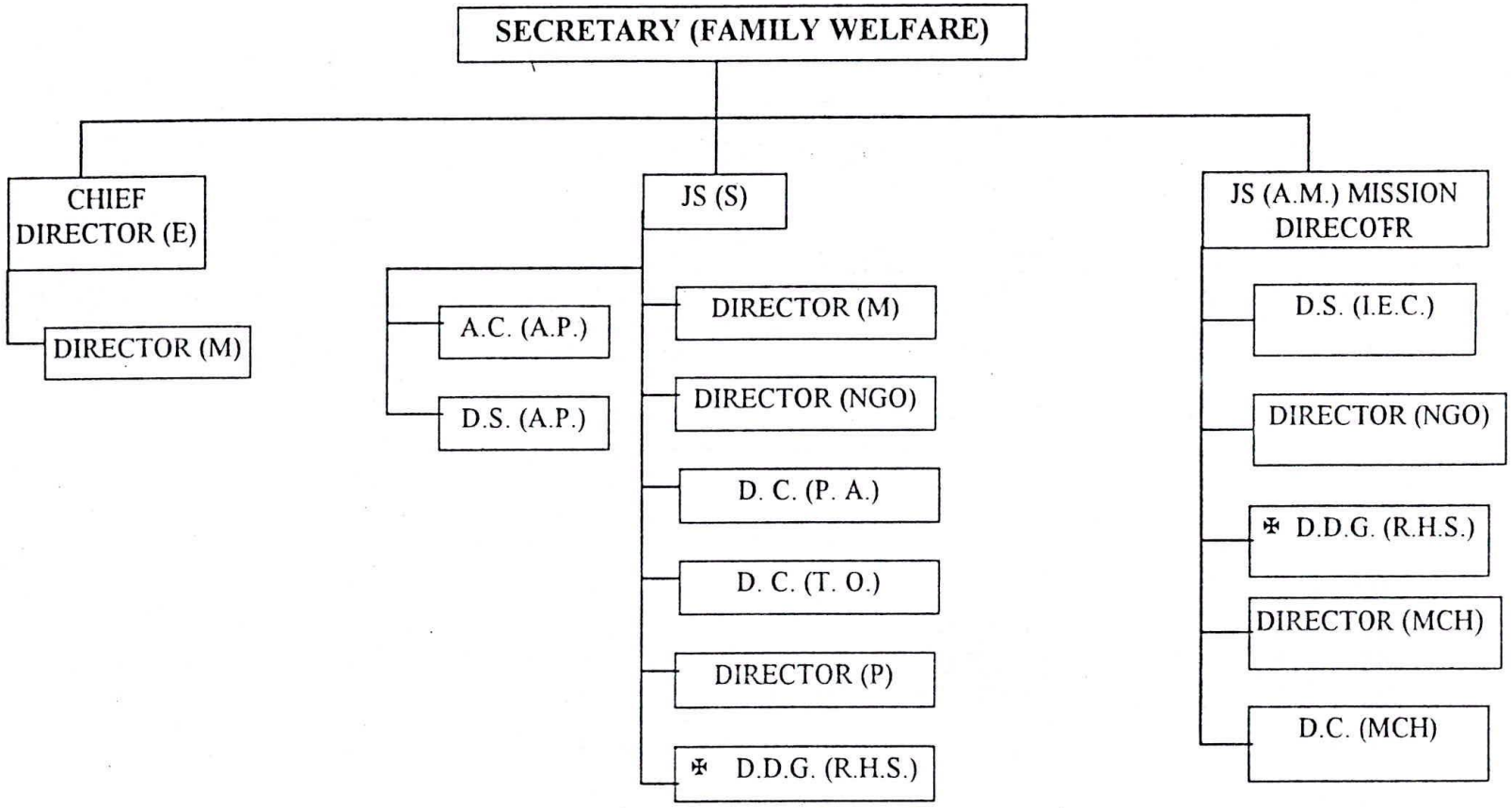


* Report to the Secretary (H) directly

ORGANISATIONAL CHART

MINISTRY OF HEALTH AND FAMILY WELFARE

DEPARTMENT OF FAMILY WELFARE

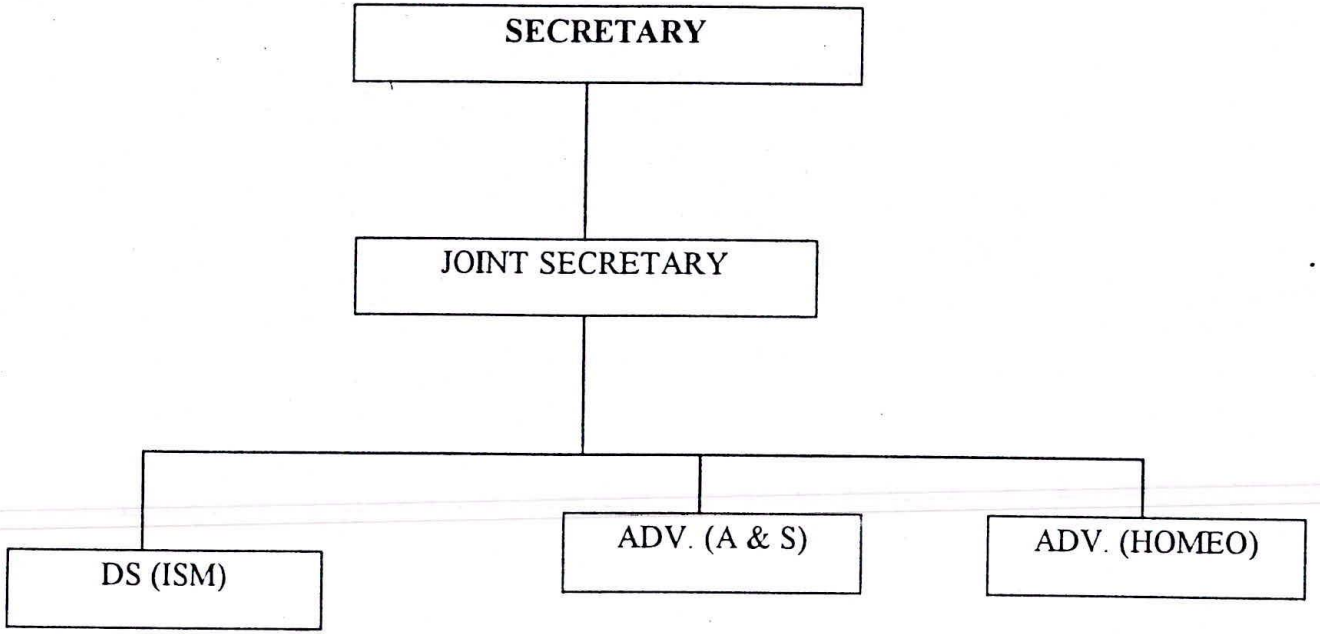


✠ The Officer belongs to Dte.G.H.S.

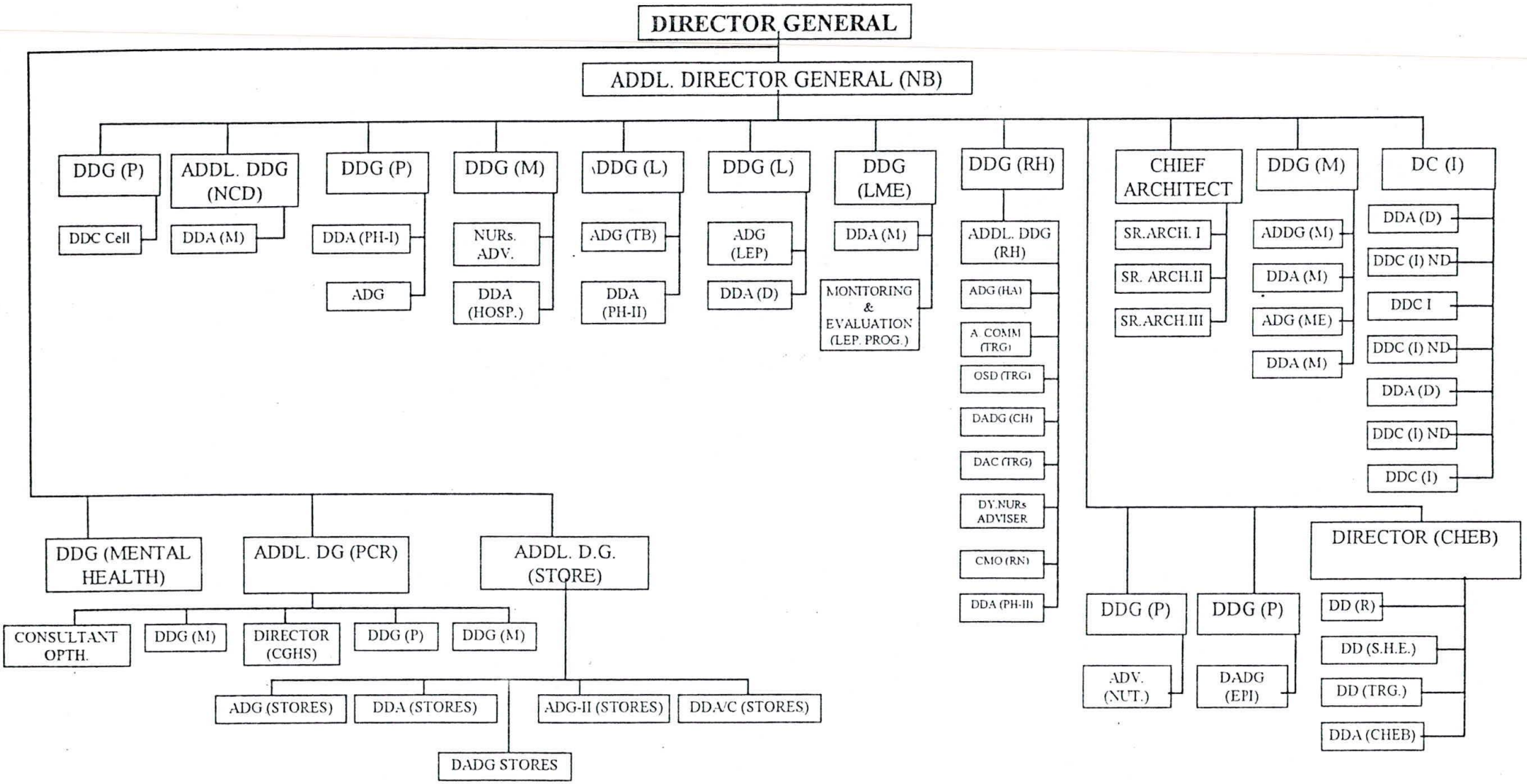
ORGANISATIONAL CHART

MINISTRY OF HEALTH AND FAMILY WELFARE

DEPARTMENT OF INDIAN SYSTEM OF MEDICINE AND HOMEOPATHY



ORGANISATIONAL CHART
DIRECTORATE GENERAL OF HEALTH SERVICES



EXISTING DISPENSARIES SYSTEM WISE (AS ON 31.3.1994)

Name of city	Date of starting	Allo.	Ayur.	Homoe.	Unani	Siddha	Yoga	Total	Poly-clinics	CGHS labs.	Dental Units	No. of families	No. of Beneficiaries
Ahmedabad	Apr-1979	5*	1	1				7		1	1	7144	33196
Allahabad	Mar-1969	7	1	1				9	1	1	1	28842	163411
Bangalore	Feb-1976	10	2	1				13	1	2	2	47966	200292
Bombay	Nov-1963	28	2	4				34	2	17		96473	376001
Calcutta@	Aug-1972	17	1	2	1			21	2	4	3	96581	410569
Delhi	July-1954	86	13	13	4	1	3	120	4	31	1	305666	1388680
Hyderabad	Feb-1976	14**	2	2	2			20	2	2		68299	299791
Jabalpur	Oct-1991	3						3			1	9701	38074
Jaipur	July-1978	5	1	1				7	1	1	1	21193	96653
Kanpur	July-1972	9	1	2				12		3	1	38906	197690
Lucknow	Mar-1979	6	1	1	1			9	1	1	1	20827	107382
Madras	Mar-1975	14	1	1		1		17	2	2	1	55339	231171
Meerut	July-1971	6	1	1				8		1	1	14231	91293
Nagpur	Oct-1973	10**	2	1				13	1		1	31004	142054
Patna@	Nov-1976	5**	1	1				7	1	2	1	20220	100453
Pune	July 1978	7	1	2				10	1	1	1	32581	119722
Bhubneswar	Aug-1988	1#						1					
Total		233	31	34	8	2	3	311	18	69	17	894973	3996432

* Including two Sub-Dispensaries. (Figure as on 31.3.1993)

** Including one Sub-Dispensaries. (Figure as on 31.3.1992)

\# Exclusively for A.G.'s Employee only.

@ Figure as on 31.3.1993

Source : Annual Report 1994-95, Min. of Health & Family Welfare

Annex - 8

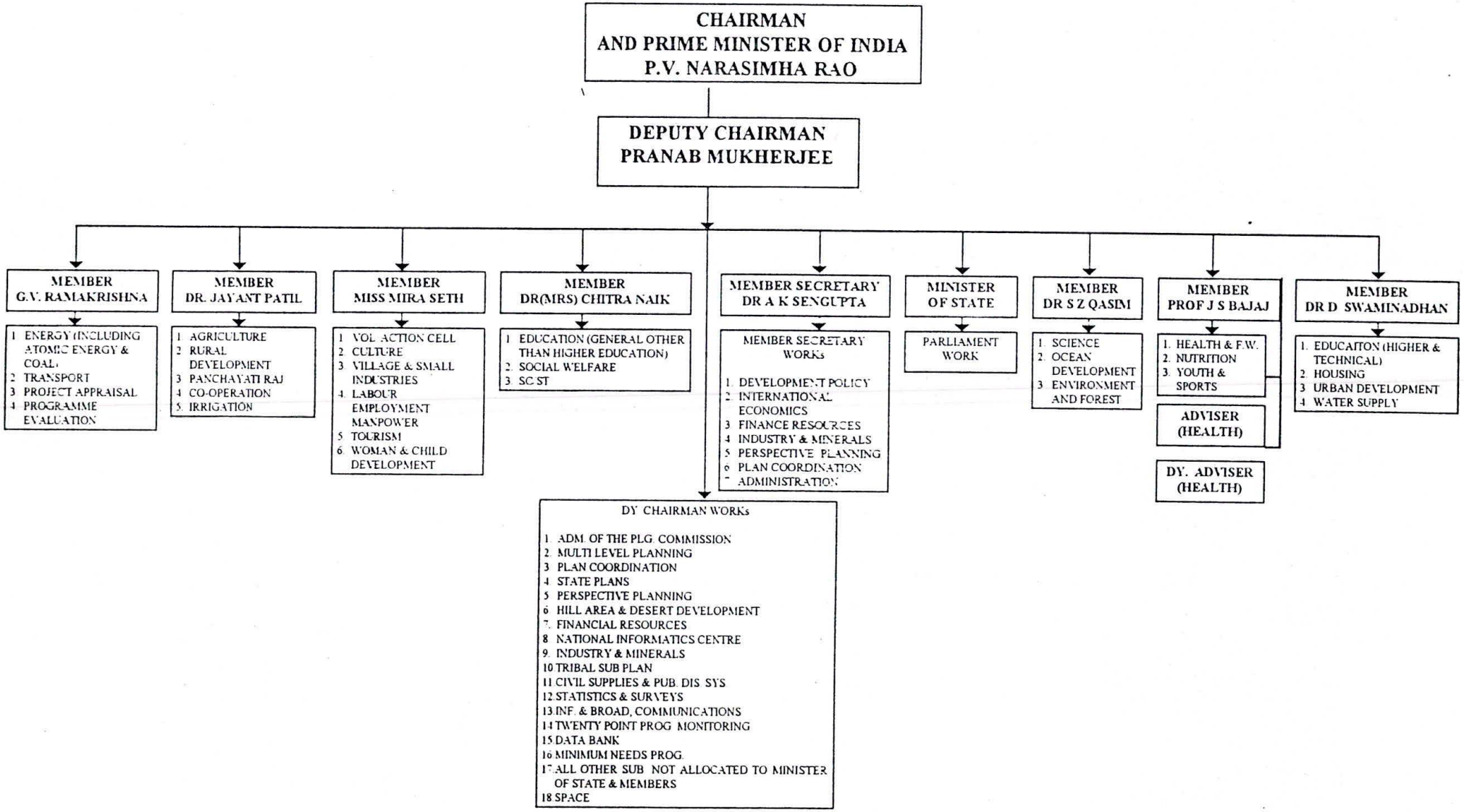
AVERAGE ANNUAL REQUIREMENT OF DIFFERENT VACCINES

A: Capacities	Million Doses					
	DPT	OPV	BCG	TT	Measles	DT
CRI, Kasauli	23.00	--	--	30.00	--	25.00
PH, Coonoor	16.50	--	--	11.00	--	11.00
BCG, Gundi	--	--	35.00	--	--	--
HBPCL, Bombay	5.00	37.50	--	12.00	--	6.00
SVI, Patwadnagar	--	--	--	2.00	--	--
SH, Pune	114.00	--	--	150.00	70.00	40.00
BE, Hyderabad	24.00	--	--	24.00	--	--
Radicura Pharma Bibcol	--	120.00	--	--	--	--
Total Capacity	182.50	157.50	35.00	229.00	70.00	82.00
B: Requirement	132.24	155.30	50.60	119.00	50.00	35.00

Source : Annual Report 1994-95, Min. of Health & Family Welfare

ANNEX 9

ORGANISATION CHART OF THE PLANNING COMMISSION (GOVT. OF INDIA) AS ON 09.01.1995



ANNEX 10-A

ANDHRA PRADESH

DIRECTORATE OF HEALTH ORGANISATIONAL CHART

DIRECTORATE LEVEL :

DIRECTOR OF HEALTH

ADDL. DM&HS (Admn.I) (1)	ADDL. DM&HS (Plg. & Evl) (2)	ADDL. DM&HS (C. D) (3)	ADDL. DM&HS (Malaria) (4)	ADDL. DM&HS (Leprosy) (5)	SHTO (6)
1. Addl. Director of Medica & Health Services (Admn.)		1. Dy. DM&HS (Admn.III) 2. Dy. DM&HS (Stores) 3. A.P.O.			
2. Addl. Director of Medical & Health Services (Planning and Evaluation)		1. Gazetted Assistant (Planning) 2. Executive Engineer 3. Assistant Engineer 4. Draftsman			
3. Addl. Director of Medical & Health Services (Communicable Diseases)		1. Dy.DM&HS (Epidemics) 2. Dy.DM&HS (Vital Statistics) 3. Dy.DM&HS (Health Education) 4. Dy.DM&HS (School Health/Services and Nutrition) 5. Dy.DM&HS (RHS) 6. Dy.DM&HS (I.H.) 7. Dy.DM&HS (STD) 8. Dy.DM&HS (NPCB) 9. Dy.DM&HS (TB & BCG)			
4. Addl. Director of Medical & Health Services (Malaria)		1. Dy.DM&HS (CML) 2. Dy.DM&HS (Entomology) 3. Zonal Officers - 6 Visakhapatnam, Rajahmundry, Guntur, Cuddapah, Warangal and Hyderabad. 4. Dy. Director of Medical and Health Services (Filaria)			
5. Addl. Director of Medical & Health Services (Leptosy)		1. Special Officer 2. Accounts Officer			
6. State Health Transport Authority		1. Dy. S.H.T.O. 2. A.T.Os... (3) 3. S.E.Os... (21)			

ANNEX 10-B

ARUNACHAL PRADESH

ORGANISATIONAL CHART OF HEALTH AND MEDICAL DEPARTMENT
(Arunachal Pradesh)

A. State Level

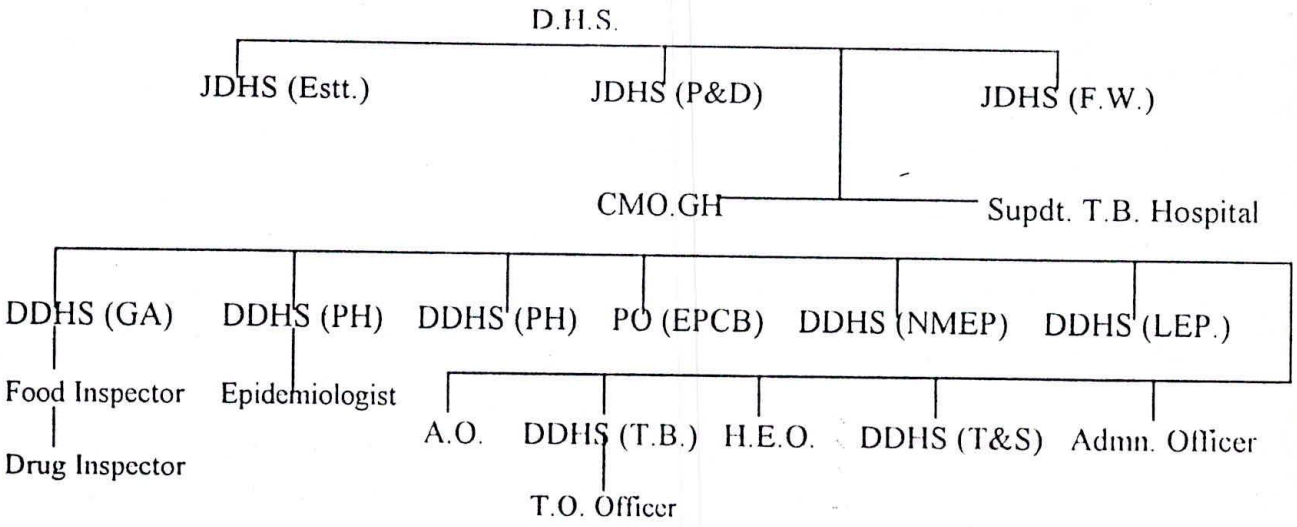
(i) Secretariat

SECRETARY (Health & Family Welfare)

Dy. SECRETARY (Health & Family Welfare)

MINISTRIAL STAFF

(ii) DIRECTORATE



ANNEX 10-C

GOA

ADMINISTRATIVE SET-UP OF DIRECTORATE OF HEALTH SERVICES

HEALTH SECRETARY

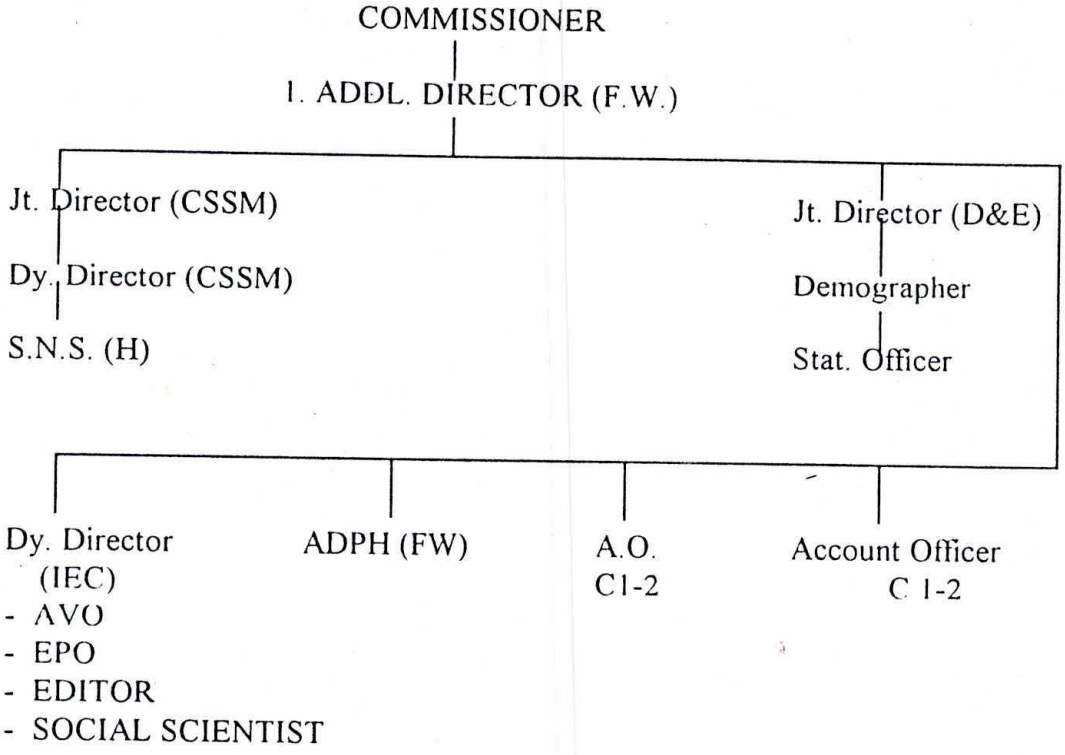
DIRECTOR OF HEALTH SERVICES

Jt. Director (Accounts)	Director (Admn.)	Dy. Director (Public Health)	Dy. Director (Medical)	Dy. Director (Dental)
1. Medical Store Deptt.	1. Administration Section, Dte. General of Health	1. Urban Health Centres	1. Hospicio Hospital, Margao	1. Dental Clinics
2. P&D Section, D.H.S.		2. Primary Health Centre	2. T.B. Hospital, Margao	
3. Accounts Section, D.H.S.		3. Sub-Centres	3. Leprosy Hospital, Macazana	
		4. Family Welfare Programme	4. Asilo Hospital, Sanquelim	
		5. T.B. Control Programme	5. Cottage Hospital, Sanquelim	
		6. Malaria Eradication Programme	6. Cottage Hospital, Chicalim	
		7. Filaria Eradication Programme	7. Paediatric Ward, Sielim	
		8. Leprosy Eradication Programme	8. Maternity Home & Child Welfare Centre, Shiroda	
		9. STD Control Programme	9. Rural Medical Dispensaries	
		10. AIDS Control Programme	10. Public Health Laboratory	
		11. Control of Blindness	11. Institute of Nursing Education	
		12. Japanese Encephalitis	12. Health Intelligence Bureau	
		13. NIDD Control Programme	13. Indian System of Medicine	
		14. School of Health Programme	14. I.C.D.S.	
		15. Nutrition Cell		
		16. Epidemiological Cell		
		17. Health Education Bureau		
		18. Environmental and Pollution Cell		

ANNEX 10-D

GUJARAT

ORGANISATIONAL CHART OF COMMISSIONER DIRECTORATE OF HEATLH SERVICES (GUJARAT)

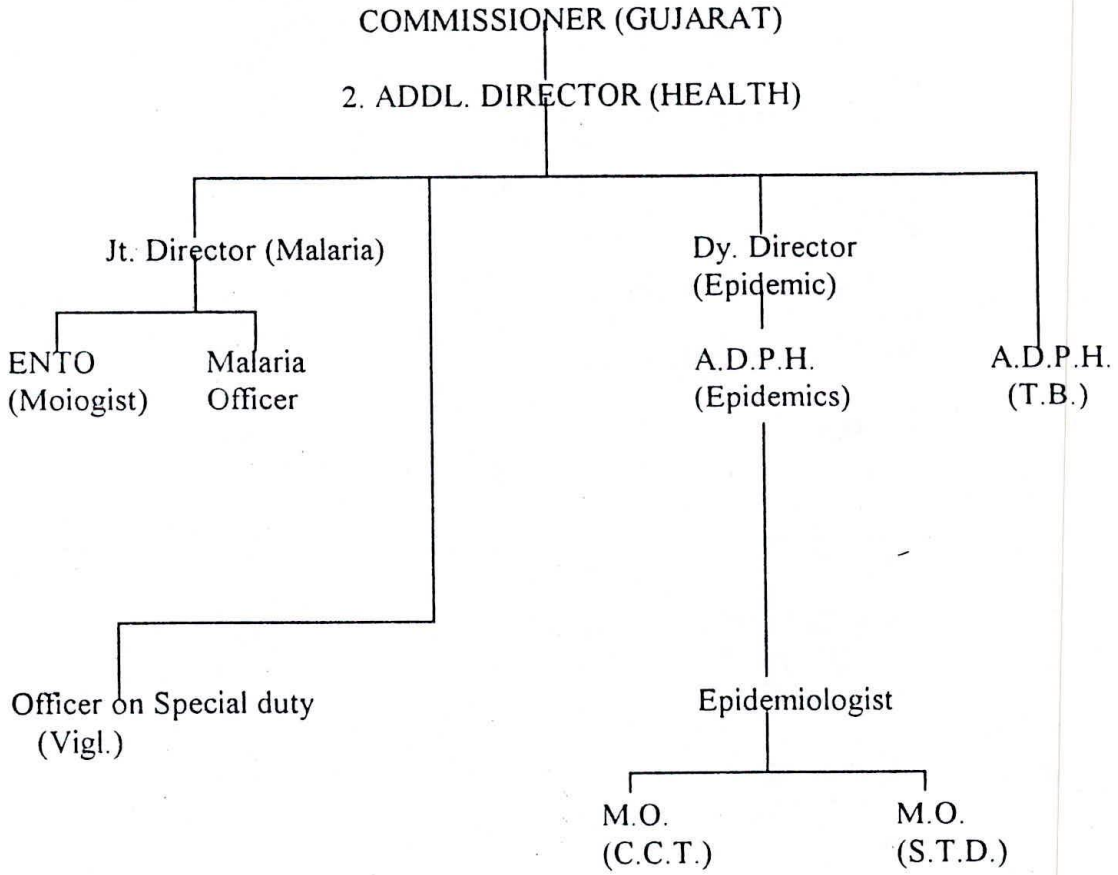


Regioinal Dy. Directors Health & Medical Services
(Six- Regions)

C.D.HO. }
DFWMO } In 19 Districts
D Immo } Zill Parishads

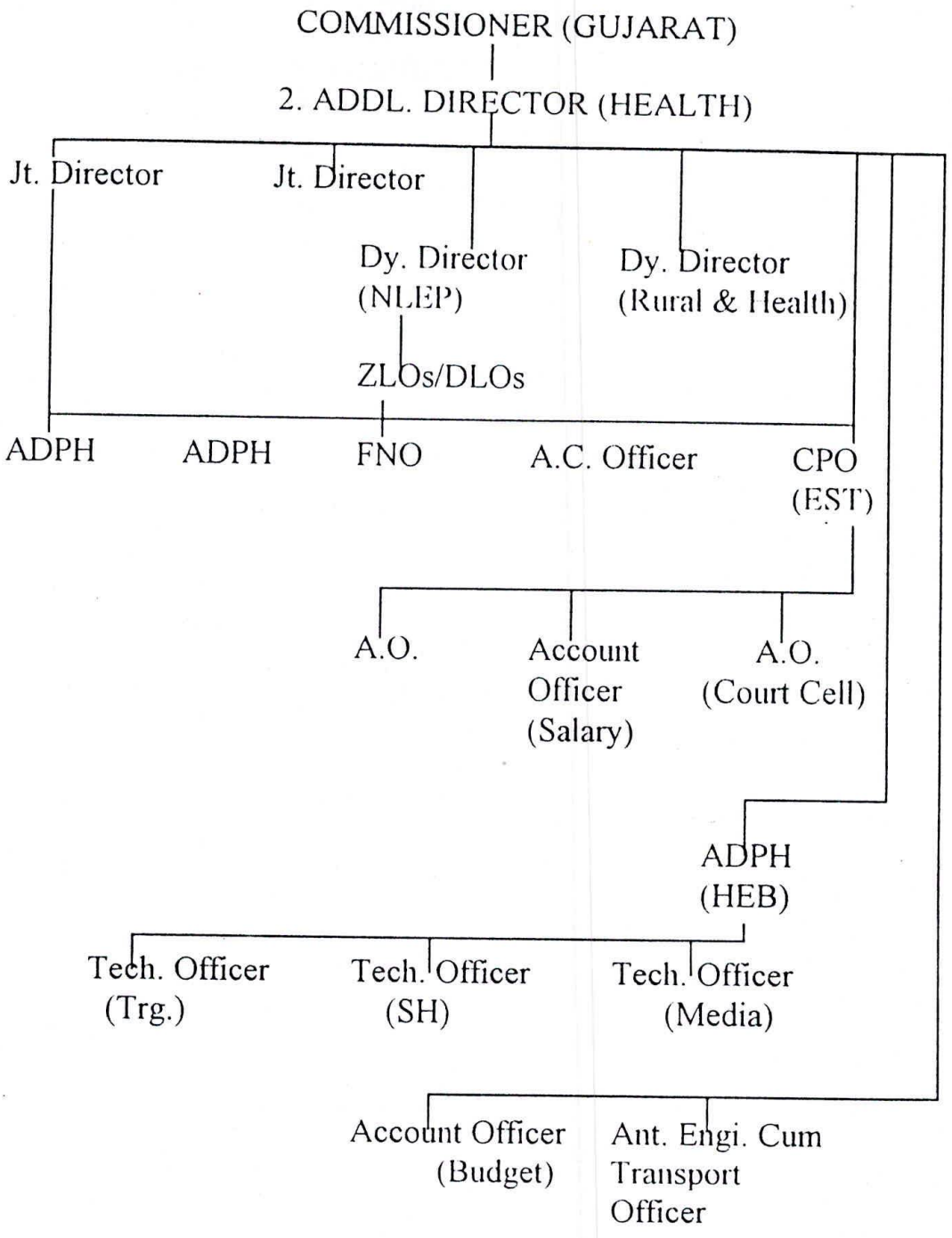
(Contd.....)

GUJARAT



(Contd.....)

GUJARAT



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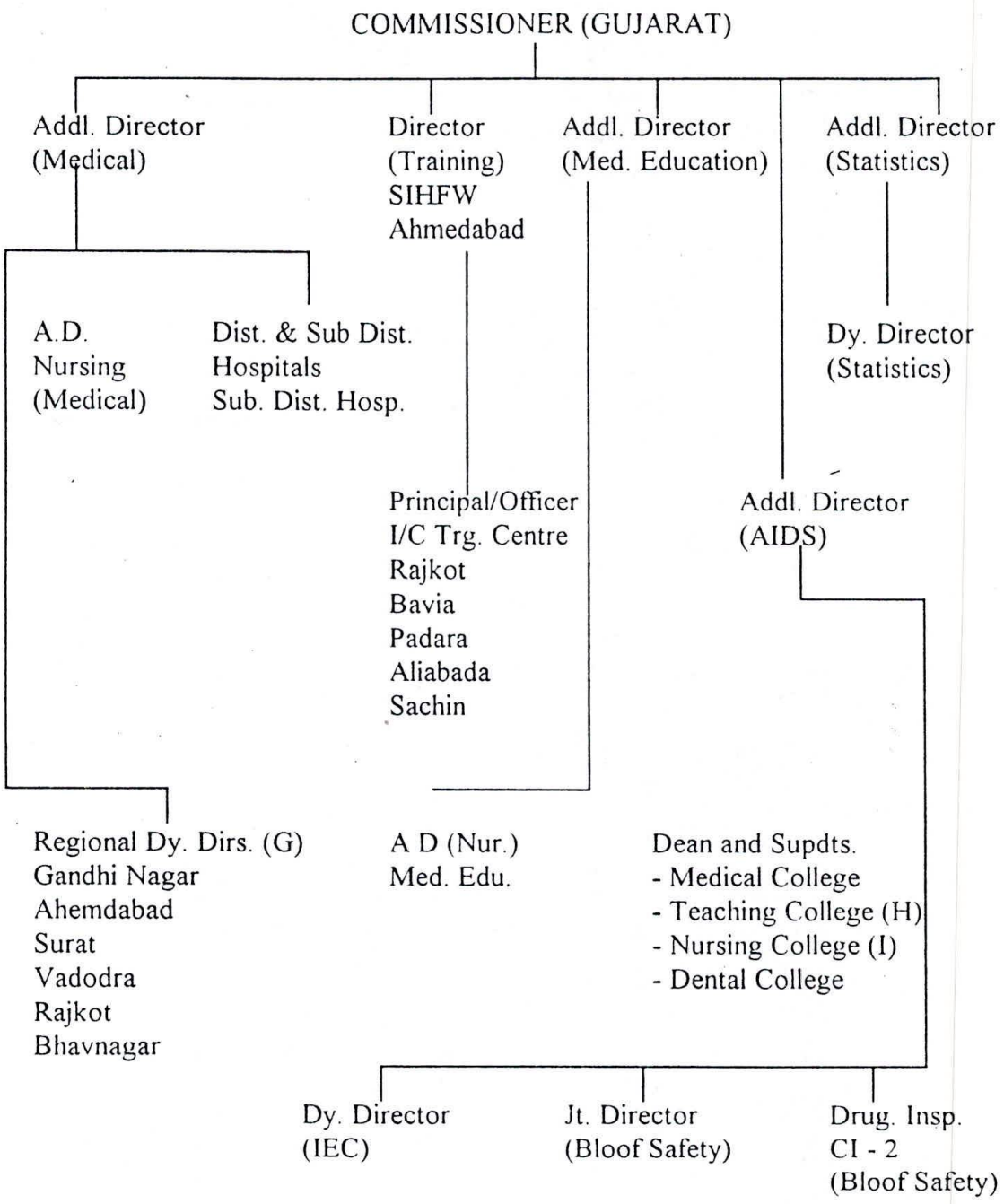
GUJARAT


COMMISSIONER (GUJARAT)
Addl. Director (Medical)
Director (Training) SIHFW Ahmedabad
Addl. Director (Med. Education)
Addl. Director (Statistics)
A.D. Nursing (Medical)
Dist. & Sub Dist. Hospitals Sub. Dist. Hosp.
Dy. Director (Statistics)
Principal/Officer I/C Trg. Centre Rajkot Bavia Padara Aliabada Sachin
Addl. Director (AIDS)
Regional Dy. Dirs. (G) Gandhi Nagar Ahemdabad Surat Vadodra Rajkot Bhavnagar
A D (Nur.) Med. Edu.
Dean and Supdts.
- Medical College
- Teaching College (H)
- Nursing College (I)
- Dental College
Dy. Director (IEC)
Jt. Director (Bloof Safety)
Drug. Insp. CI - 2 (Bloof Safety)

ANNEX 10-E

HARYANA

ORGANISATION CHART OF HEALTH DEPARTMENT, HARYANA, CHANDIGARH

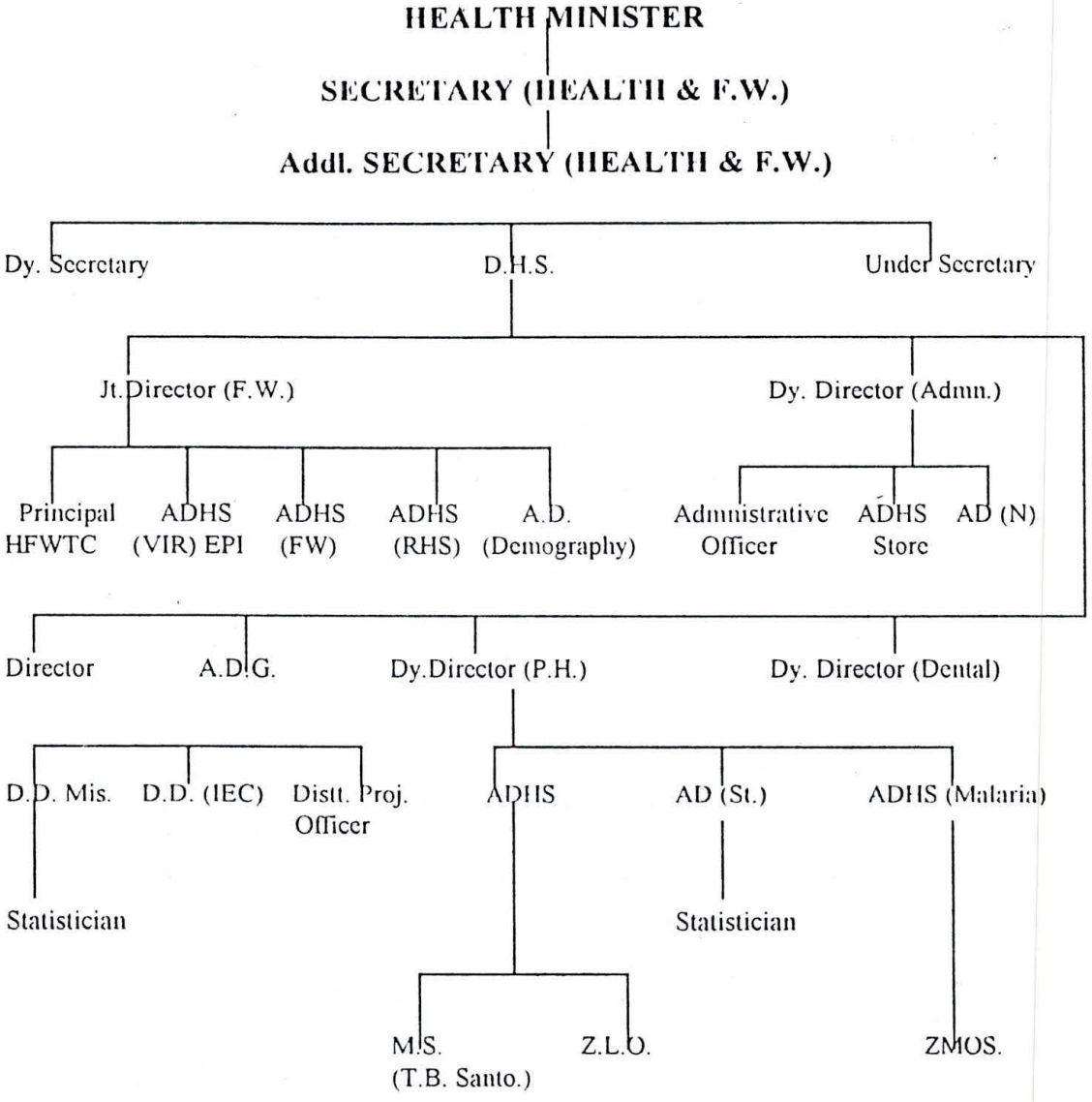
DIRECTOR GENERAL OF HEALTH SERVICES

DIRECTOR Senior Scale	DHS (F.W.)	DHS (Health)	DHS (Lab.)	DIS (Malaria)	Jt. Director (Admn.)	State Drug Controller
1. Dy. Director (ESI) ESI Wing	1. Dy. Director (MCH) MCH & Immunisation programme inculuding cold chain work	1. Dy. Director (HE) i. H.E. Work ii. Food Adulteration/ School Health/ Mental Health iii. Medical Mannual	1. Dy. Director (Planning) Planning and Construction Work.	1. Dy. Director (Malaria) Malaria Programme	1. Administration Branch dealing with HQs Establishment including Class IV/non medical Gazetted Offocers	1. Dy. State Drugs.
2. Dy. Director (Nut.) Policy Medical Branch	2. Dy. Director (FW) Family Planning Programme	2. Dy. Director (T.B.) T.B. Programme	2. Dy. Director (TB) TB Programme MSD Branch-Purchase of Medicine/Stores/Furniture/ Equipment and correspondence regarding telephones and Indent form & stationary.	2. Assistant Director (Entomology) Entomology Work	2. E-II Branch, dealing with establishment of Class I & II Doctors including complaint/disciplinary cases of Class I Doctors.	2. A.S.D.C.- I
3. Dy. Director (M&E) Assistant Director (V.S.) Statistical Wing	3. Dy. Director (MM) i. Mass Media Programme ii. Mass Media Establishment iii. Ofst Press	3. Dy. Director (Optholmology) Blindness/STD/AIDS/ Disaster Programme.	3. Transport Officer Transport Branch Purchase/ Repair of Vehicles.	3. Technical Officer (Malaria) Technical Work under Malaria Programme	3. E-IV, Branch, dealing with complaints and disiplinary/Exjuridication Journeys of Doctors.	3. A.S.D.C. - II
4. Dy. Director (Nur.) Assistant Director (Nur.) i. Establishment of Nursing personnel ii. Training of Nursing	4. Assistant Director (Demo)	4. Technical Officer (ME) Training Programme/MPW Scheme /Health Education.	4. Budget Officer. E-III, Branch, dealing with establishment of Pharamsists Radiographers and Class IV Field Staff.	4. Establishment Officer Establishment of Malria Staff, Biologist & Other Technical Staff.	4. Record Branch	4. A.S.D.C. - III
5. Assistant Director (Dental) Dental Establishment	5. Administrative Officer (F.W.) Establishment of AMM (FW)	5. Budget Officer. BIII/Budget Branch.			5. Type Branch	5. Drugs Branches I & II
	6. Account Officer (FW) Account & Budget of Family Planning Programme.	6. Accounts Officer. (General) Accounts, Audit and Pension Branch			6. General Administration.	
	7. Assistant Director (ICDS) ICDS Programme	7. Administrative Officer (General) i. E-1, Branch. dealing with clerical establishment of Field Staff/ Drivers/ Mechanics. ii. PH Branch. dealing with Clerical Establishment of Field Staff/ Drivers/Mechanics.				
		8. Senor Medical Officer (Leprosy).				

ANNEX 10-F

HIMACHAL PRADESH

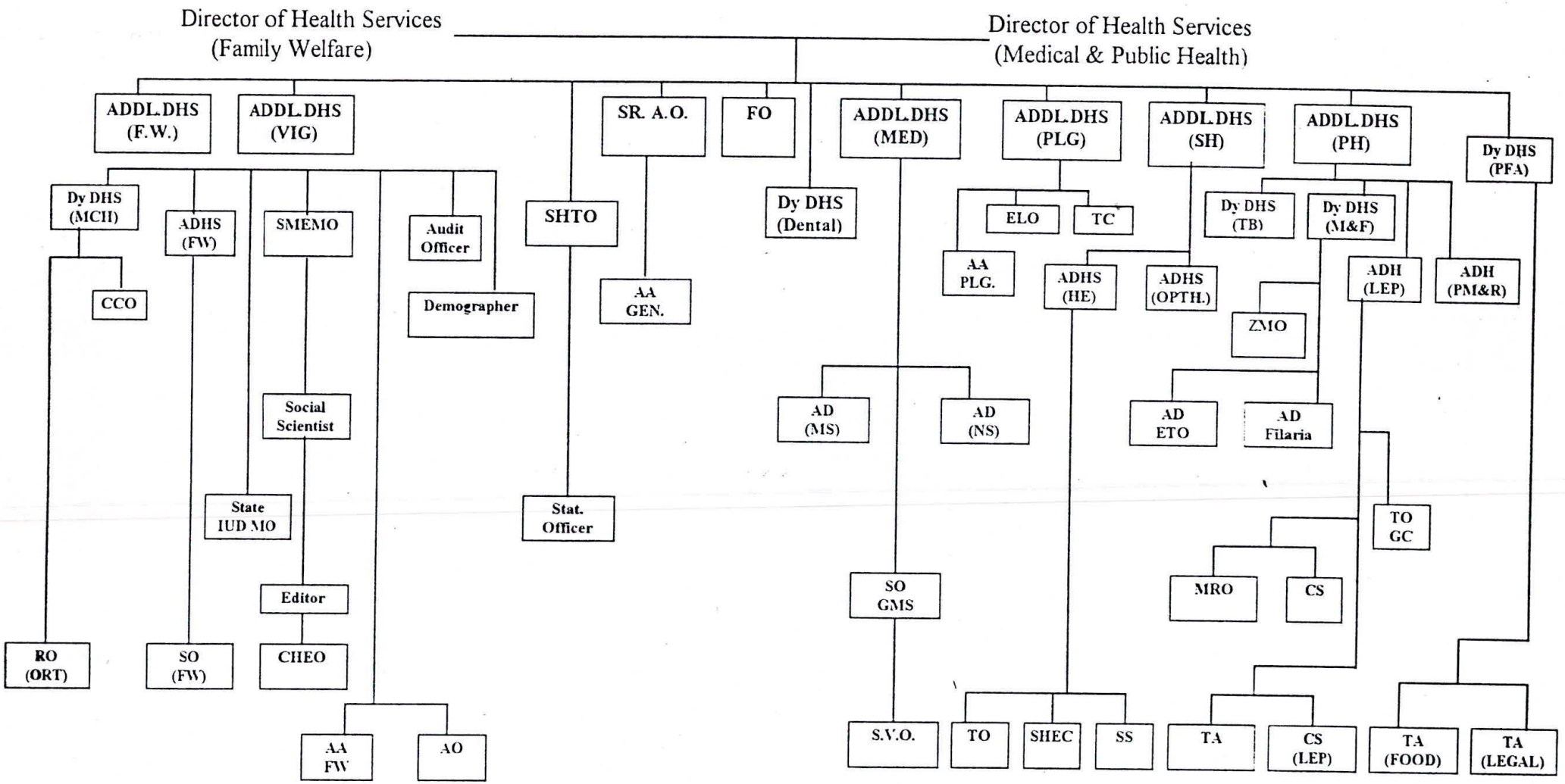
HEALTH AND FAMILY WELFARE ORGANISATIONAL CHART



KERALA

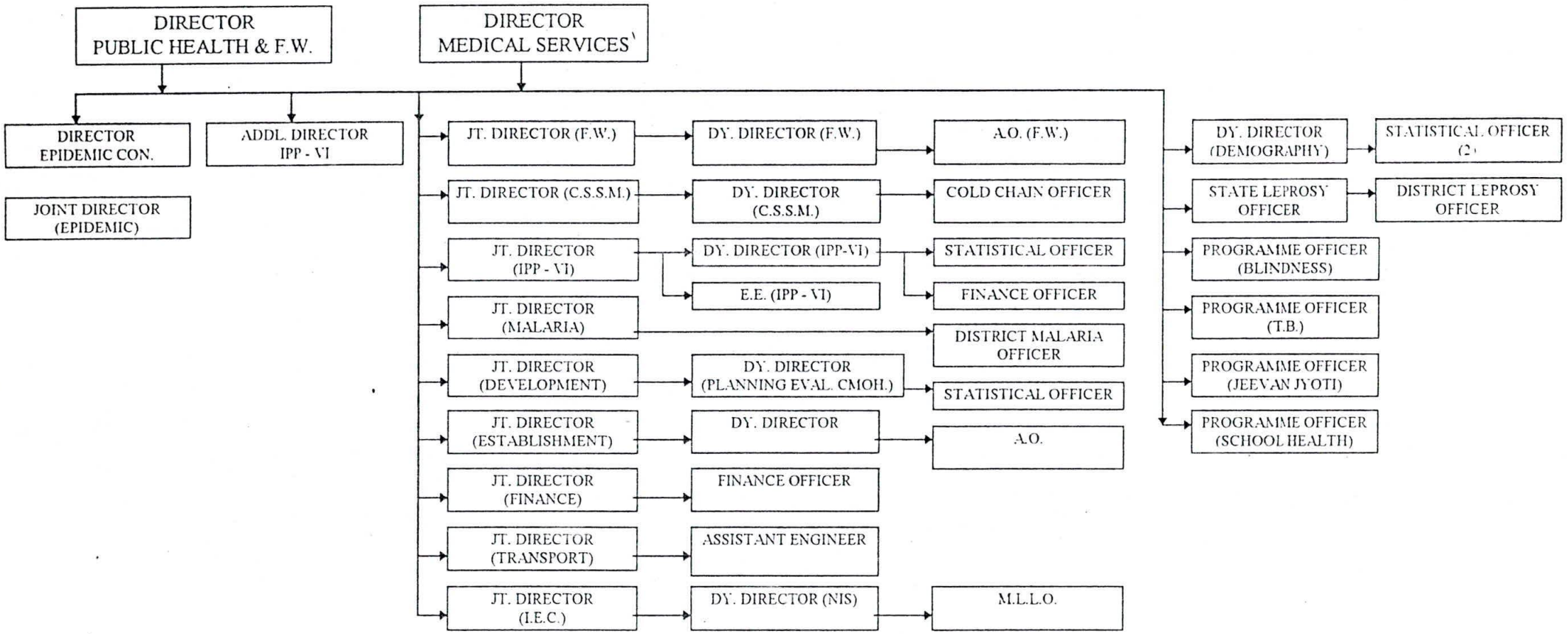
ANNEX 10-G

ORGANISATIONAL CHART OF THE HEALTH & FAMILY WELFARE DIRECTORATE, KERALA



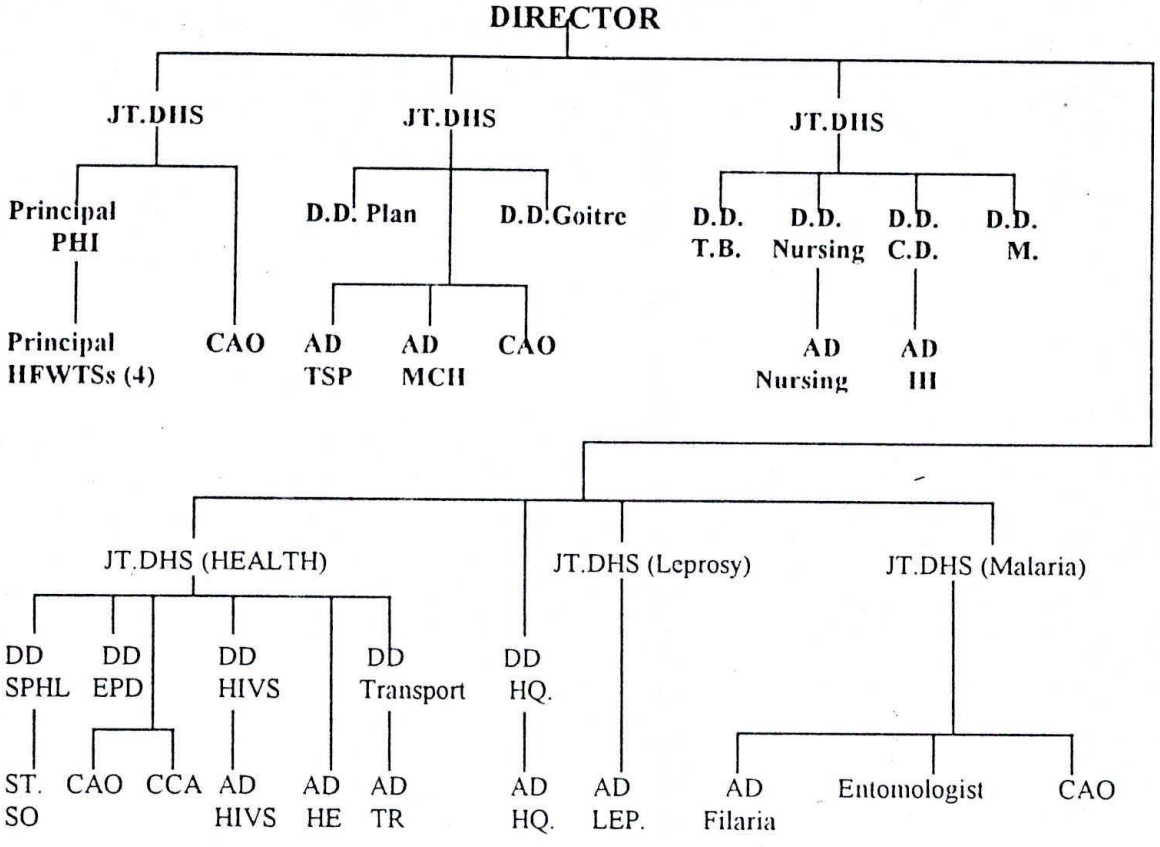
ORGANISATIONAL CHART OF HEALTH DIRECTORATE

MADHYA PRADESH



MAHARASHTRA ANNEX 10-I

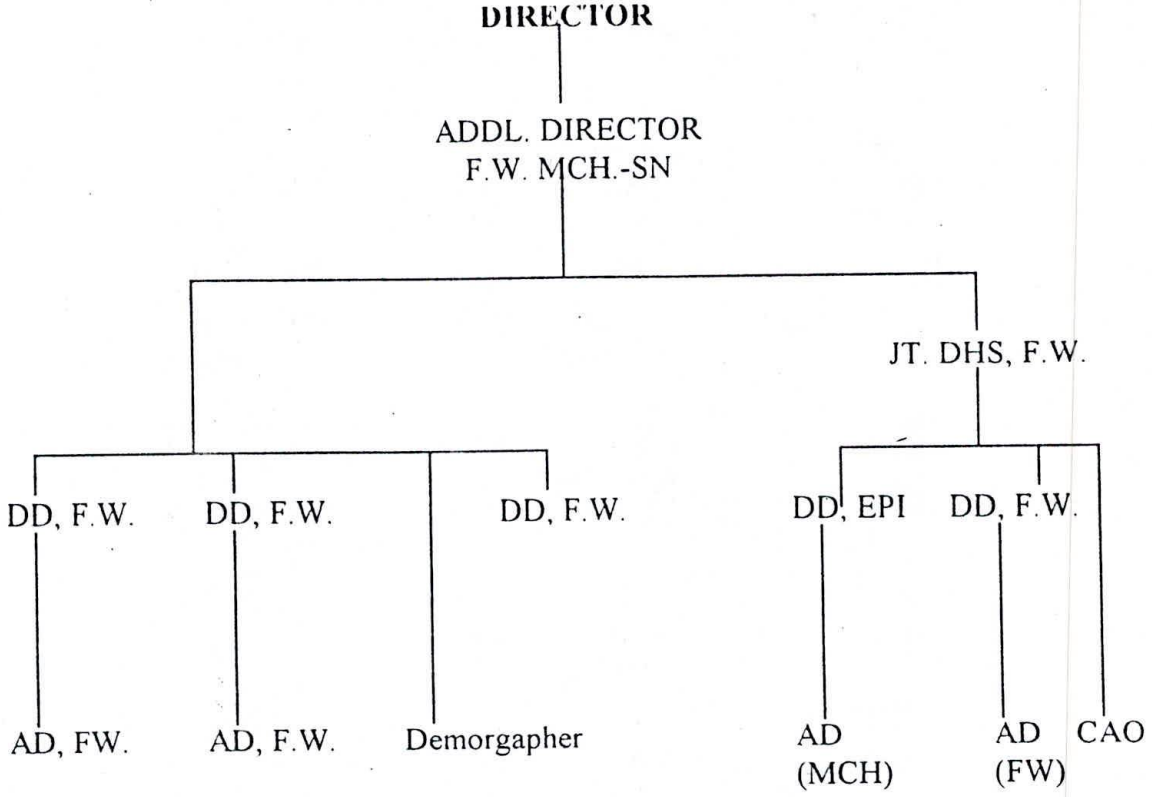
DIRECTORATE OF HEALTH SERVICES
MAHARASHTRA



(Contd.....)

MAHARASHTRA

MAHARASHTRA



ANNEX 10-J

MANIPUR

ORGANISATION CHART OF MANIPUR

DIRECTOR OF HEALTH SERVICES

ADDITIONAL DIRECTOR
(Public Health)

Staff Programme Officer

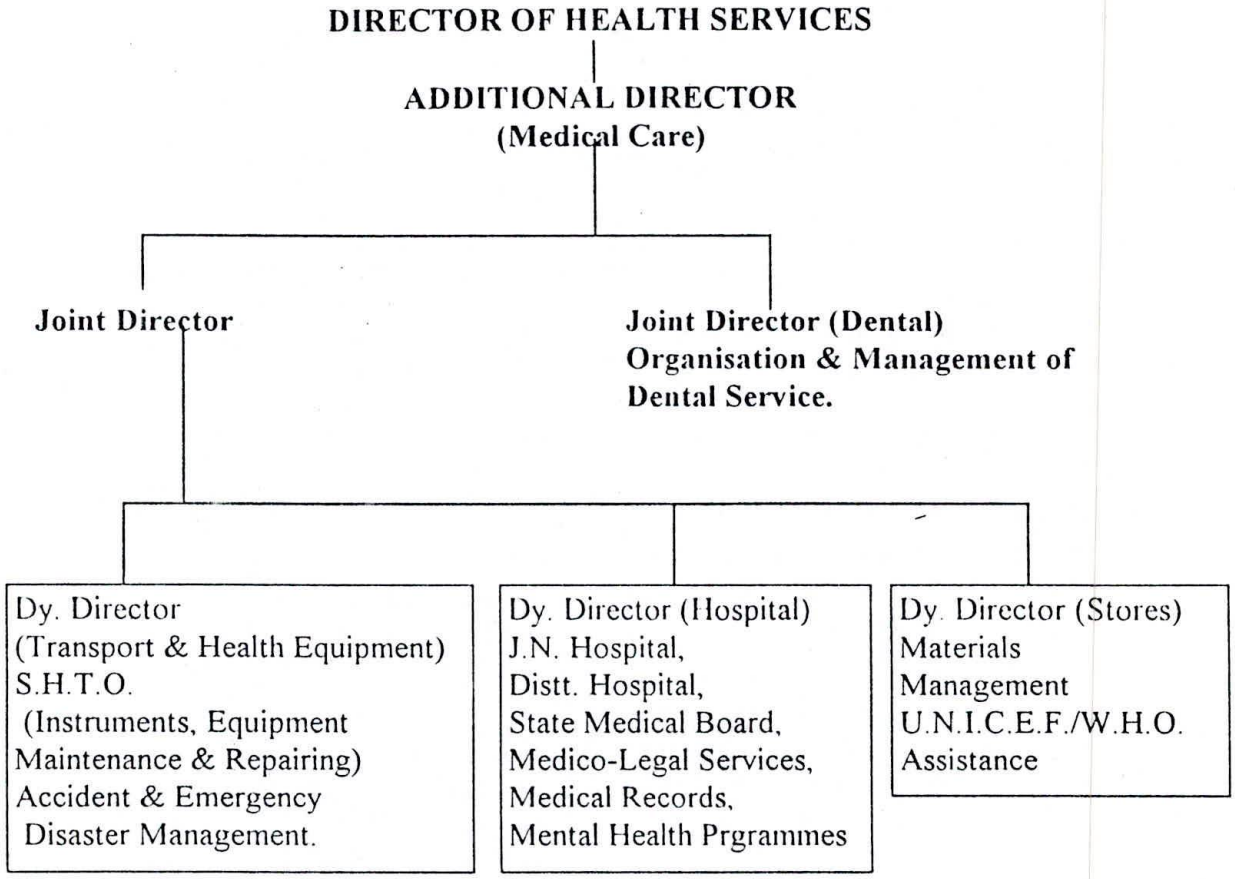
Joint Director
(Public Health)

State Aids Officer

Dy.Director (Public Health)	Dy. Director (Health Education)	Dy. Director (Statutory Law)	Dy. Director (Aids)
N.M.E.P.	Health Education	Medical Council	Drug-De-Addiction,
N.L.E.P.	School Health	Pharmacy Council	Programme,
N.P.C.P.	Goitre Control &	Private Clinic/	A.I.D.S.
Immunisation	Nutrition	Nursing Homes	Blood Bank
Epidemics	Media Coverage	Registration Act	Administration
		Prevention of Food Adultration	
		Act Drugs Control Administration	

(Contd.....)

MANIPUR



(Contd.....)

MANIPUR

DIRECTOR OF HEALTH SERVICES

Additional Director
(Manpower Development/Medical Education)

Joint Director
(Manpower Development/Medical Education)

Dy. Director (MO) Gazetted Establishment, Parliament and Assembly Questions.	Dy. Director (Admn.) Grade III (Para Medical) Establishment Employees Welfare.	Dy. Director (Medical Education) Training of MBBS, BDS, B.Pharma., P.G. in Service. Training of Doctors & Para Medicals, R.H.C. Affairs, Workshop/Seminar/ Meetings. Library.	M.O. i/e I.S.M. I.S.M. Nature Care Homeopathy

(Contd.....)

MANIPUR

DIRECTOR OF HEALTH SERVICES

Additional Director
(Planning & Finance)

Joint Director
(Planning & Finance)

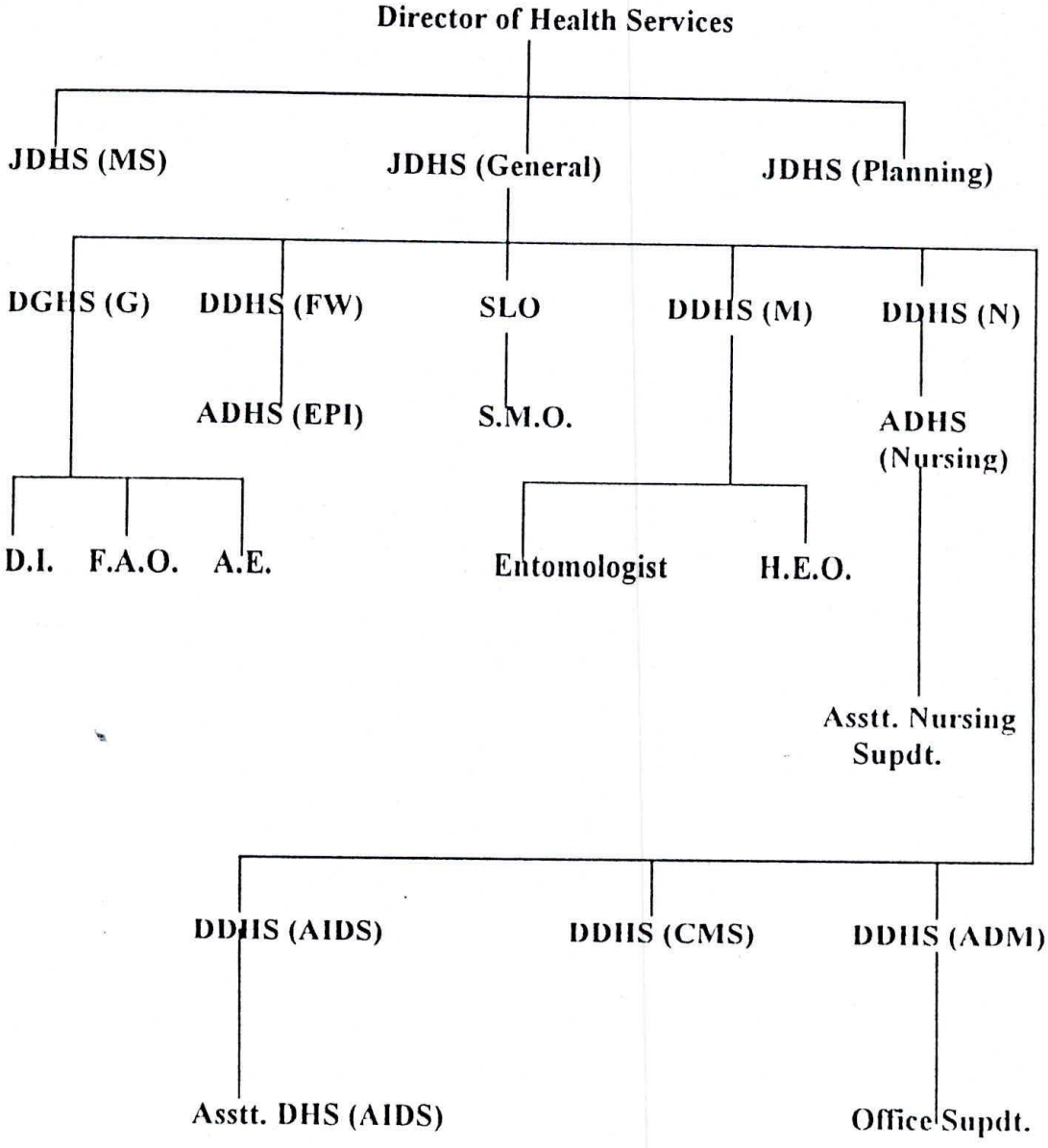
Dy. Director (Plg.) Hospital Planning Minimum Needs Programme. 20-Point Programme Central Council of Health & F.W. Graduating/CHCS, PHC, & PHC.	Administrative Officer Asstt. Supdt. (Admn.) Asstt. Supdt. (Accounts) Personal Administration Public Relations Establishment of Grade III (Non Technical) & Garde IV Staff etc.	Dy. Director (VS) Civil Registration, Vital Statistics, Health Intelligence, Annual Administrative Reports Governor's Report, Quarterly Bulletins.	Nursing Supdt. 1. Dy. Nursing Supdt. (Hosp. Nursing) 2. Dy. Nursing Supdt. (Community Nursir 3. Dy. Nursing Supdt. (Nursing Educatio

(Contd.....)

ANNEX 10-K

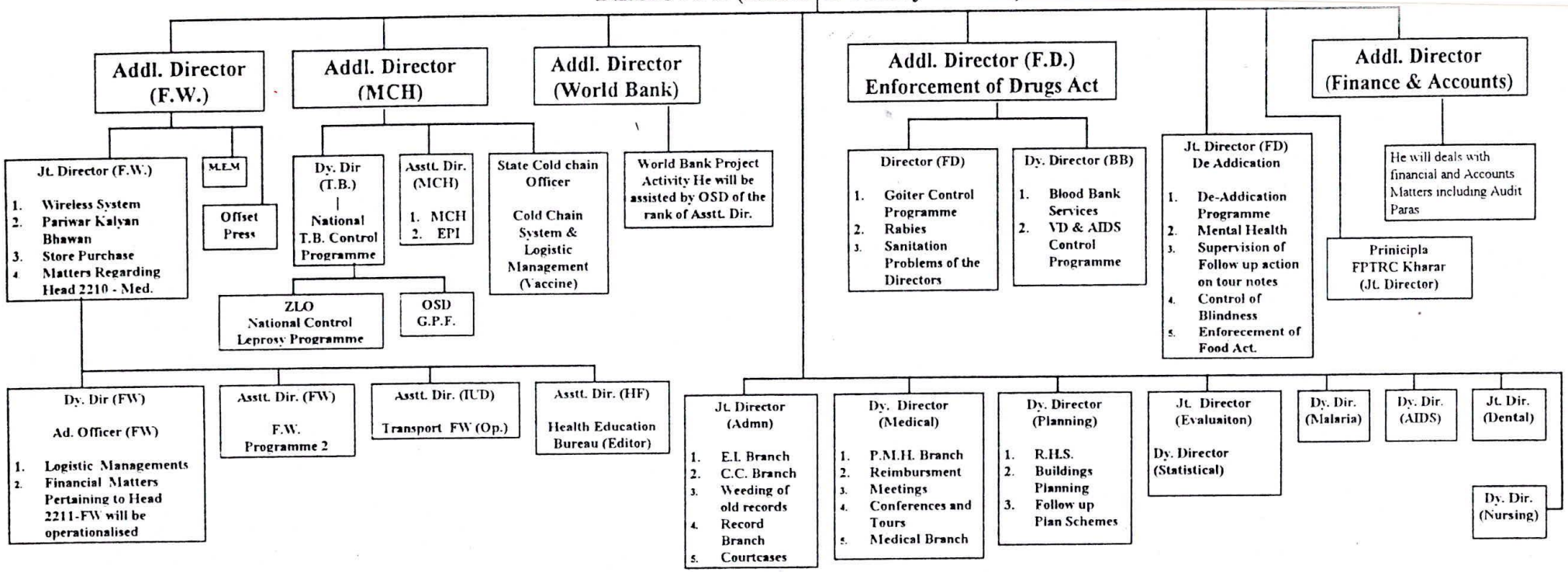
MIZORAM

ORGANISATIONAL CHART OF HEALTH & F.W. (Mizoram)



ANNEX 10-L

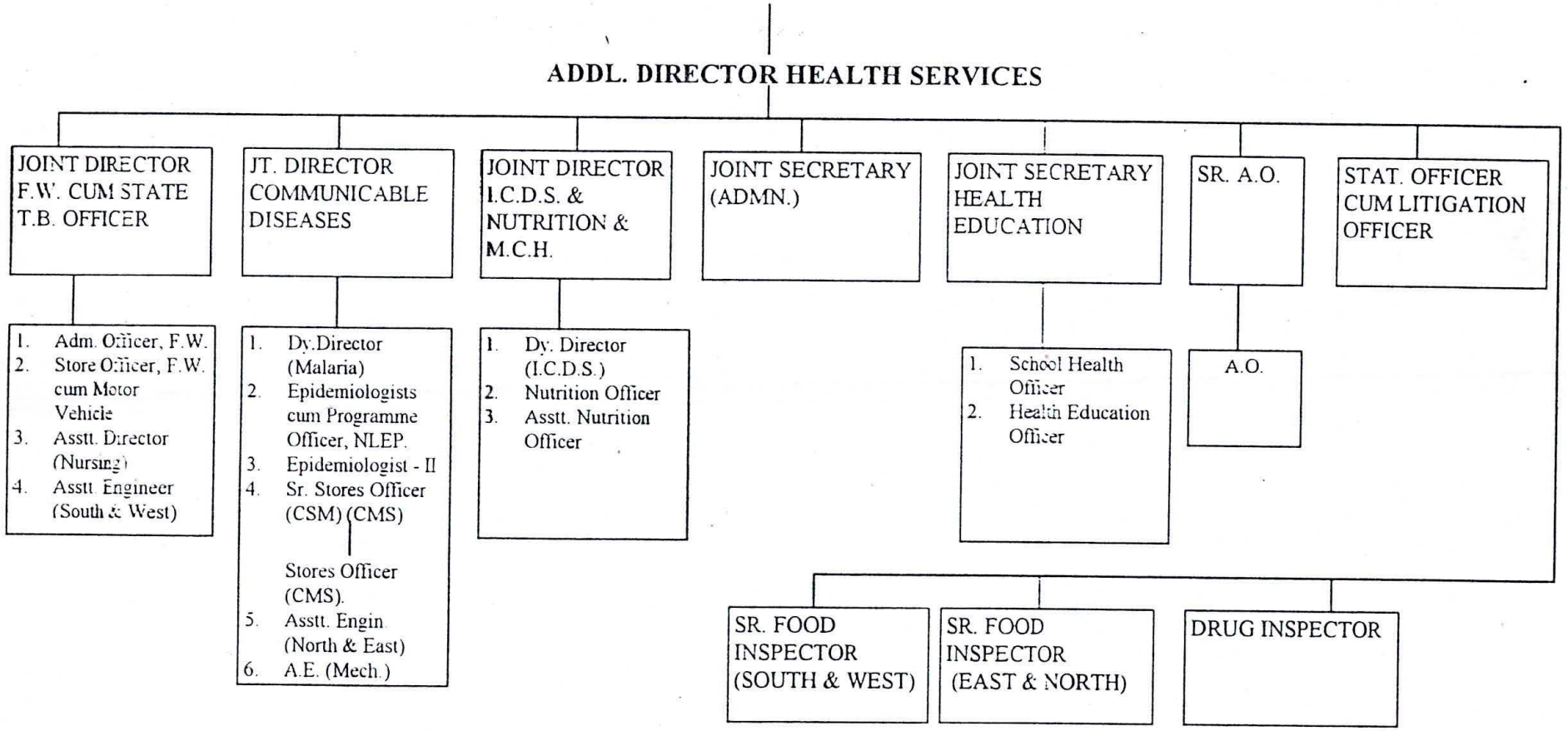
PUNJAB
ADMINISTRATIVE SET-UP (PUNJAB)
DIRECTOR (Health & Family Welfare)



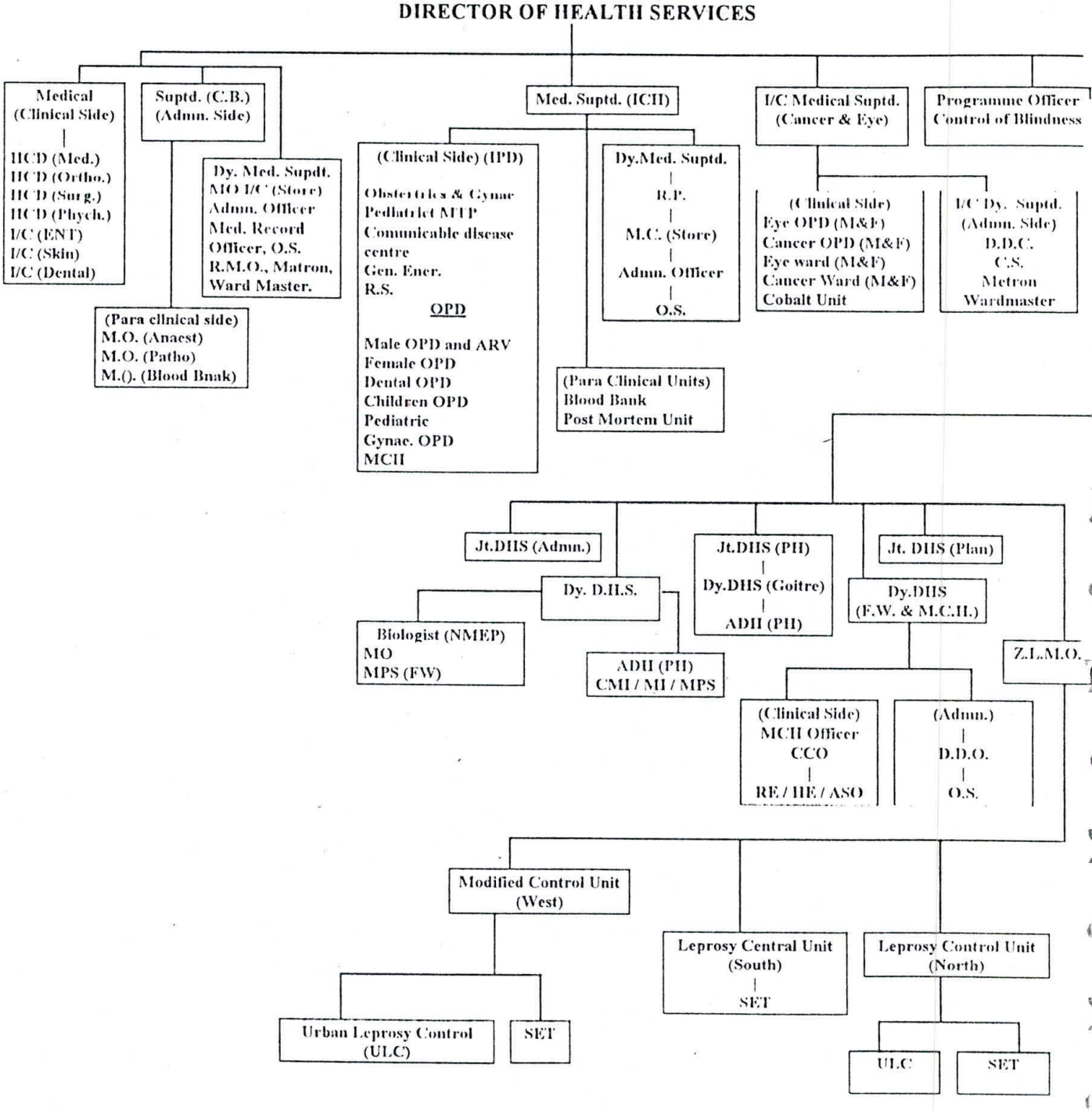
ANNEX 10-M

SIKKIM

ADMINISTRATIVE SET-UP DIRECTORATE OF HEALTH & F.W. (SIKKIM)

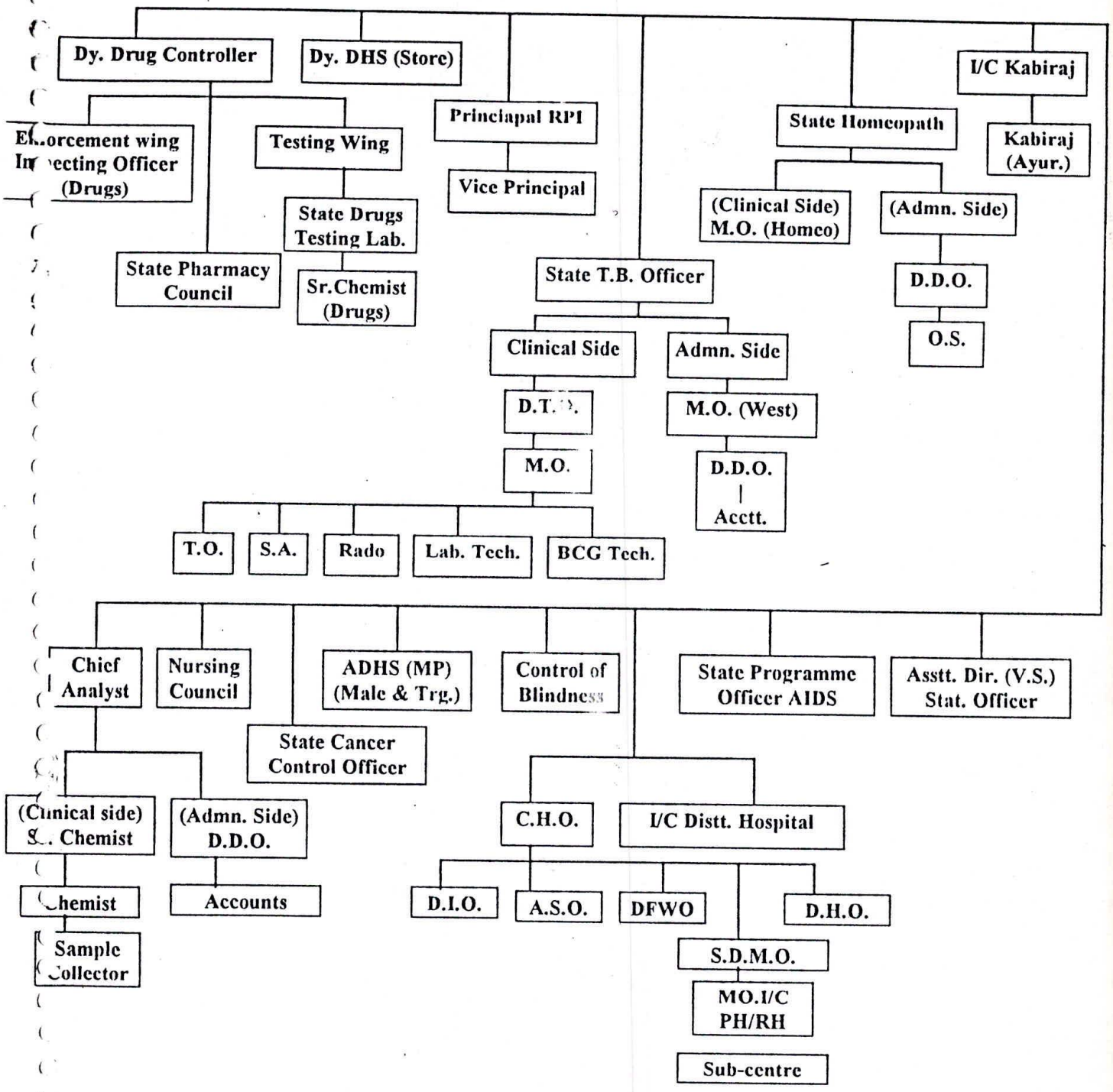


ADMINISTRATIVE SET UP UNDER HEALTH & FAMILY WELFARE DEPARTMENT

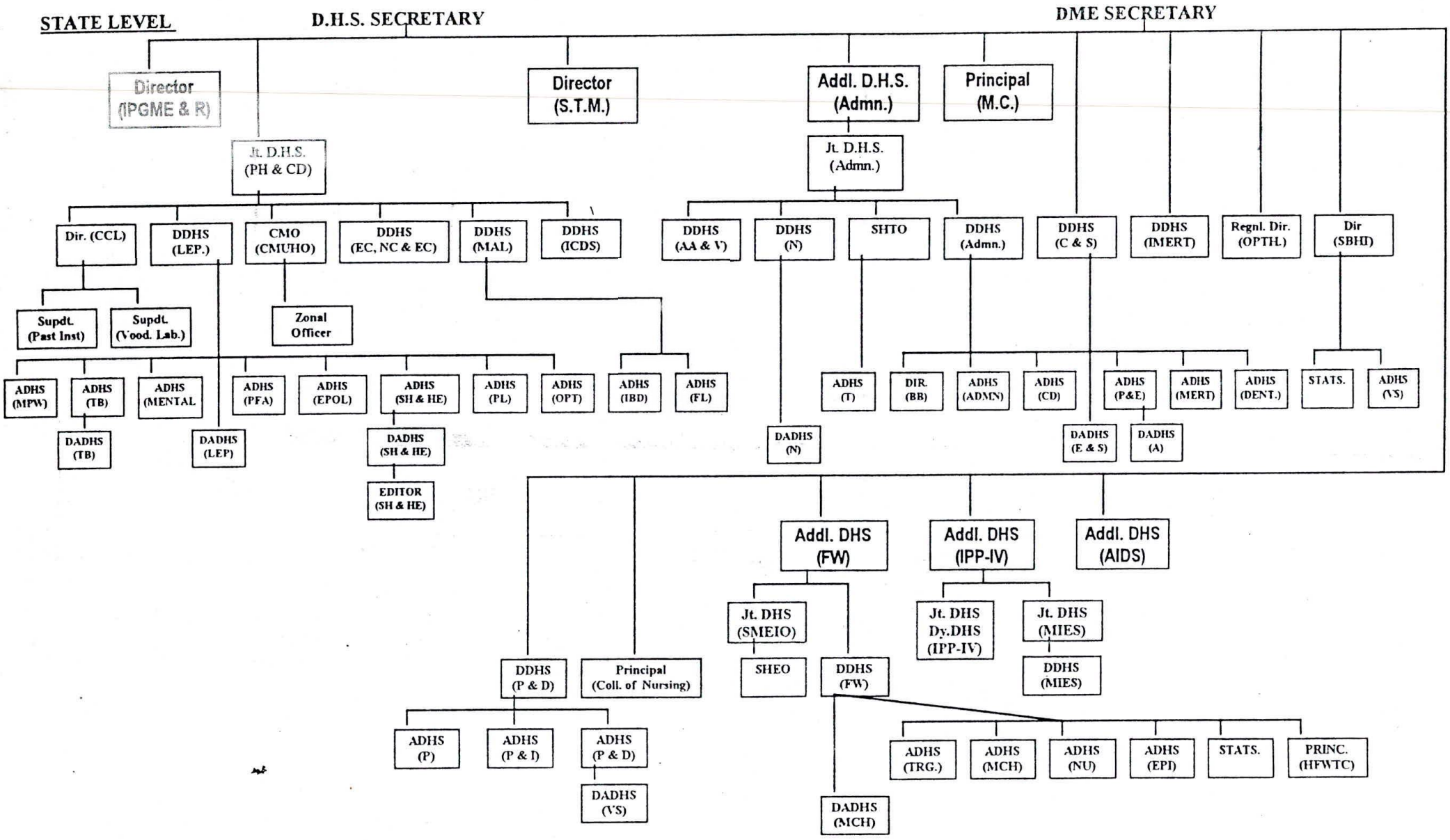


(Contd.....)

TRIPURA


Dy. Drug Controller
Dy. DHS (Store)
Principapal RPI
I/C Kabiraj
Enforcement wing
Inspecting Officer
(Drugs)
Testing Wing
Vice Principal
State Homeopath
Kabiraj
(Ayur.)
State Drugs
Testing Lab.
(Clinical Side)
M.O. (Homeo)
(Admn. Side)
State Pharmacy
Council
Sr.Chemist
(Drugs)
State T.B. Officer
D.D.O.
O.S.
Clinical Side
Admn. Side
D.T.O.
M.O. (West)
M.O.
D.D.O.
Acctt.
T.O.
S.A.
Rado
Lab. Tech.
BCG Tech.
Chief
Analyst
Nursing
Council
ADHS (MP)
(Male & Trg.)
Control of
Blindness
State Programme
Officer AIDS
Asstt. Dir. (V.S.)
Stat. Officer
State Cancer
Control Officer
(Clinical side)
Sr. Chemist
(Admn. Side)
D.D.O.
C.H.O.
I/C Distt. Hospital
Chemist
Accounts
D.I.O.
A.S.O.
DFWO
D.H.O.
Sample
Collector
S.D.M.O.
MO.I/C
PH/RH
Sub-centre

ORGANISATIONAL CHART OF THE DIRECTOR OF HEALTH SERVICES, WEST BENGAL

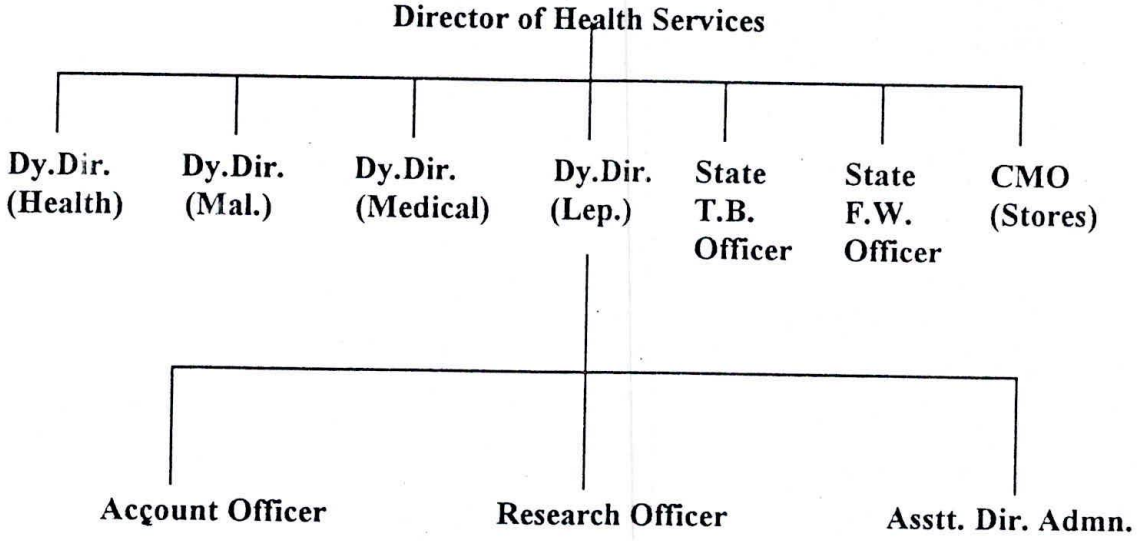


phannex2

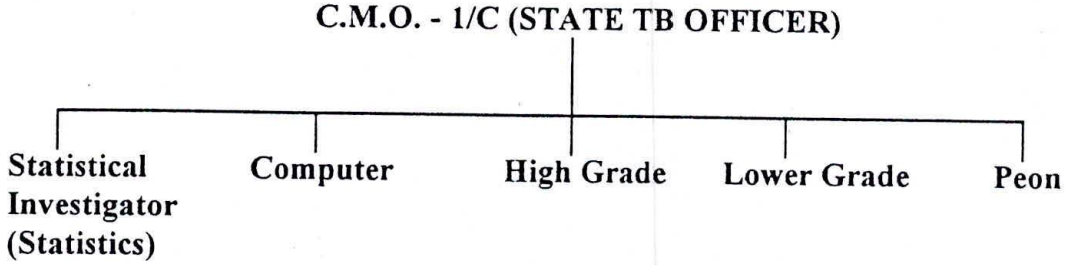
ANNEX 10-P

ANDAMAN AND NICOBAR ISLANDS

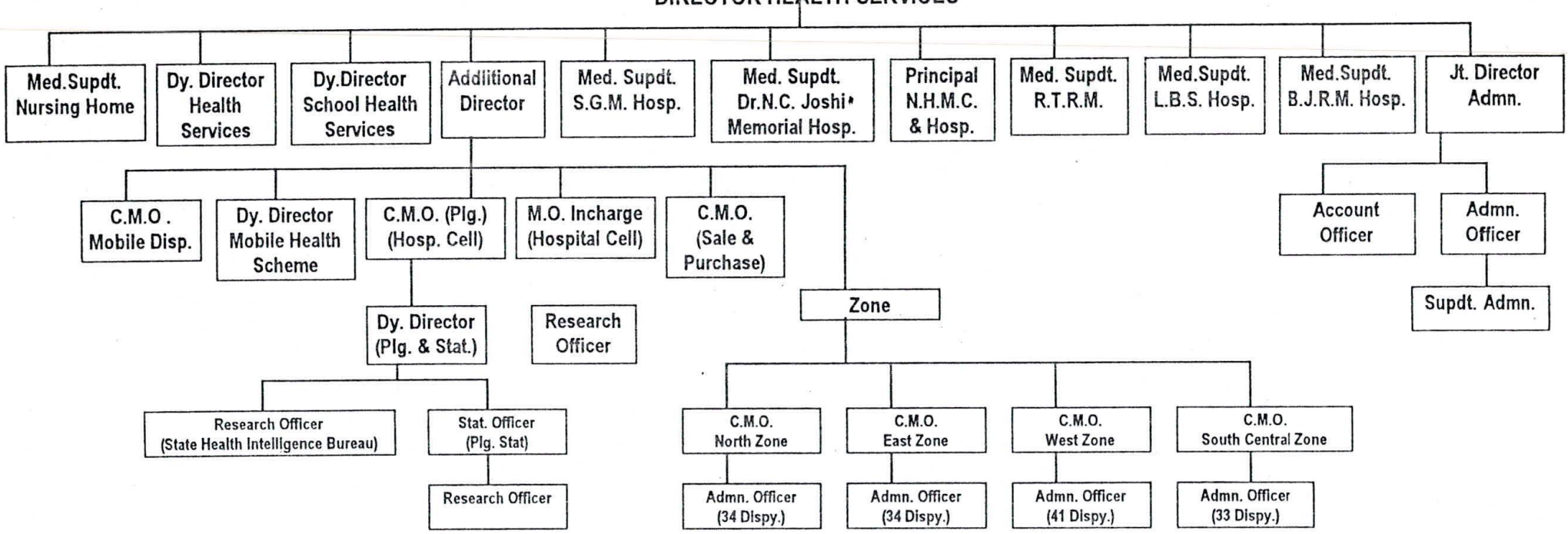
ORGANISATIONAL CHART OF THE HEALTH & F.W. DIRECTORATE
(Andaman & Nicobar Islands)



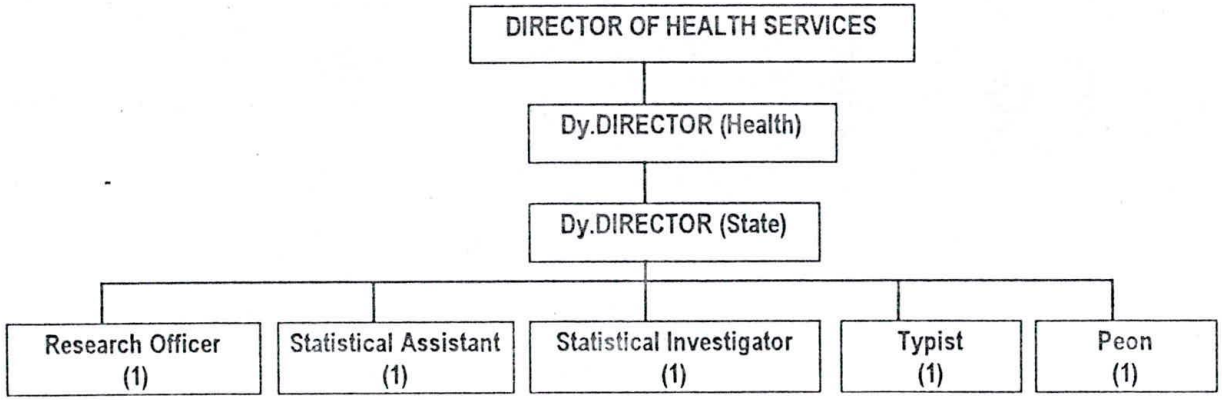
ORGANISATIONAL CHART OF SBHI



ORGANISATIONAL CHART OF DIRECTORATE OF HEATLH SERVICES (DELHI)



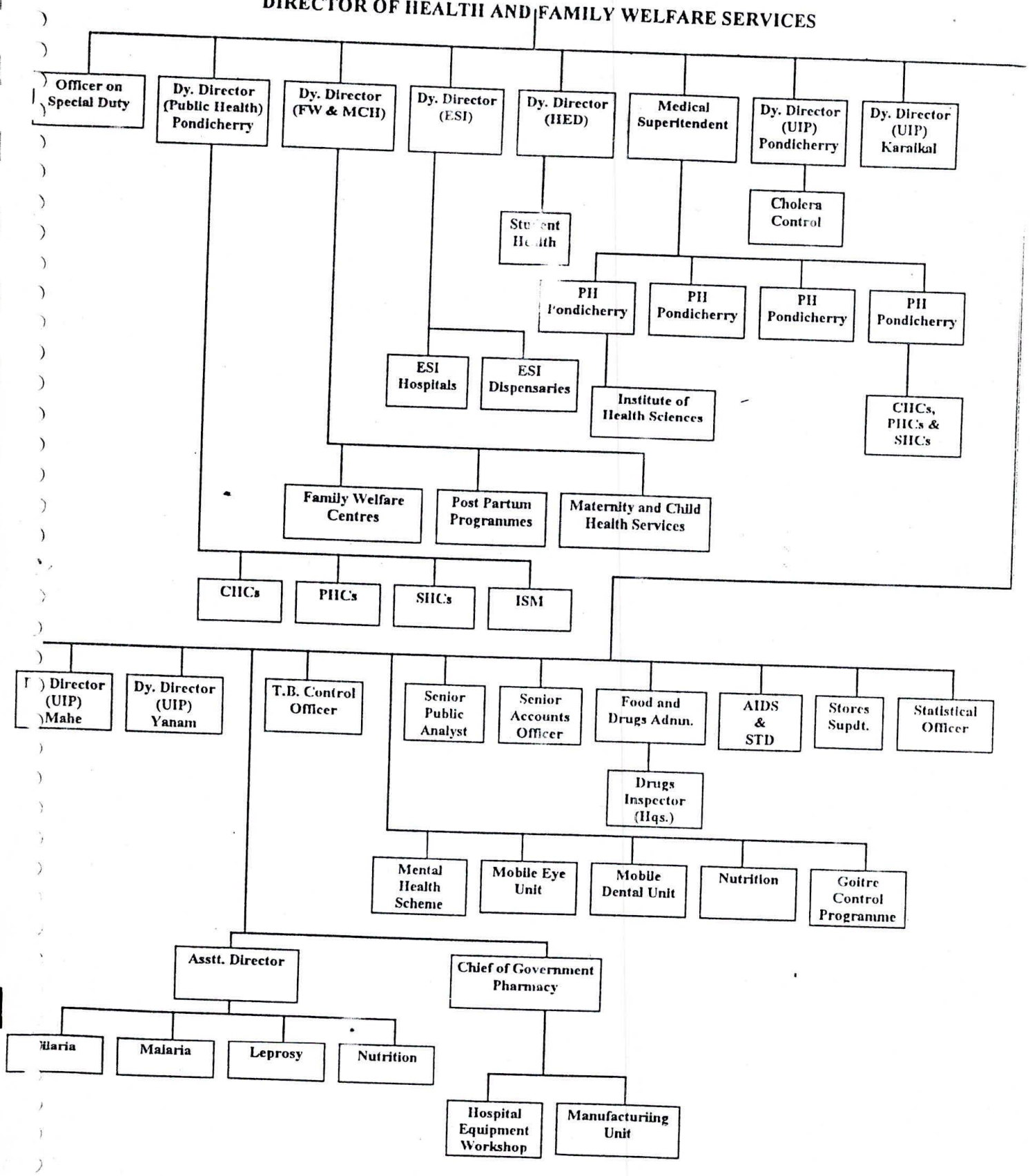
ORGANISATIONAL CHART OF STATE HEALTH INTELLIGENCE BUREAU CUM-RESEARCH AND ANALYSIS CELL



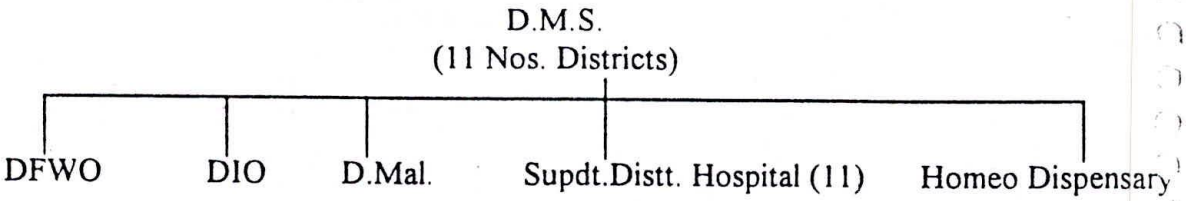
ANNEX 10-R

PONDICHERRY

ORGANISATION CHART OF THE DEPARTMENT OF HEALTH AND F.W. SERVICES, PONDICHERRY.

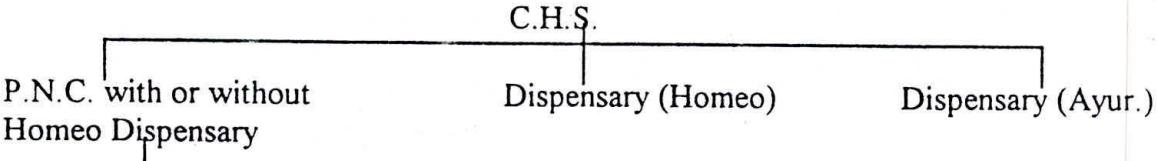


B. **DISTRICT LEVEL**

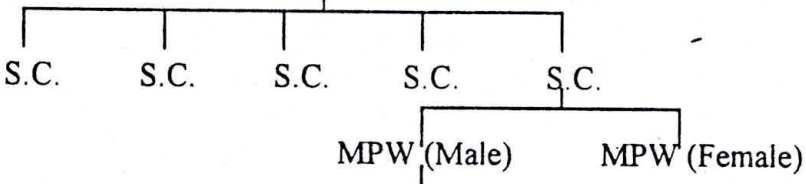


C. Sub-Divisional Level

D. Block Level

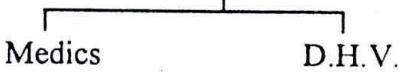


E. Field Level



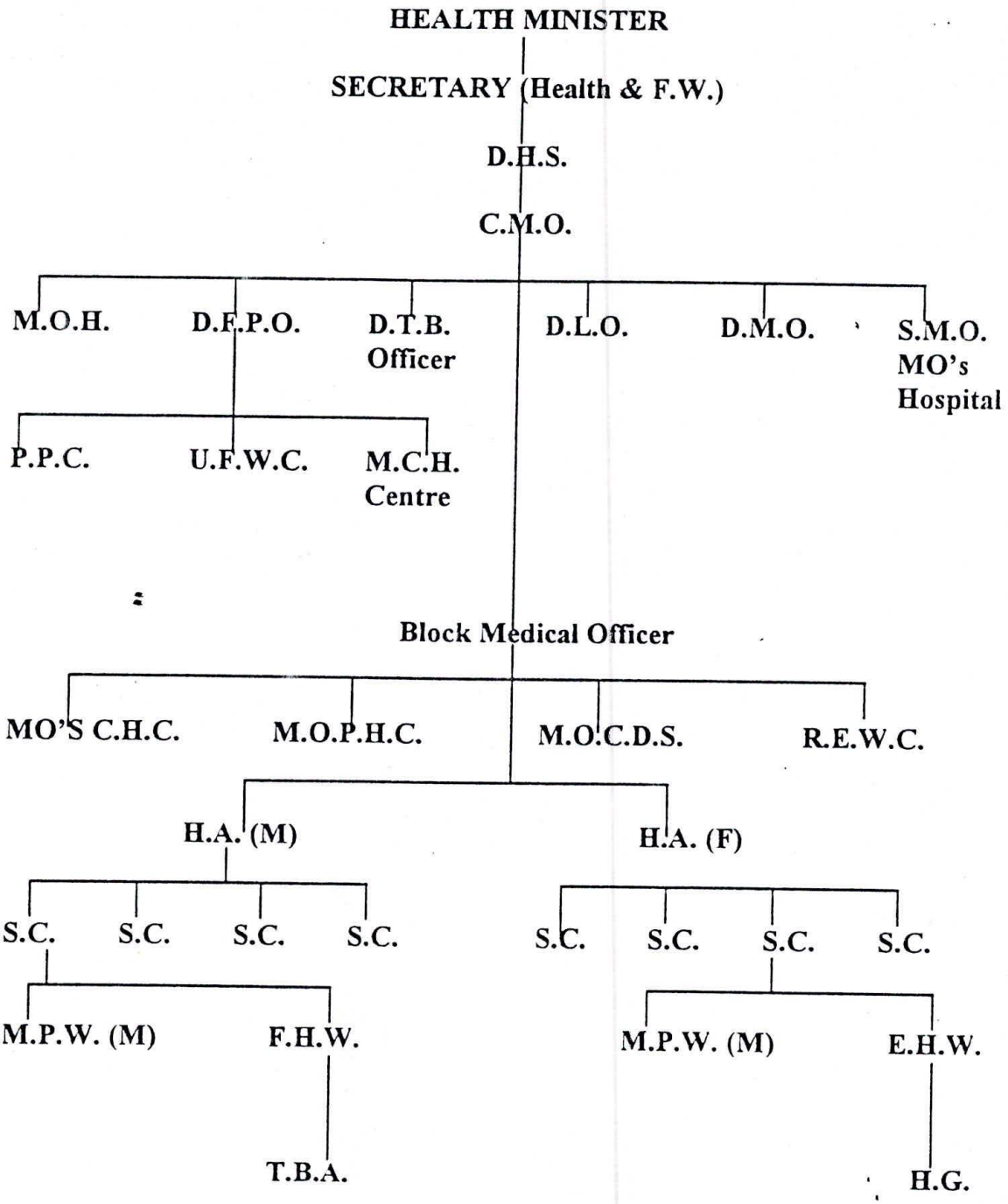
Linkage of Institution with Communities

F. Village Level



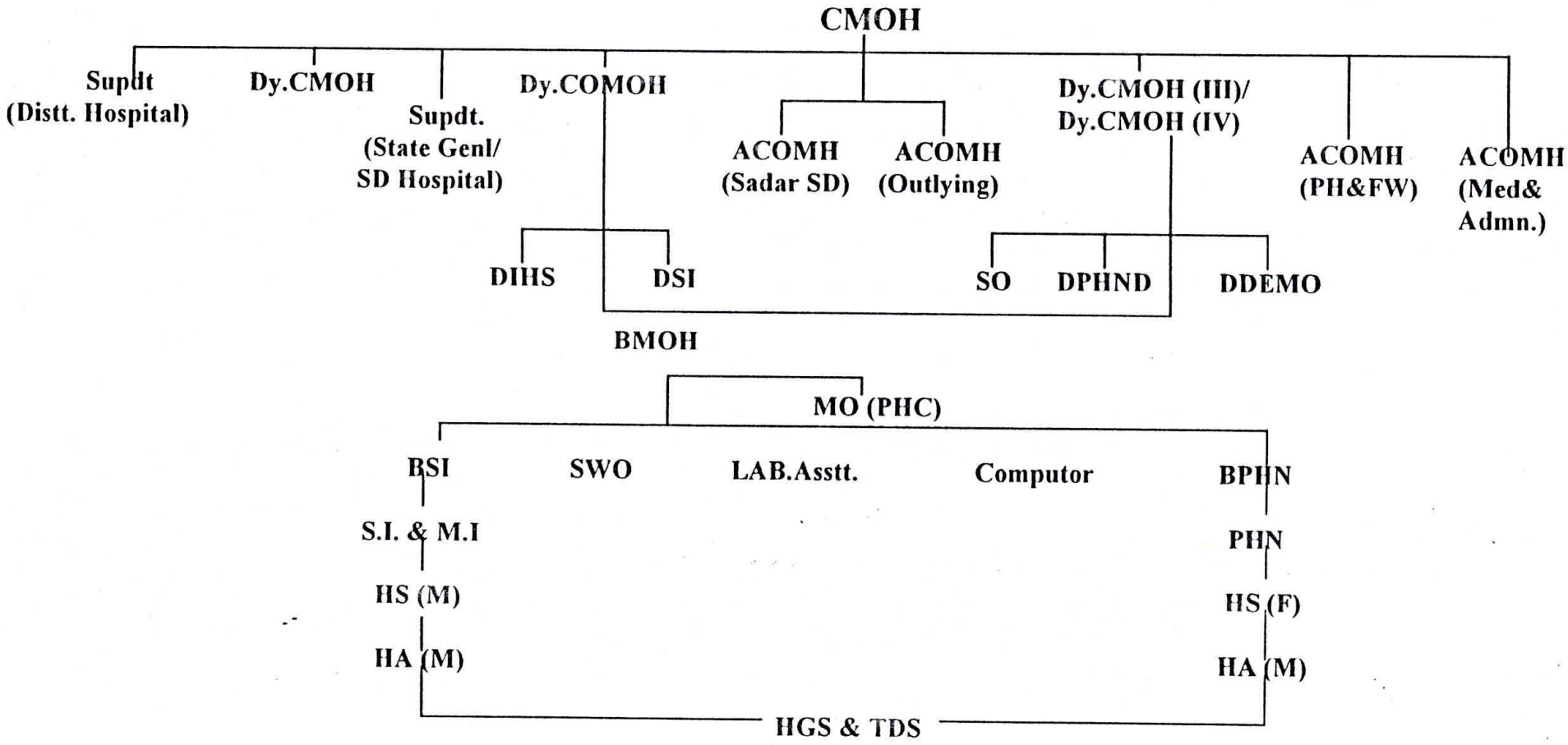
ANNEX 11-B

HIMACHAL PRADESH



WEST BENGAL

DISTRICT LEVEL



ANNEX - 12

SUMMARY REPORT
STATE :
MONTH AND YEAR :

MORBIDITY AND MORTALITY (CLINICAL DATA)
DURING THE MONTH

DISEASES	OPD				IPD				INSTT. DEATHS			
	PHC/ CHC	GOVT. HOSP.	PVT. HOSP.	TOTAL	PHC/ CHC	GOVT. HOSP.	PVT. HOSP.	TOTAL	PHC/C HC	GOVT. HOSP.	PVT. HOSP.	TOTAL
1. Acute Diarrhoeal Diseases												
2. Diphtheria												
3. Acute Poliomylities												
4. Neo Natal Tetanus												
5. Tetanus (other than 4)												
6. Whooping Cough												
7. Measles												
8. Acute R. I. (Include Pneumonia and Influenza)												
9. Viral Hepatitis												
10. Encephalitis												
11. Meningitis												
12. Rabies												
13. Syphilis												
14. Gonococcal Infection												
15. Any Other Disease of Locimp.												
16. All Other Diseases												

ANNEX - 13

COMMUNICABLE DISEASES

1. Name of the State/UT_____
2. Month/Year _____
3. Total Number of Existing Institutiona in State/UT_____
4. Total Number of reporting institutions for the month in State/UT_____
5. Total Number of defaulting institutions in the month of State/UT._____
6. Reported Cases and Deaths due to Communicable Diseases.

Sr. No.	Name of the Diseases	Patients OPD	Treated IPD	Deaths (IPD only)
1.	Acute Diarrhoeal Diseases (Includeing Gastro Entiritis and Cholera)			
2.	Diptheria			
3.	Acute Poliomyelitis			
4.	Tetanus - Other than Neonatal			
5.	Neonatal Tetanus			
6.	Whooping Cough			
7.	Measles			
8.	Acute Respiratory Infection (Including Influenza and excluding Pneumonis)			
9.	Pneumonis			
10.	Enteric Fever			
11.	Viral Hepatitis			
12.	Japanese Encephalitis			
13.	Meningococcal Meningitis			
14.	Rabies			
15.	Syphillis			
16.	Gonococcal infection			
17.	Pulmonary Tuberculosis			
18.	All other Diseases (Including communicable and Non-communicable Diseases) treated in Institutions excluding above mentioned diseases.			
19.	Total			