Report of the
Steering Committee of Health

Contents

Planning Commission
New Delhi

EXECUTIVE SUMMARY

Introduction

Improvement in the health and nutritional status of the population has been one of the major thrust areas for the social development programmes of the country. This was to be achieved through improving the access to and utilization of Health, Family Welfare and Nutrition services with special focus on under served and under privileged segments of the population. Over the last five decades, India has built up a vast health infrastructure and manpower at primary, secondary and tertiary care in government, voluntary and private sectors manned by professionals and paraprofessionals trained in the medical colleges in modern medicine and ISM&H and paraprofessional training institutions. The population has become aware of the benefits of health related technologies for prevention, early diagnosis and effective treatment for a wide variety of illnesses and accessed available services. Technological advances and improvement in access to health care technologies, which were relatively inexpensive and easy to implement, had resulted in substantial improvement in health indices of the population and a steep decline in mortality

During the 1990s, the mortality rates reached a plateau and the country entered an era of dual disease burden. Communicable diseases have become more difficult to combat because of development of insecticide resistant strains of vectors, antibiotics resistant strains of bacteria and emergence of HIV infection for which there is no therapy. Longevity and changing life style have resulted in the increasing prevalence of non-communicable diseases. Under nutrition, micro nutrient deficiencies and associated health problems coexist with obesity and non-communicable diseases. The existing health system suffers from inequitable distribution of institutions and manpower. Even though the country produces over 17,000 doctors in modern system of medicine and similar number of ISM&H practitioners and paraprofessionals, there are huge gaps in critical manpower in institutions providing primary healthcare, especially in the remote rural and tribal areas where health care needs are the greatest. Some of the factors responsible for the poor functional status of the system are:

- mismatch between personnel and infrastructure;
- lack of Continuing Medical Education (CME) programmes for orientation and skill upgradation of the personnel;
- lack of appropriate functional referral system;
- absence of well established linkages between different components of the system.

In order to address these problems the centre and the states have embarked on structural and functional health sector reforms. However, the content and quality of reforms are sub-optimal and the pace of implementation is slow.

As the country undergoes demographic and epidemiological transition, it is likely that larger investments in health should be needed even to maintain the current health status because tackling resistant infections and non-communicable diseases will inevitably lead to escalating health care costs. Last two decades have witnessed explosive expansion in expensive health care related technologies, broadening diagnostic and therapeutic avenues. Increasing awareness and rising expectations to access these have widened the gap between what is possible and what is affordable for the individual or the country. Policy makers and programme managers realise that in order to address the increasingly complex situation regarding access to good quality care at affordable costs, it is essential to build up an integrated health system with appropriate screening, regulating access at different levels and efficient referral linkages. However, both health care providers and health care seekers still feel more comfortable with the one to one relationship with each other than with the health system approach.

Another problem is the popular perception that curative and preventive care compete for available resources, with the former getting preference in funding. Efforts to convince the public that preventive and curative care are both part of the entire spectrum of health care ranging from health promotion, specific protection, early diagnosis and prompt treatment, disability limitation and rehabilitation and that to improve the health status of the population both are equally essential have not been very successful. Traditionally health service (both government and private) was perceived as a social responsibility albeit a paid one. Growing commercialisation of health care and medical education over the last two decades has eroded this commitment, adversely affecting the quality of care, trust and the rapport between health care seekers and providers.

HEALTH CARE SYSTEM

The Health care system consists of:

- primary, secondary and tertiary care institutions, manned by medical and paramedical personnel;
- medical colleges and paraprofessional training institutions to train the needed manpower and give the required academic input;
- programme managers managing ongoing programmes at central, state and district levels; and
- health management information system consisting of a two-way system of data collection, collation, analysis and response.

So far the interaction between these components of the system had been sub-optimal. In spite of the plethora of primary, secondary and tertiary care institutions and medical college hospitals there are no well organised referral linkages between the primary, secondary and tertiary care institutions in the same locality. The programme managers and teachers in medical colleges do not link with institutions in any of the three tiers; essential linkages between structure and function are not in place. Logistics of supply and HMIS are not operational in most states.

The Steering Committee recommended that during the Tenth Plan period, efforts should be made to reorganise health system, build up essential linkages between different components of the system so that there should be substantial improvement in functional status.

Primary Health Care Services

The primary health care infrastructure provides the first level of contact between the population and health care providers. Realising its importance in the delivery of health services, the centre, states and several government related agencies simultaneously started creating primary health care infrastructure and manpower. This has resulted in substantial amount of duplication of the infrastructure and manpower. The government funded primary health care institutions include:

- the rural, modern medicine primary health care infrastructure created by the states consisting of:
  - -Subcentres 137271 (1/ 4579 population)
  - -Primary Health centres 22975 (1/27364 population)
  - -Community Health centers 2935 (1/214000 population)
- subdivisional/Taluk hospitals/speciality hospitals (estimated to be about 2000)
- 5435 rural family welfare centres, 871 urban health posts, 1083 urban family welfare centres, 550 district post partum centres and 1012 sub-district postpartum centres funded by the Department of Family Welfare.
- 22,104 dispensaries, 2862 hospitals under the Dept of ISM&H.
- urban health services provided by municipalities.
- health care for central government employees provided by Central Government Health Scheme (CGHS).
- hospitals and dispensaries of Railways, Defence and similar large departments providing the health care to their staff.
- medical infrastructure of PSUs and large industries.
- Employee's State Insurance Scheme (ESIS) hospitals and dispensaries providing health care to employees of industries.
- all hospitals - even those providing secondary or tertiary care also provide primary health care services to rural and urban population
- over three-fourths of the medical practitioners work in the private sector and majority of them cater to the primary health care needs of the population.

The vast infrastructure and manpower catering to the primary health care needs of the population is not evenly distributed. The segments of the population whose health care needs is greatest have very poor access to health care.

Tribal Health

In order to ensure adequate access to health care services for the tribal population, 20,769 SCs, 3286 PHCs, 541 CHCs, 142 hospitals, 78 mobile clinics and 2305 dispensaries have been established in tribal areas. In addition, 16845 SCs, 5987 PHCs, 373 CHCs and 2750 dispensaries are located in villages with 20 per cent or more scheduled caste population. Most of the centrally sponsored disease control programmes have a focus on the tribal areas. Under the National Anti Malaria Programme (NAMP) 100 identified predominantly tribal districts in Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Orissa and Rajasthan are covered. In spite of all these, the access to and utilisation of health care remain suboptimal and health and nutrition indices in the tribal population continue to be poor.

Urban Primary Health Care Services

Nearly 30 per cent of India's population lives in the urban areas. Majority of the hospitals, doctors and para-professionals are in urban areas. Urban population is aware and has ready access to health care. Data from SRS, NFHS and other surveys indicate that health indices of the urban population are better than those of the rural population. However, urban migration has resulted in rapid growth of urban slum. The slum population face greater health hazards due to over-crowding, poor sanitation, lack of safe drinking water and environmental pollution. Small scale research studies have shown that health indices of urban slum dwellers in some areas are worse than those of rural population.

Realising that the available infrastructure is insufficient to meet the health care needs of growing urban population, the municipalities, state governments and the central government have tried to build up urban health care facilities. These urban health facilities especially the tertiary care institutions cater to both the urban and rural population. Unlike the rural health services there have been no efforts to provide well-planned and organized primary, secondary and tertiary care services in geographically delineated urban areas. In many areas primary health care facilities are not adequate or are under utilised while there is over-crowding in most of the secondary and tertiary care centres. As there is no screening and referral system, the available equipment and expertise in secondary hospitals are under utilised; inappropriate use of available diagnostic and therapeutic facilities result in escalating cost of health care without commensurate health benefits.

Role of Panchayati Raj Institutions

According to Article 243 G of the 73rd Constitutional Amendment Act, states are required to devolve adequate powers and responsibility to the PRIs in order to make them effective institutions of local self government. Funds and personnel have to be made available to the PRIs for planning and implementation of schemes pertaining to various sectors. The PRIs can play a critical role in ensuring area specific microplanning, monitoring of the implementation of the national, state level and district specific programmes,

ensuring accountability and improving inter-sectoral coordination. However, in many states, there have been no concrete steps to involve PRIs in the planning and implementation of state sector or centrally sponsored schemes.

Health System Reforms at primary health care level during Ninth Plan

Faced with the problems of sub-optimal functioning and difficulties in providing adequate investments for improving health care facilities in the public sector, almost all state governments have initiated health system reforms with public sector institutions playing lead role. The structural reforms relate to reorganisation and restructuring of all the elements of health care so that they function as integral components of the health system. The functional reforms are aimed at improving efficiency by creating a health system with well-defined hierarchy and functional referral linkages; the health personnel would work as a multi-professional team and perform duties according to their position, skills and level of care. The PRIs should participate in planning programmes and assist in implementation and monitoring. Almost all the states have attempted introduction of user charges for diagnostic and therapeutic procedures in government hospitals from people above the poverty line and use the funds so generated to improve the quality of care in the respective institutions. Some of the ongoing health system reforms to improve health services include:

- strengthening and appropriately relocating sub-centres/PHCs e.g. Tamil Nadu, Gujarat;
- merger, restructuring, relocating of taluk, sub-divisional and rural hospitals, dispensaries and block level PHCs, integrating them with the existing infrastructure to fill the gap in CHCs e.g. Himachal Pradesh;
- utilizing funds from Basic Minimum Services (BMS), Additional Central Assistance (ACA), Pradhan Mantri Gramodaya Yojana (PMGY) and externally aided projects to fill critical gaps in manpower and facilities; this is being done in all states;
- district-level walk-in-interviews for the appointment of doctors in PHCs; this had limited success – e.g. Madhya Pradesh and Gujarat;
- use of mobile health clinics; this is very expensive and had limited success e.g. Orissa, Maharashtra (for Tribal areas), Delhi (for urban slums);
- handing over of PHCs to NGOs – Karnataka, Orissa; only Karnataka reported success;
- training MBBS doctors in certain specialties (obstetrics, anaesthesia, radiology) in a teaching institution for three to six months and posting them to fill the gap in specialists in FRUs e.g. Tamil Nadu and West Bengal; however, professional associations do not support this;
- improving the logistics of supply of drugs and consumables – e.g. Tamil Nadu, Orissa.

Recommendations for initiatives during the Tenth Plan

During the Tenth Plan every effort should be made to implement the recommendations of the Seventh, Eighth, and Ninth Plan that all hospitals and dispensaries below district level should be mainstreamed, reorganized,

restructured and integrated into the three tier rural primary health care system so that these institutions serve the population in a well defined area and have appropriate referral linkages with each other. The village under each sub-centre, sub-centres under each PHC, PHCs under each CHC/FRU should be defined using Geographical information System (GIS) mapping, taking into account distances, road linkages and other factors that should improve access. All sub-district institutions with specialists should be recategorised as CHC/FRU and all hospitals and dispensaries without specialists should be merged or recategorised as PHCs. By the end of Seventh Plan most of the states have completed setting up required number of Subcentres and PHCs required to meet the norms for 1991 population. Majority of them were located in their own building and cannot be shifted out. Population under many of these primary health care institutions has grown but it will be difficult to provide additional institutions located in appropriate areas to cater to the population. The Tenth Plan goals for primary health care institutions for each state, therefore, should be number of the primary health care institutions required to meet the health care needs of the 1991 population as per the norms. Opening and construction of new centres should be undertaken only under exceptional circumstances

During the Tenth Plan, the Ninth Plan recommendations regarding re-organisation of urban primary health care institutions, making them responsible for the health care of a population living in a defined geographic area and linking them to secondary and tertiary care institutions should be fully implemented. In order to cope with the growing/changing needs for health care the staffing pattern of both urban and rural primary health care institutions should be suitably modified taking into account the population, their health care needs, the work load, difficulties in delivery of services and distances to be covered. Most of the gaps in critical manpower should be met by re-orientation, skill up gradation and redeployment of the existing manpower. For instance integrating the staff of the post partum centres with the FRU staff should reduce vacancies in the posts of specialists in FRUs. As and when required part time or contractual staff including those provided under the national disease control programmes and family welfare programme could be utilised to fill the gaps in manpower. Release of grants under the centrally sponsored schemes should be conditional to filling the vacancies in staff that are critical for improving performance under the national programmes. Mismatch between the equipment and personnel should be corrected by shifting equipment to centres, which have the personnel to operate it, or vice versa.

Available funds should be utilized to make all the existing institutions fully functional by providing needed equipment, consumables, diagnostics and drugs. In addition to funds from the centre, state, externally aided projects, locally generated funds from user charges and donations should be used for maintenance and repair to ensure optimal functional status and improve quality of services.

Secondary Health Care

The secondary health care infrastructure at the district hospitals and urban hospitals is currently also taking care of the primary health care needs of the population in the city/town in which they are located. This inevitably leads to overcrowding and under utilization of the specialized services. Strengthening secondary health care services was an identified priority in the Ninth Plan. In addition to the funds they get from the state plan, seven states have taken World Bank loans to initiate projects to build up FRUs/district hospitals. The aim of these projects is to:

- strengthen FRUs to take care of referrals from PHCs/SCs;
- strengthen district hospitals so that they can effectively care for referrals;
- strengthen the referral system and rationalize care at each level to:

    - optimise utilisation of facilities at PHCs/ CHCs;
    - reduce overcrowding at the district and tertiary care level;
    - enable patients to get care near their residence.

During the Tenth Plan priority should be accorded to strengthening of the secondary health system and building up referral services in other states also, using the lessons learnt from the evaluation of ongoing World Bank funded secondary health care systems projects regarding:

- progress in strengthening of physical infrastructure;
- functional improvement in terms of patient care, organization of referral linkages between CHCs, district hospitals and tertiary care institutions;
- improvement in different components of care - hospital waste management, disease surveillance and response, HMIS;
- operationlisation of cost recovery through user charges from people above poverty line while ensuring that people below the poverty line do have access to health services free of cost;
- efforts currently underway to make the programme sustainable so that it remains fully functional after project period.

Tertiary Health Care

Over the last two decades a majority of the tertiary care institutions in the governmental sector have been facing a resource crunch and have not been able to obtain funds for equipment maintenance, replacement of obsolete equipments, supply of consumables and upgrading the infrastructure to meet the rapidly growing demand for increasingly complex diagnostic and therapeutic modalities. There is a need to optimise facilities available in tertiary care institutions, enhance the quality of services and strengthen linkages with secondary care institutions. Overcrowding in tertiary care hospitals and underutilization of expert care due to the lack of a two way referral system with primary and secondary care levels requires correction. To meet some of the recurring costs and to improve the quality of services in tertiary health care institutions the Ninth Plan suggested levying user charges

and establishing pay clinics/pay cabins. A review of the existing cost recovery system in states has shown that:

- an appropriate institutional framework for reviewing user charges has not yet been established;
- the level of cost recovery is minimal due to the low structure of fees and inadequate collection mechanisms;
- mechanisms for identifying and exempting the poor from user charges are ill defined; and
- funds collected are not retained at the point of collection in many states.

During the Tenth Plan, the ongoing efforts at cost recovery from people above the poverty line should be encouraged and evaluated; models which improve the access of all segments of the population to appropriate care at an affordable cost should be replicated. One of the major recommendations of the Ninth Plan was that a Technical Appraisal Committee should be constituted in all major government institutions to assess and prioritise the essential requirements for strengthening and up grading of facilities keeping in mind the funds available. Every effort should be made in the Tenth Plan to implement this recommendation, improve autonomy and encourage decentralised planning.

Public Private Participation in Health Care

At present, there is no uniform nationwide system of registering eith er practitioners or institutions providing health care in the private/voluntary sectors nor is there a mechanism for obtaining and analyzing information on health care infrastructure and manpower in these sectors at the district level. During the Ninth Plan a Standing Technical Advisory Committee headed by the Director General of Health Services was set up and the Central Bureau of Health Intelligence (CBHI) was given the task of compiling data on health care infrastructure and manpower at all levels in the private, voluntary, industrial, governmental and other sectors. So far, very little progress has been reported in this direction. This task should be taken up and completed on a priority basis during the Tenth Plan.

Currently private sector health services range from those provided by large corporate hospitals, smaller hospitals/nursing homes to clinics/ dispensaries run by qualified practitioners and services provided by unqualified persons. A majority of the private sector hospitals are small establishments; 85 per cent of them have less than 25 beds; the average bed strength is 10 beds. Private tertiary care institutions providing specialty and super-specialty care account for only 1 to 2 per cent of the total number of institutions while corporate hospitals constitute less than 1 per cent. There are wide inter-state differences in the distribution of private sector hospitals and beds. The private sector prefers to set up facilities in the more prosperous districts/states. The private sector accounts for 82 per cent of all outpatient visits and 52 per cent of hospitalisation at the all-India level, with no significant variations across income group.

A majority of government and private sector hospitals and beds are located in urban areas. Qualified and registered private sector doctors or private sector institutions are not readily available in remote rural and tribal areas because people do not have ability to pay and there is a lack of social infrastructure. Thus, the populations in these areas where health care needs are the greatest have very poor access to functioning government health services or private facilities. In spite of the abundant supply of registered physicians in modern system of medicine and ISM&H, unqualified persons still provide health care especially to the poorer segments of the population living in urban slums, remote rural and tribal areas. A majority of the population both from below and from above the poverty line approached the private sector for outpatient curative care for minor ailments. However, when it came to obtaining immunization or antenatal care, most people, irrespective of their income status went to government institutions. For inpatient care for all ailments 60 per cent of the below poverty line (BPL) families tend to use government hospitals and while an equal proportion of above poverty line (APL) families prefer private hospitals.

The average cost of hospital stay per day in government hospitals is low and this has been the major reason for poorer sections seeking inpatient care in these institutions. The cost of inpatient treatment in the private sector is much higher. There are wide inter-state variations in the cost of private sector inpatient care, ranging from Rs.51 per day in Himachal Pradesh to Rs. 297 in Tamil Nadu. Part of the difference might be due to differences in diagnostic and therapeutic services available in these hospitals.

NGO and Voluntary Sector

The NGO and the voluntary sector have also been providing health care services to the community. It is estimated that more than 7000 voluntary agencies are involved in health-related activities. Wide inter-state differentials exist in the coverage of villages by NGOs. NGOs providing a variety of services are relatively few, unevenly distributed across and within states. Some implement government programmes of the departments of family welfare and health, others run integrated or basic health services programme or provide special care/ rehabilitation to people suffering from some specific diseases e.g., leprosy patients. Health care activities are also carried out by agencies like the Red Cross, Industrial establishments, Lion's Club, Help age India etc. The problems faced by NGOs in delivery of health care include:

- limited interaction between the government and NGOs;
- limited financial management, technical and managerial capacity of the NGO;
- paucity of funds; and
- delays in transfer of funds from the government.

The Steering Committee recommended that during the Tenth Plan appropriate policy initiatives should be taken to define the role of government, private and voluntary sectors in meeting the growing health care needs of the

population at an affordable cost. The public sector should develop institutional capability at the central, state and local levels to:

- evolve policies and strategies for providing healthcare and monitor their implementation;
- increase public-private-voluntary sector collaborations to meet the health care needs of the poor and vulnerable segments of population;
- draw up standards for appropriate quality and cost of care and establish accreditation systems for individuals/institutions;
- monitor and enforce regulations and contractual obligations;
- promote excellence and ethics among professionals, identify and punish professional misconduct;
- set up an appropriate and speedy grievance redressal mechanism.

Quality and Accountability in Health care

Assessment of the quality of health care is often thought to be a value judgment but there are determinants and ingredients of quality, which can be measured. These include assessment of infrastructure and manpower, processes such as diagnosis and treatment or outcome such as case fatality, disability and patient satisfaction, evaluation components like safety, effectiveness and timeliness of interventions. It must also include system performance in terms of meeting the changing needs of the population to stay healthy and learn to live with illness and disability. In recent years, there has been increasing public concern over the quality of health care both because of increasing awareness of the population and the mushrooming of health care institutions particularly in the private sector.

During 1990s, some initiatives were taken to address issues relating to quality of care by inclusion of health sector under the Consumer Protection Act. Some states have attempted to provide a legal framework for the functioning of private institutions on the lines of the Bombay Nursing Home Registration Act 1949. These legislative measures have so far not been effectively implemented partly because of the lack of objective criteria for defining `quality of care' and the fear that enforcing such regulations may increase the cost of care. **During the Tenth Plan** quality control concepts and tools should be introduced into every aspect of health care in order to ensure that:

- the population and the system benefit from defined and institutionalised norms, accountability and responsibility;
- the Tenth Plan goals are achieved and health indices of the population improve; and
- health care is affordable for individuals and the country as a whole.

INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

The Indian Systems of Medicine and Homoeopathy consist of Ayurveda, Siddha, Unani and Homoeopathy, and therapies such as Yoga and Naturopathy. Some of these systems are indigenous and others such as

Homeopathy have over the years become a part of Indian tradition. Prior to the advent of modern medicine these systems had, for centuries, catered to the health care needs of the people; these systems are widely used even today because their practitioners are acceptable both geographically and culturally, are accessible and their services and drugs are affordable. Currently efforts are under way to mainstream the over six lakh registered ISM&H practitioners so that in addition to practicing their system they can help in improving coverage and utilisation of national disease control programme and Family Welfare programme. In addition efforts are under way to ensure that these systems get due recognition and share in the growing worldwide acceptance as Complementary and Alternate medicine.

During the Tenth Plan a major thrust should be given to mainstream ISM&H system and utilise ISM&H practitioners by

- ensuring that ISM&H clinics are located in the primary, secondary and tertiary care institutions providing complimentary system of care in these institutions and ISM& H care is funded as a part and parcel of funds provided for these institutions;
- specially focusing on use of ISM&H therapeutic modalities for diseases for which effective drugs free of serious side effects are not available in the modern system of medicine and for prevention and management of lifestyle related chronic diseases;
- increasing utilisation of ISM&H practitioners working in Government, voluntary and private sector to improve IEC, counseling so that utilisation and completion of treatment in National disease control and Family Welfare programmes improve;
- explore opportunities in public and private sector for health tourism and set up regulations in this regard.

ISM&H Manpower Development

There are over 400 ISM&H Colleges and seventy-seven ISM&H postgraduate colleges. Most of them are functioning poorly. During the Tenth Plan efforts should be made to

- develop one centre in each system as National Institute with adequate financial assistance so that it functions as a model centre;
- strengthen at least one of the Govt medical colleges in each of the states so that they act as model institutions ;
- ensure that the colleges do have essential infrastructure manpower and facilities before they are given accreditation and initiate enrolment; ensure mandatory periodic review for continued recognition;
- ensure that students have access to hospitals with requisite number of patient, so that they get clinical training and develop clinical skills;
- ensure uniformity in entry standards, and uniformity in the curricula;
- introduce necessary curricular changes in graduate and CME courses;
- explore opportunities for training persons from abroad who want to get trained in ISM&H .

Realising the potential of ISM&H drugs and therapeutic modalities during the Tenth Plan

- promotion of healthy lifestyle and ISM&H &H systems including yoga for prevention and managemntof life style diseases;
- completion of pharmacopoeia for ISM drugs;
- implementation of stringent drug quality control and good manufacturing practices for ISM&H drugs and formulations

should receive due attention so that ISM&H drugs and therapies attain their ful potential with in the country and abroad.

R&D efforts

- Support R&D to document the efficacy of formulations, which have stood the test of time.
- Research to determine the safety and efficacy of ISM drugs and therapies especially in diseases for which there are no effective safe drugs in modern system of medicine.
- Retrieve, review and preserve rare classical manuscripts on ISM&H not only as parts of medico-historical research but also document them so that the country protects the intellectual property rights for these ancient remedies.
- Establishment of a traditional knowledge digital library.
- Patent cell in the Dept of ISM&H.

Medicinal Plant Board

India is rich in medicinal and aromatic plants occurring in diverse eco-systems. Enormous opportunity exists for growth of medicinal plant sector to provide essential plant based products not only for remedies under ISM&H but also meeting the needs for medicinal plant in other sectors. The Task Force on Medicinal Plants set up by Planning Commission had made several important recommendations regarding conservation, preservation, cultivation and processing of medicinal plants. In order to ensure coordinated efforts in this direction a Medicinal Plant Board has been constituted with the Dept of ISM&H as the nodal Dept; experience and expertise of scientific institutions of CSIR, Department of Biotechnology and ICAR should be fully utilized in the effort to provide adequate quantity of good quality of medicinal plants and herbs in a sustainable manner both to meet the needs of the country and the demand for export opportunity.

HUMAN RESOURCE DEVELOPMENT FOR HEALTH

There are 181 medical colleges in the modern system of medicine and over 400 ISM&H colleges. The country produces over 17,000 doctors in modern system of medicine annually and a similar number of ISM&H practitioners, nurses/ANMs as well as para professionals. A vast health care infrastructure in the government, voluntary and private sector has been

created and is manned by people trained in the country. Personnel costs form a major portion of the investment in health service delivery. In spite of several constraints, Indian health professionals and paraprofessionals have migrated to other countries and have gained global recognition for their knowledge, skills and commitment. However, there are huge gaps in critical health manpower in government institutions that provide health care to the poorer segments of population living in urban slums, remote rural and tribal areas. To address this problem, some states have made rural service compulsory for health professionals and preference is given for those opting for rural services in postgraduate courses. The sustainability and impact of these measures are yet to be evaluated. Ninth Plan Priorities for Human Resources Development for Health were:

- creation of a district data base on requirement, demand and availability for health manpower in the government, private and voluntary sectors;
- periodic updating of information on
  - requirement availability and of different categories of health manpower;
  - health manpower production based on the needs;
- improvement in quality of undergraduate/ postgraduate education;
- promotion of equitable and appropriate distribution of health manpower;
- continuing medical education for knowledge and skill upgradation;
- appropriate people and programme orientation; and
- continuing multiprofessional education for promoting team work and intersectoral co-ordination

During the Tenth Plan medical education should have newer opportunities and challenges. The country has to train an adequate number of health professionals with appropriate knowledge, skill and attitude to meet the health care needs of the growing population and dual disease burden. In this era of globalization, India with its excellent teachers and abundant clinical material can become a key player in medical education. The health care institutions can transform India into a major medical tourism destination. Appropriate investment in research and development and quality control can result in a massive expansion of the pharmaceutical sector. The next two decades will show whether the country has successfully used these opportunities to train and provide gainful employment to the highly skilled medical manpower.

Continuing Medical Education (CME)

Continuing education and skill up gradation are essential for all health professionals. Currently, in-service training courses are being carried out as a part of all national programmes. CME programmes are being carried out in various institutions, such as the National Academy of Medical Sciences, National Board of Examinations, and various professional bodies and associations. However their outreach, quality and content are sub-optimal. The CME efforts should receive greater impetus if the proposal that all medical practitioners have to under go knowledge and skill up gradation and re-certification every five years is implemented. Critical thrust areas such as rational use of drugs, protocol for management of common ailments, quality

control in clinical practice, infection control and waste management in health care settings require focused attention. The National Academy of Medical Sciences has proposed to hold intramural CME in these topics with participation of eminent professionals and putting proceedings on the website to make it made accessible to all. These efforts should continue to receive support during the Tenth Plan. Open Universities should play a major role in periodically updating the knowledge of various categories of health personnel in a cost effective and efficient manner.

Bio informatics, Telematics and Distance Education

Information Technology is now one of the major tools for health management. All sub-sectors dealing with the generation, transmission and utilisation of demographic and epidemiological data such as bio-informatics, bio-statistics, HMIS and the decision support systems (DSS) are finding increasing use in health planning and management. The nationwide network of NICNET provides rapid reporting mechanism for health information; MEDLARS Biomedical Informatics Programmes provides ready access to medical databases to post graduates and research workers as well as practicing physicians. Planning Commission has provided additional central assistance to the UHSs in Karnataka, Andhra Pradesh, Tamil Nadu, Punjab and Maharashtra for strengthening of libraries and networking them through IT. This effort has to be augmented and all medical colleges need to be brought into the network.

Telemedicine programmes bring experts together to assist local doctors in the management of complicated cases. A pilot project on telemedicine in primary health care is currently ongoing in Maharashtra. Some of the major hospitals have taken up online consultation service with other specialists within the country as well as abroad. Efforts are underway to link tertiary care institutions especially in the northeastern states with major super-speciality institutions for other regions so that patients could benefit from tele-consultations.

PREVENTION & MANAGEMENT OF COMMUNICABLE DISEASES

Ninth Plan strategies for improving communicable disease control programmes included:

- rectification of identified defects in design and delivery of diseases control programme;
- filling critical gaps in infrastructure and manpower;
- making service delivery responsive to user needs;
- ensuring that health care providers have the necessary skills and support, including referral facilities and supplies;
- improving community awareness, participation and effective utilisation of available services;
- use of PRIs in improving community participation and monitoring implementation of programmes.

The strategies and programmes initiated in the Ninth Plan for control of communicable diseases should continue in the Tenth Plan. Modalities to improve delivery of services pertaining to these programmes through the existing health services should be worked out. Efforts should be made to improve states ownership of the programmes, participation of the community, private sector and NGOs. Local accountability and intersectoral co-ordination should be improved through the involvement of PRIs. Evaluation and operational research to rectify problems in implementation and improving efficiency should receive attention.

National Vector Borne Disease Control Programme

The National Malaria Control Programme, the first centrally sponsored programme, was initiated in 1953. The National Anti Malaria Programme currently deals with malaria, filaria, kala-azar, japanese encephalitis and dengue. **During the Tenth Plan** the programme should be implemented as National Vector Borne Disease Control Programme.

The Steering Committee recommended that during the Tenth Plan, the National Vector-Borne Disease Control Programme should be implemented through the existing health care infrastructure. The programme should focus on:

- training of health personnel in the diagnosis of vector-borne diseases and appropriate treatment including referral;
- improving reporting, recording and monitoring of vector-borne diseases, including cases treated in the private sector, so that reliable estimates of the prevalence of vector borne disease is available;
- monitoring drug and insecticide resistance;
- using standardised protocol for diagnosis and management of diseases;
- involvement of PRIs in all aspects of the programme in villages;
- improvement in IEC at patient, family and community levels;
- involvement of NGOs and the private sector in diagnosis and treatment of malaria cases;
- encourage the pharmaceutical industry, manufacturers of insecticides and bednets to produce low cost products for local use; back up these efforts through IEC and social marketing.
- evaluate community acceptance of insecticide-treated bed nets/curtains for personal protection;
- research studies on
  - vector bionomics and behaviour;
  - bio-environmental methods of vector control;
  - screening and development of new anti-malarial drugs especially herbal products;

- include malariagenic potential as a parameter for health impact assessment of developmental projects.
- exploring the cost effectiveness of the use of remote sensing for mapping the breeding habitats of mosquitoes and prediction of densities of vector species, especially in remote hilly and tribal areas.

Tenth Plan goals are to achieve:

- 25 per cent reduction in morbidity and mortality due to malaria by 2007 and 50 per cent by 2010 (NHP 2002)
- zero level incidence by 2007 with annual reduction of at least 20 per cent using 2001 as the base year and elimination of kala azar by 2010 (NHP 2002)

Revised National Tuberculosis Control Programme (RNTCP)

Tuberculosis (TB) is a major public health problem in India, with an estimated 40 per cent of the population suffering from the infection. India accounts for nearly one-third of the global incidence of tuberculosis. The estimated prevalence of tuberculosis is 1.4 per cent, and sputum positive TB prevalence is estimated to be in the range of 4/1000 to 5/1000. A national sample survey to assess the current epidemiological situation of tuberculosis in different zones is currently under way. Some studies indicate that since 1980s there has been a progressing increase in primary and acquired multi-drug resistant cases of tuberculosis. In 1992 a Revised National Tuberculosis Control Programme (RNTCP) was drawn up with emphasis on:

- diagnosis through sputum microscopy;
- uninterrupted supply of drugs for short course chemotherapy;
- direct observation of treatment with short course chemotherapy (DOTS) to improve compliance; and
- systematic monitoring, evaluation and supervision at all levels.

The Steering Committee recommended that during the Tenth Plan, the focus should be on:

- expansion of the RNTCP to cover population of over 800 million by 2004 and the entire country by the end of the Tenth Plan;
- involvement of medical colleges, TB hospitals, hospitals run by the armed forces, railways, corporate sector, NGOs and private practitioners;
- involvement of PRIs to ensure the availability of requisite staff;
- quality assurance of sputum microscopy and quality control of drugs;
- provision of sufficient stock of drugs and consumables in the PHCs/CHCs;
- facilitate referral;
- inform the community of time schedule for availing treatment;
- evaluation of RNTCP and operational research to improve performance; and
- research and development efforts to develop newer drugs to tackle drug resistance, testing of new generation of TB vaccines;

The NHP envisages a 50 per cent reduction in mortality due to tuberculosis by 2010.

National Leprosy Eradication Programme (NLEP)

Leprosy has been a major public health problem in India. In 1984 it was estimated that there were nearly four million cases of leprosy in the country, 15 per cent of whom were children. Over the years there has been a substantial decline in the prevalence of leprosy from 57/10,000 in 1981 to 5/10,000 in the year 2000. The focus during the Ninth Plan was on:

- intensifying case detection and MDT coverage in states with a high prevalence of leprosy and areas that are difficult to access;
- preparing for and initiating horizontal integration of the leprosy programme into primary health care;
- strengthening laboratory services at PHC/CHC for detection of leprosy cases;
- establishing a surveillance system for monitoring time trends in prevalence of leprosy;
- providing greater emphasis on disability prevention and treatment; and
- implementation of the Modified Leprosy Elimination Campaign (1997).

As of 2001, the estimated prevalence rate of leprosy is 4.3 per 10,000 population. Elimination level (PR < 1/ 10,000) has been achieved in Nagaland, Haryana, Punjab, Mizoram, Tripura, Himachal Pradesh, Meghalaya, Sikkim, Jammu and Kashmir, Rajasthan, Manipur and Assam. States that are close to achieving elimination (1-2/ 10,000) include Gujarat, Kerala, Arunachal Pradesh, Lakshadweep. Leprosy is now endemic mainly in the states of Bihar, Uttar Pradesh, Orissa, West Bengal, Madhya Pradesh, Jharkhand and Chattisgarh.

The Steering Committee recommended that the Tenth Plan goal should be to eliminate leprosy and bring prevalence to less than 1/10,000 population. The strategy to achieve this should focus on:

- completing horizontal integration of the programme into the general health care system by 2007. The personnel employed under the NLEP should be transferred to the states during the Tenth Plan;
- skill upgradation and redeployment of the over 30,000 leprosy workers and laboratory technicians so that existing gaps in male multi-purpose workers and laboratory technicians in PHC/CHC are filled. This will result in improvement in all health programmes, including the leprosy programme;
- training of the existing personnel in primary health care institutions in the early detection and management of leprosy patient; identification and referral of those with complications;
- re-constructive surgery to improve functional status of individuals;
- inter-sectoral collaboration for rehabilitation of leprosy patients;

- increased involvement of PRIs/NGOs in the detection and management of leprosy patients; gram sabhas can facilitate surveys by leprosy workers; and
- the panchayats can inform the community about institutions where facilities for treatment are available and facilitate referral.

National AIDS Control Programme

In spite of the relatively low investment in and low profile of the National AIDS Control Programme, the prevalence of HIV infection in India is relatively low. Some of the projections made by the National AIDS Control Organisation (NACO) suggest that HIV infection in India may reach the plateau by 2010. The UN Population Division had computed the impact of HIV infection on longevity in different countries/regions. There has been a steep fall in longevity in sub Saharan Africa. In India there has been only a small reduction in expected improvement in longevity. The initiation of sero-surveillance during the silent phase, implementation of a multi- pronged strategy for HIV infection containment and control, the cultural ethos, relatively low IV drug use and dedicated work done by committed professionals are some of the factors responsible for this. However, because of the one billion plus population, India is likely to have the largest number of cases of and deaths due to AIDS.

HIV is a multifaceted problem affecting all segments of society. Until now the department of health has been the nodal point of interventions not only the traditional activities of the health sector such as prevention, detection, counselling and management, but also other areas such as legislation, rehabilitation of infected persons and their families. **During the Tenth Plan** it is expected that each Department will handle HIV infection related issues in their respective sectors. For instance, the Ministry of Labour should look after prevention of discrimination at the work place. Voluntary organisations may be best suited for providing hospices for AIDS patients who do not have anyone to look after them and orphanages for children who have lost their parents due to AIDS. If each sector takes up the tasks pertaining to that sector, the country should be able to look after the needs of HIV infected persons and their families without any adverse effect on other programmes.

The Tenth Plan goals for HIV/AIDS programme are:

- 80 per cent coverage of high risk groups through targeted interventions;
- 90 per cent coverage of schools and colleges through education programmes;
- 80 per cent awareness among the general population in rural areas;
- reducing transmission through blood to less than 1 per cent;
- establishing at least one voluntary testing and counselling centre in every district;
- scaling up of prevention of mother-to-child transmission activities up to the district level; and
- achieving zero level growth of HIV /AIDS by 2007

Water Borne Diseases

The contamination of drinking water with human or animal faeces leads to the spread of water-borne diseases. The risk of infection is higher in areas with poor sanitation, poor sewage handling, inadequate water supply and poor quality of water. Water borne diseases occur throughout the year with a seasonal increase in summer, monsoon and post-monsoon period. Over the last few decades there has been no decline in the prevalence of water borne diseases though there has been some decline in mortality associated with them.

During the Tenth Plan, efforts should be made to:

- improve coverage under rational case management for diarrhoea/dysentery;
- explore the feasibility of monitoring the quality of water through public health engineering department and the PRIs;
- strengthen the diarrhoeal disease surveillance programme at the district level to detect and contain outbreaks;
- coordinate the efforts of the departments dealing with urban and rural water supply and sanitation, municipal corporations and PRIs for the prevention of water-borne diseases.

Disease surveillance

Surveillance is the continuing scrutiny of all aspects of occurrence and spread of diseases that are pertinent to effective control. So far in India disease surveillance has been predominantly focused on communicable diseases. There has been some small scale research efforts for establishment of comprehensive communicable and non communicable disease surveillance but these have not been opertationalised even on a pilot basis.

During the Tenth Plan, a comprehensive review of:

- disease surveillance programmes currently being implemented in the different states, under different disease control programmes and under the CSS project on disease surveillance;
- laboratory facilities available for investigation of epidemic prone diseases; and
- reporting systems currently in use

should be carried out. Efforts should be made to integrate ongoing programmes for disease surveillance and develop a comprehensive disease surveillance programme at the district level. The programme should:

- strengthen routine data collection at the village level for selected diseases; monthly reports should be prepared so that deviation from the normal pattern could be recognised early;

- compile information pertaining to epidemic prone diseases which are prevalent throughout the country e.g. diarrhoea, tetanus, diphtheria should be reported by all; region specific problem such as malaria, filaria, leptospirosis should be reported from the endemic areas;
- ensure regular compilation and critical analysis of data generated at the district level so that outbreaks are recognised early and investigated by district health officers and appropriate timely response is initiated ;
- use modern IT tools to communicate data on disease incidence on a real time basis, complete analysis at the state, regional and national levels and build up a mechanism for rapid and appropriate response.

Infection control and waste management in health care settings

There has been increasing concern over the incidence of hospital-acquired infections and accidental infection in health care providers and waste disposers. **During the Tenth Plan**, hospital infection control and waste management should be incorporated as an essential routine activity in all health care institutions at all levels of care.

Horizontal Integration of Vertical Programmes

Initially, when sufficient infrastructure and manpower were not available for the management of major health problems, several vertical programmes like the NMEP and NLEP were initiated. Over the years, the three-tier health care infrastructure has been established. The Ninth Plan envisaged that efforts will be made to integrate the existing vertical programmes at the district level and ensure that primary health care institutions provide comprehensive health and family welfare services.

During the Tenth Plan, efforts should be mainly directed to improving the pace and coverage of this convergence. The NHP 2002 envisages manpower in rural /urban health system should be available for the entire gamut of public health activities at the decentralised level, irrespective of whether these activities relate to national programmes or public health activities initiated by state.

PREVENTION & MANAGEMENT OF NON-COMMUNICABLE DISEASES

Non-communicable diseases cover a wide range of heterogeneous conditions affecting different organs and systems in different age and socio-economic groups. Over the last two decades, morbidity and mortality due to cardio-vascular diseases, mental disorders, cancers and trauma have been rising due to an increase in:

- the number of senior citizens with higher prevalence of non-communicable diseases;
- prevalence of non-communicable diseases in younger people due to life-style changes, obesity and stress; and
- exposure to environmental risk factors and use of tobacco.

During the Tenth Plan, efforts should be made to improve preventive, promotive, curative and rehabilitative services for non-communicable diseases throughout the country at all levels of care so as to reduce morbidity and mortality. The major thrust should be on:

- a well-structured IEC&M for primary and secondary prevention of non-communicable diseases;
- re-orientation and skill upgradation of health care providers in diagnosis and management of non-communicable diseases at different levels of care;
- establishment of referral linkages between primary, secondary and tertiary institutions;
- production and provision of drugs for treatment of non-communicable diseases at affordable costs;
- development of institutions for rehabilitation of disabled persons, teaching persons to live with their disability;
- development of hospices for care of terminally ill people who cannot have home-based care; and
- creation of an epidemiological database on non-communicable diseases especially CVDs, stroke and diabetes.

National Cancer Control Programme (NCCP)

India has one of the lowest rates of cancer in the world. It is estimated that there are two to 2.5 million cases of cancer in India, with 7,00,000 new cases being detected every year. About two-thirds of the cases are in an advanced stage at the time of detection and 3,00,000 to 3,50,000 cancer patients die each year. Current projections suggest that the total cancer burden in India for all sites will double by 2026 because of increasing longevity, greater exposure to environmental carcinogens due to industrialisation, use of fossil fuels, the use of a wide variety of chemical agents in industry and agriculture, and the continued use of tobacco.

During the Tenth Plan, a major effort should be made to sensitise and upgrade the skills of health care providers in the primary, secondary and tertiary institutions so that they can take up the responsibility of:

- health education for cancer prevention;
- early diagnosis and management according to standard treatment protocols at appropriate institutions; and
- referral of cancer patients with complications.

National Programme for Control of Blindness (NPCB)

Surveys carried out by the ICMR in the 1970s indicated that the prevalence of blindness is about 1.4 per cent, with cataract accounting for over 80 per cent of the cases. A Government of India-WHO survey in 1986-89 showed that prevalence of blindness remained unaltered. Prevalence of blindness was higher than the national average of 1.4 per cent in eight states.(Andhra Pradesh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan,

Tamil Nadu, Uttar Pradesh and Jammu & Kashmir) In 1994, World Bank assistance was obtained for NPCB The major objectives of the programme were:

- to improve the quality of cataract surgery and clear the backlog of cataract by performing 11 million operations over a seven-year period;
- to strengthen the country's capacity to provide high volume, high-quality, low-cost eye care by upgrading the knowledge and skills of eye care personnel and improving access to service delivery through government, voluntary and private sector collaboration; and
- to increase eye care coverage among the underprivileged section of the population including women, urban slum dwellers and tribals.

A pilot survey carried out in 1999 in two districts showed that there has been a shift in the causes of blindness. In view of this the NPCB would have to be geared up to tackle the backlog of cataract surgery, glaucoma, corneal blindness.

During the Tenth Plan attempts should be made to:

- clear the backlog of blindness due to cataract by performing 4.5 million cataract operations per year. These should be done in fixed institutions and where adequate facilities are available, Intra-Ocular Lens (IOL) should be used;
- improve the utilisation of facilities created in the government, private and voluntary sector to cope with the broader spectrum of eye care, including screening of children for refractive errors, diabetics for retinopathy and all persons beyond 35 years for glaucoma;
- develop a system for accreditation of centres providing eye care;
- improve the quality of care before, during and after surgery through operationalisation of standard protocols for management;
- monitor quality of care;
- modify the ophthalmology curriculum in both the undergraduate and postgraduate stages so that the students have the necessary skills to deal with common ocular problems at all levels of health care;
- develop an appropriate continuing medical education programme to enable practitioners to deal with emerging ophthalmic problems effectively.

Mental Health

Mental health care has three aspects - restoration of health in mentally ill persons, early identification of persons who are at risk and appropriate protection and promotion of mental health in normal persons. It is estimated that:

- ten million people are affected by serious mental disorders.
- 20-30 million people have neurosis or psychosomatic disorders.
- 0.5 and 1 per cent of all children have mental retardation.

The national mental health programme was initiated in 1982 with the objective of improving mental health services at all levels of health care through early recognition, adequate treatment and rehabilitation of patients. The programme also envisaged improvement in the conditions in existing mental hospitals, effective implementation of the Mental Health Act, 1987 and adequate manpower development to meet the growing needs for mental health care.

During the Tenth Plan, it is expected that states will progressively improve access to mental health care services at the primary and secondary care levels in cover all the districts in a phased manner. Psychiatry departments in medical colleges should play a pivotal role in the operationalisation and monitoring of the programme in the district in which they are located and synergistic links should be formed with other ongoing related programmes.

Accident and Trauma Services

Increasing mechanisation in agriculture and industry, induction of semi-skilled and unskilled workers in various operations, and rapid increase in vehicular traffic have resulted in an increase in morbidity, mortality and disability due to accident and trauma. Overcrowding, lack of awareness and poor implementation of essential safety precautions result in an increasing number of accidents. The consumption of poisonous substances accidentally or intentionally is also on the rise. Technological advances in the last two decades have made it possible to substantially reduce mortality, morbidity and disability due to accidents, trauma and poisoning. People are unable to benefit from these advances because there is no organized comprehensive trauma care service either at the centre or in the state.

During the Tenth Plan efforts should be made to strengthen primary, secondary and tertiary care institutions for trauma care through:

- adequate training to medical and paramedical personnel;
- provision of facilities for transport of patients;
- suitable strengthening of existing emergency and casualty services; and
- improving referral linkages.

Environment and Health

Rapidly growing population, urbanization, changing agricultural, industrial and water resource management, increasing use of pesticides and fossil fuels have all resulted in a perceptible deterioration in the quality of environment causing adverse health consequences. Environmental health would have to address:

- the prevention, detection and management of the existing deficiencies or excess of certain elements in the environment;
- macro environmental contamination of air, land, water, and food; and
- disaster management.

So far, the major focus of environmental health has been on the communicable disease burden due to poor environmental sanitation in urban and rural areas and methods to tackle these. These efforts should be intensified during the Tenth Plan with emphasis on:

- establishing cost-effective and environment friendly technologies for safe , sanitary disposal of solid waste and waste water;
- improvement in access to potable drinking water, especially in urban slums and remote rural areas; and
- prevention and management of health consequences of environmental deterioration.

During the Tenth Plan priority should be accorded to:

- monitoring detection and alleviation of the macro environmental pollution;
- creation of national data base on environmental pollution and related health problems by linking the existing area specific environmental monitoring data with data on health status of the population living in these areas;
- epidemiological studies on:
  - → the impact of the biomass fuel on the health status; and
  - → health consequences of noise pollution;
- R&D efforts for producing:
  - → cleaner fuels form traditional material; and
  - → development of biomarkers for long term bio-monitoring designed to detect changes in aquatic eco systems due to water pollution.

Occupational Health

A healthy workforce is an essential pre-requisite for agricultural and industrial development. The Ninth Plan had recommended:

- continuous monitoring of the safety of the work environment and workers' health status in industry and agriculture;
- special attention to the health problems of vulnerable groups such as women and children with a focus on the prevention, early detection and prompt treatment.

Not much progress was achieved during the Ninth Plan. **During the Tenth Plan** the focus should be on:

- establishment of norms for work environment in organized, unorganized and agricultural sectors;
- monitoring the work environment for detection and correction of micro environmental pollution;
- monitoring of health status of workers;

- interventions aimed at prevention, early detection and effective management of health problems of workers, including occupational health problems; with special attention to health problems in women and children.

Health Management Information System (HMIS)

HMIS is an essential management tool for effective functioning of the health system. So far there has not been any effort to use the currently available IT tools to build up a comprehensive HMIS and use it to improve efficiency and functional status of the health system**. During the Tenth Plan** efforts should be made to ensure that effective two way management information system is established through out the country; all the data pertaining to health and family welfare programmes are collected, collated and reported from all districts and utilised to improve functional status and efficiency of the health system. With this real time communication link it should be possible to send data on births, deaths, diseases, request for drugs, diagnostics and equipment and status of ongoing programmes through existing service channels, infrastructure and manpower. It should also facilitate decentralized district based planning, implementation and monitoring.

Disease Burden Estimates

Traditionally policy makers have used mortality statistics for identifying major public health problems. In India, fairly reliable age specific mortality data and information on major causes of death are available through SRS. In addition to this, the country has under taken surveys for estimating the prevalence of major public health problems such as morbidity in women and children, nutritional deficiencies and major communicable diseases. However, reliable information on overall morbidity is not available. In the absence of reliable morbidity data, mortality statistics and available survey data have formed the basis on which health policy makers and programme managers evolved public health programmes and allocated funds. While this might have been the appropriate option in a situation where communicable diseases and maternal and child health problems predominate, appropriate modification will be required as the country undergoes demographic and epidemiological transition and non communicable disease emerge as major public health problems. In view of this there is a need to obtain data on not only mortality but also morbidity due to chronic illnesses and disabilities and take them into account while formulating public health programmes. There are wide inter-state differences health indices, morbidity rates and rate of demographic and epidemiological transition. Under these conditions, it is important to:

- ascertain and document morbidity and mortality due to major health problems in different states/ districts;
- evolve appropriate interventions programmes;
- invest adequately in well targeted interventions;
- implement intervention effectively by modifying the health care system; and

- monitor the impact on the morbidity and mortality.

Such an effort would require a reliable sustainable database for mortality and morbidity. While mortality data can be obtained through strengthening of CRS/SRS and ascertainment of the cause of death, the data base for morbidity can come only through a strengthened HMIS supplemented by the data from disease surveillance. When sustained, these three systems should, over the next two decades, provide valuable insights regarding time trends in morbidity and mortality in different states/ districts. Development of this data base is critical for evolving appropriate health policies and strategies, identifying priority areas for investment of available funds and bring about modifications in the existing health system to ensure equitable, efficient and effective implementation of the programmes to tackle dual disease burden.

Drugs –Production, Quality and Supply

Nearly one-third of the health budget at the centre and in the states is spent on providing drugs free of cost in all public health facilities. However, adequate stock of good quality drugs are not available in many of these institutions, and health benefit from treatment are sub optimal. During the Ninth Plan, several state governments (e.g. Tamil Nadu, Delhi and Orissa) have introduced an essential drug programme with the following components:

- development of a drug policy;
- preparation of an essential drug list;
- establishing a quality control and assurance system;
- pooled procurement system and improvement in logistics of drug supply;
- improvement in the availability of safe and effective drugs;
- preparation of standard treatment guidelines and dissemination of information; and
- providing information about treatment to patients to improve compliance.

During the Tenth Plan efforts should be made to:

- cover all states with expanded and strengthened essential drug programme
- adopt an online computer inventory control programme for the procurement and supply of drugs;
- establish a system to monitor cost, quality, availability and use of drugs.
- monitor all aspects of drug use including adverse drug reaction

Currently, Indian industry is investing about 5 per cent of turnover on research and development. These investments may have to be augmented so that the Indian pharmaceutical industry achieves its full potential. Parallel efforts to improve public sector-funded research are also essential for the development of drugs for the treatment of public health problems such as emerging drug resistance, development of newer contraceptives and vaccines. The private sector may not be willing to make requisite investments in these areas because of very low profit margins.

Information, Education, Communication and Motivation (IEC&M)

An aware and informed population, actively participating in programmes aimed at promoting health, preventing illness, accessing health care at appropriate level is an essential prerequisite for improvement in health status of the country.

During the Tenth Plan, attempts should be made to:

- review existing training programmes on health promotion/health education and make them more relevant;
- integrate the various health education programmes under different vertical programmes so that health personnel at each level of care provide comprehensive IEC to the population;
- involve PRIs and NGOs in health promotion/education and IEC&M;
- ensure the involvement of non-formal leaders in the community in order to make health promotion/ education/ IEC&M a people's movement; and
- involve PRIs in IEC&M.

Public Health

With increasing knowledge and experience, the earlier concept that prevention and curative care are two sides of the same coin, which mutually reinforce each other gained wider acceptance. As a result, public health is today defined as a discipline aimed at developing a health system to deliver equitable, appropriate and holistic care to improve the health status of the individual and health indices of the country at an affordable cost. The newer concepts of public health were discussed in 1999 and the 'Calcutta Declaration 1999' redefined the role of public health. The declaration stated that as the countries in the Southeast Asian region are stepping into the new century with an unfinished agenda of existing health concerns, amidst new and complex emerging challenges, there is a need for innovative solutions. Public health should meet the health needs of the community and preserve, protect and promote the health of the people. The declaration emphasized the need for capacity building in public health as a multi-disciplinary endeavour to design, develop and provide health care to meet health needs of the population.

Taken in this broader perspective, public health deals with the formulation, implementation and monitoring of evidence-based health policies, strategies and programmes. It also attempts to create a supportive environment for the effective implementation of such programmes by addressing critical issues that affect health care including quality, equity, ethics, environment and globalisation. Every effort has to be made to ensure that policy makers, programme managers, health care providers and people themselves internalise and support this broad concept of public health and contribute towards attaining the public health goals.

Health Systems Research and Bio-medical Research

India had invested in health system and biomedical research from as early as 1911 to evolve appropriate policies, strategies and programmes to improve the health status of the population on the basis of data from research studies. Some National Programmes formulated on the basis of ICMR's R&D efforts include:

- domiciliary treatment for tuberculosis;
- short course chemotherapy for tuberculosis;
- multi drug therapy for leprosy;
- oral rehydration therapy for treatment of diarroheal disease;
- programme for prevention of blindness due to Vitamin A deficiency;
- programmes for antenatal care;
- management of anaemia in pregnancy.

In India, most of the morbidity and mortality is due to illnesses for which simple, inexpensive and effective preventive measures and time-tested cost-effective curative interventions are available. Therefore, priority has been given to health systems research for improving service delivery and coverage as well as operational research aimed at improving access to technological advances. Basic and clinical research leading to development of products, drugs, vaccines for prevention, diagnosis and management of illnesses especially major health problems for which currently there is no effective cure are encouraged.

During the Tenth Plan, efforts to generate data on the health impact of the socio-economic, demographic and epidemiological transition on the health and nutritional status of the population should continue. Health system research, which will enable the existing systems to provide appropriate health care using effective, inexpensive technology for detection and management of health problems and ensure equitable, economical, and efficient service delivery should receive priority. Clinical, and operational research in both the modern system of medicine and ISM&H should continue. The major thrust areas of research in communicable, non-communicable diseases; nutrition and family welfare have been indicated in the respective sections. Other important areas include new drug development, improved drug delivery system, harnessing emerging technologies in genomics for diagnosis and management of diseases. Appropriate bio-safety containment facilities have to be set up in selected laboratories in order to facilitate basic research on pathogenic microbes, storage, handling, cultivation of virulent pathogen strains and *in-vitro* and *in-vivo* screening of anti-microbials. Inter-agency collaboration should ensure optimal utilisation of available resources and avoid unnecessary duplication of efforts.

HEALTH CARE FINANCING

Since independence, health care has been recognized as an essential social sector investment. It was, therefore, initially envisaged that health services in government institutions will be provided free of cost to all. During the 1990s, it was recognized that, given the increasing awareness and

expectations of the people, and the escalating costs of health care, this policy could not continue.

Health sector reforms during the Tenth Plan should focus on:

- addressing the issues of need and equity in access to health care;
- devising a mechanism by which people below poverty line have ready access to subsidised health services for essential health care needs; while those from above the poverty line pay for the services both in government and private care facilities.

There is an urgent need to evolve, implement and evaluate an appropriate scheme for health financing for different income groups. Health finance options may include health insurance for individuals, institutions, industries and social insurance for BPL families.

It is imperative that a system of National Health Accounting, reflecting total government expenditure on health is established. This would enable periodic review and appropriate policy decisions regarding modalities for ensuring optimal utilisation of the current government investment in the health sector and also future investments to meet public health needs.

Health insurance can improve access to good quality health care only if it is able to provide health care in institutions with adequate facilities and skilled personnel at affordable cost. Some states like Kerala and Delhi are taking up pilot projects where the government pays the social insurance premium to meet the hospitalization cost for the poor admitted in government institutions. **During the Tenth Plan** global and Indian experience with health insurance/health maintenance organisations should be reviewed and suitable models replicated. In order to encourage healthy lifestyles, a yearly `no claim bonus'/adjustment of the premium could be made on the basis of previous year's hospitalisation cost reimbursed by the insurance scheme.

Health care can absorb a very large quantity of investments from the government and individuals and yet leave millions of people, especially the poor who suffer from a high disease burden, inadequately covered. It is also being increasingly realized that merely investing more in health is unlikely to improve the health status of the population. It is essential to quantify the interactions between the health of the population and economy, gauge essential potential benefits of various interventions and ensure adequate investment in chosen priority sectors so that there is an improvement in health indices. Concurrently, every effort should be made to organise and deliver health services equitably and efficiently. It is important to get adequate data on disease burden and current modalities of funding health care in different states. These data should then be used for:

- making an enabling policy framework
- selecting appropriate strategy,
- implementing and evaluating packages of health interventions
- assessing quality of care and its cost effectiveness.

In view of the importance of health as a critical input for human development there should be continued commitment during the Tenth Plan to provide the following services free of cost to all:

- essential primary health care;
- emergency life saving services;
- services under the National Disease Control Programmes and the National Family Welfare Programme.

Efforts should be made to provide essential health care service to people below poverty line based on their need and not on their ability to pay for the services.

Appropriate interventions to ease the existing funding constraints at all levels of health system and to promote the complete and timely utilization of allocated funds should be taken up. Different models of health care financing at the individual, family, institution and state level should be evolved, implemented and evaluated. Models found most suitable for providing essential health care to all should be replicated.

The focus during the Tenth Plan should be on

- reorganisation and restructuring the existing government health care system including the ISM&H infrastructure at the primary, secondary and tertiary care levels with appropriate referral linkages. These institutions should have the responsibility of taking care of all the health problems (communicable, non-communicable diseases) and deliver reproductive and child health (RCH) services for people residing in a well-defined geographic urban and rural area;
- development of appropriate two-way referral systems utilising information technology (IT) tools to improve communication, consultation and referral right from primary care to tertiary care level;
- building up an efficient and effective logistics system for the supply of drugs, vaccines and consumables based on need and utilisation;
- horizontal integration of all aspects of the current vertical programmes including supplies, monitoring, information education communication and motivation (IECM), training, administrative arrangements and implementation so that they are integral components of health care; there should be progressive convergence of funding, implementation and monitoring of all health and family welfare programmes under a single field of administration beginning at and below district level;
- improvement in the quality of care at all levels and settings by evolving and implementing a whole range of comprehensive norms for service delivery, prescribing minimum requirements of qualified staff, conditions for carrying out specialised interventions and a set of established procedures for quality assurance;
- evolving treatment protocols for the management of common illnesses and diseases; promotion of the rational use of diagnostics and drugs;

- evolving, implementing and monitoring transparent norms for quality and cost of care in different health care settings;
- exploring alternative systems of health care financing including health insurance so that essential, need based and affordable health care is available to all;
- improving content and quality of education of health professionals and para professionals so all health personnel have the necessary knowledge, attitude, skills, programme and people orientation to effectively take care of the health problems, and improve the health status of the people;
- skill upgradation of all health care providers through CME and reorientation and if necessary redeployment of the existing health manpower, so that they can take care of the existing and emerging health problems at primary, secondary and tertiary care levels;
- research and development to solve major health problems confronting the country including basic and clinical research on drugs needed for the management of emerging diseases and operational research to improve efficiency of service delivery;
- building up a fully functional, accurate Health Management Information System (HMIS) utilising currently available IT tools; this real time communication link should send data on births, deaths, diseases, request for drugs, diagnostics and equipment and status of ongoing programmes through service channels within existing infrastructure and manpower and funding; it would also facilitate decentralized district based planning, implementation and monitoring;
- building up an effective system of disease surveillance and response at the district, state and national level as a part of existing health services;
- strengthening and sustaining Civil Registration, Sample Registration System; improving medical certification of death so that information on specific causes of death throughout the country are available; use these data in district based planning and monitoring; when sustained over the next two decades, this system would provide valuable insights into inter-district, inter-state, regional variations and time trends so that district health system could be modified to cope with the changing disease burden;
- improving the efficiency of the existing health care system in the government, private and voluntary sectors and building up appropriate linkages between them;
- mainstreaming ISM&H practitioners, so that in addition to practising their system of care, they can help in improving the coverage of the National Disease Control Programmes and Family Welfare Programme;
- increasing the involvement of voluntary and private organisations, self-help groups and social marketing organisation in improving access to health care;
- improving inter sectoral coordination;
- devolution of responsibilities and funds to panchayati raj institutions (PRIs); besides participating in area-specific planning and monitoring, PRIs can help in improving the accountability of the public health care providers, sort out problems such as absenteeism, improve inter-sectoral co-ordination and convergence of services;

- strengthening programmes for the prevention, detection and management of health consequences of the continuing deterioration of the ecosystems; improving the linkage between data from ongoing environmental monitoring and that on health status of the people residing in the area; making health impact assessment a part of environmental impact assessment in developmental projects;
- improving the safety of the work environment in organized and unorganised industrial and agricultural sectors especially among vulnerable groups of the population;
- developing capabilities at all levels, for emergency and disaster prevention and management; evolving appropriate management systems for emergency, disaster, accident and trauma care at all levels of health care;
- effective implementation of the provisions for food and drug safety; strengthening the food and drug administration both at the centre and in the states;
- screening for common nutritional deficiencies especially in vulnerable groups and initiating appropriate remedial measures; evolving and effectively implementing programmes for improving nutritional status, including micronutrient nutritional status of the population.

CHAPTER-I
INTRODUCTION

Improvement in the health and nutritional status of the population has been one of the major thrust areas for the social development programmes of the country. This was to be achieved through improving the access to and utilization of Health, Family Welfare and Nutrition services with special focus on under served and under privileged segments of the population. Over the last five decades, India has built up a vast health infrastructure and manpower at primary, secondary and tertiary care in government, voluntary and private sectors manned by professionals and paraprofessionals trained in the medical colleges in modern medicine and ISM&H and paraprofessional training institutions. The govt. had set up 725 primary health units in the First Plan; the country now has 137271 sub-centres, 22975 PHCs and 2935 CHCs in urban areas. A plethora of secondary and tertiary care institutions and 23028 ISM&H dispensaries and 3004 ISM&H hospitals provide primary, secondary and tertiary care to all those who come to these institutions. The private and voluntary sector also tried to cater to the health care needs of the population. However, the extent and utilization of health care varies substantially between states, districts and different segments of society The population has become aware of the benefits of health related technologies for prevention, early diagnosis and effective treatment for a wide variety of illnesses and accessed available services. Technological advances and improvement in access to health care technologies, which were relatively inexpensive and easy to implement, and improvement in the coverage and quality of health care services since independence has resulted in improvement in health and demographic indices in the country. The Crude Death Rate (CDR) has declined from 25.1 in 1951 to 8.7 (SRS 1999), infant mortality declined from 146/1000 live births in 1951-61 to 70 in 1999 (SRS) and the average life expectancy rose from 32 years in 1947 to 60.7 (1992-96 SRS)

However the nineties have witnessed a plateauing of mortality rates and perhaps even an increase in the m orbidity rates.. The country now faces a dual disease burden of communicable diseases on the one hand and a rising prevalence of non-communicable diseases on the other. Under nutrition and micro nutrient deficiencies co-exist with increasing obesity. Communicable diseases are becoming difficult to combat due to insecticide resistance among vectors, resistance to antibiotics in many bacteria and emergence of new diseases such as HIV. Increase in longevity, changes in life style and growing obesity are contributing to increase in non-communicable diseases.

Advances in health care technologies have resulted in increasing cost of health services. Increase in awareness and rising expectations of the people have resulted in increased demand for these high technology, high cost services. On the one hand the public health care institutions alone cannot meet these demands, on the other hand the population is unable to pay for these services and health care ranks as a second major cause of indebtedness.

There are approximately 6 lakh ISM&H practitioners in the country. Measures to popularize and develop Indian Systems of Medicine and Homoeopathy have been vigorously pursued during the Eighth and Ninth Plan. In order to give focused attention to the development and optimal utilization of ISM&H for the health care of the population, a separate Department for ISM&H was set up in1995. There has been a phased expansion of ISM&H services at primary, secondary and tertiary care levels both at the Central and State levels. Efforts are underway to improve the quality of ISM&H drugs available. A Medicinal Plant Board has been formed in the Department of ISM&H to coordinate all activities relating to this important sector so that drugs of herbal origin are available to meet the national and international demand without any adverse effect on biodiversity.

The first seven Five-Year Plans focused on development and expansion of health care services at primary, secondary and tertiary care levels. The Eighth and Ninth Plan emphasized consolidation of these institutions, establishment of referral services and improvement of functional status through reorganization and restructuring of existing health care institutions. Human Resource Development for health had provided appropriate health manpower for health institutions in Government, voluntary and private sectors. However, it is a matter of concern that even through the country is producing adequate number of professionals and para professionals there are vacancies in the key posts in Government sectors in remote areas where health care needs are the greatest.

In order to review the progress up to and during the Ninth Plan and recommend appropriate policies, strategies and programmes for improving the health status of the population during the Tenth Plan, the Planning Commission constituted a Steering Committee on Health (Health care under modern system of medicine and ISM&H, Biomedical Research, Development of Human Resource for Health and Health Economics) with the following terms of reference:

1. To assess the situation of Primary Health Care Delivery in urban and rural areas including the delivery of primary health care provided by rural hospitals/dispensaries, ISM&H dispensaries, Municipal bodies, CGHS dispensaries, railways, defense establishments, PSUs etc., as well as voluntary, private and joint sectors and suggest appropriate mechanism for restructuring and rationalization of services in a defined geographic area with special attention. Special attention to remote rural and tribal areas for delivery of primary health care services.
2. To review the existing norms for establishment of primary health care infrastructure/manpower for effective delivery of primary health care services.
3. To assess the functioning of existing secondary, tertiary and superspeciality institutions including supportive and diagnostic services at each of these levels; suggest methods for establishing a functional referral system; review ongoing innovations in providing greater autonomy to

these institution allowing them to generate and utilize funds to improve hospital services and modalities to improve quality of services.

4. To review the current situation of ISM&H in delivery of health care and suggest measures to increase the role of ISM&H in providing health services taking into account area specific needs.
5. Review of programmes for containment/control/management of communicable and non-communicable diseases and their delivery through existing primary, secondary health care institutions and suggest modifications.
6. To indicate targets to be achieved by the terminal year of the 10th Plan in non-communicable, communicable disease control, environmental health programmes and health indices.
7. To review existing:

    a) HMIS
    b) Disease surveillance and response system
    c) Biomedical research including health services research
    d) IEC Programmes in the country

    and make recommendations for these sectors for the 10th Plan with special reference to optimal utilization of available infrastructure, avoidance of duplication and overlapping and ensuring sustainability.

8. Suggest newer initiatives/innovations, programmes during the 10th Plan for optimal utilization of emerging technologies.
9. To assess the requirements for training and education including continuing education programmes for all categories of health professionals and paraprofessionals, make appropriate recommendations for policy strategy and programmes for 10th Plan period, recommend strategy for continuing medical education to improve functioning of all the personnel of the health care delivery team.
10. Assess quantum of resources needed for implementation of health care programmes, biomedical research and health manpower development and education during the 10th Plan and suggest ways and means for ensuring sustainability of health programmes and optimizing the utilization of available resources.

The list of Members of the Steering Committee on Health is in Annexure 1.1.

The Steering Committee met twice. The first meeting of the Steering Committee chaired by Member (Health) Dr. K. Venkatasubramanian was held on 6th February, 2001. During the first meeting the members of the Steering Committee were requested to suggest broad areas which would require inputs and recommendations from the nine Working Groups (Annexure 1.2); they were also requested to give their views on the terms of reference of the Steering Committee. Member (Health) requested all the Members of the Steering Committee to send a brief note giving their views and suggestions on the terms of reference to the Planning Commission.

The Second Meeting was held on 1st & 2nd November, 2001 under the Chairmanship of Member (Health) Dr. K. Venkatasubramanian. The reports and recommendations of the Working Groups were presented to the Steering Committee. These were discussed in detail. The Member Secretary of the Working Group on Health Economics had informed the Planning commission that since the sub-groups had not submitted their reports, it will not be possible to make a presentation on the Report of the Working Group on Health Economics. In view of the importance of the subject, Members of the Steering Committee were requested to give their comments/suggestions on this important area. At the end of the extensive two days discussions, it was decided that a sub-committee consisting of Mr. Srinivasan, Dr. Sudershan, Shri Alok Mukhopadhyay, Dr. R.C. Kalra and Mr. L. Prasad will assess the feasibility of improving health care services through appropriate reorganization and restructuring of the existing health care infrastructure and implementation of health sector reforms recommended in the Ninth Plan taking into account, on-going programmes in state Sector and through efforts to improve implementation of major disease control programme such as Malaria, Tuberculosis, AIDS and Family Welfare Programmes. The team will visit Madhya Pradesh and Karnataka and come up with appropriate recommendations. The report of the sub-committee is given in Annexure 1.3

ANNEXURE 1.1

LIST OF MEMBERS OF THE STEERING COMMITTEE ON HEALTH

K. Venkatasubramanian Member (Health), Planning Commission	Chairman
Dr. D.N.Tiwari Member Planning Commission	Co-Chairman
Mr.S.S.Boparai Principal Adviser Planning Commission	Member
Sh.A.R.Nanda Secretary Deptt.of Familty Welfare M/o Health & Family Welfare Nirman Bhavan New Delhi	Member
Sh. J.A. Chowdhury Secretary Deptt. Of Health M/o Health & Family Welfare Nirman Bhavan New Delhi	Member
Ms. Shailaja Chandra Secretary Deptt. Of ISM&H M/o Health & Family Welfare Red Cross Building New Delhi	Member
Prof. B.S. Ramamurthy Secretary Deptt. Of Science & Technology Technology Bhavan, New Mehrauli Road New Delhi	Member
Dr. (Mrs.) Manju Sharma Secretary Deptt. Of Biotechnology C.G.O.Complex Lodi Road, New Delhi	Member

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Dr. Hari Gautam — Member
Chairman
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Member

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Dr. Lalit Nath Former Director AIIMS New Dehi	Member
Dr. Alok Mukhopadhyay Director Voluntary Health Association of India 40, Institutional Area (Near Qutab Hotel) New Delhi 110016	Member
Dr. Sudarshan Chairman Karnataka Task Force on Health care Bangalore	Member
Dr. Prema Ramachandran Adviser (Health) Planning Commission, New Delhi	Member-Secretary

ANNEXURE- 1.2

LIST OF WORKING GROUPS ON HEALTH

WORKING GROUP	CHAIRMAN
Working Group on Communicable Diseases	Shri Javed Choudhary, Secretary(Health)
Working Group on Non-Communicable Diseases	Dr. S.P. Aggarwal, DG, DGHS
Working Group on Environment Occupation Health	Dr. N.K. Ganguly, DG, ICMR
Working Group on ISM&H	Dr. D.N. Tiwari, Member (Planning Commission)
Working Group on Health Care Services	Shri Javed Chaudhary, Secretary(Health)
Working Group on Development of Human Resources for Health	Shri Javed Chaudhary, Secretary(Health)
Working Group on Health System Research and Biomedical Research	Dr. V.I.Mathan
Working Group on Health Education & IEC	Dr. N.H. Antia
Working Group on Health Economics	Shri Javed Chaudhary, Secretary(Health)

Annexure 1.3

Report of the sub-Committee to assess the feasibility of improving health care services through appropriate reorganization and restructuring of the existing health care infrastructure and implementation of health sector reforms

The remit of the group set up by the Steering Committee of the Planning Commission was to consider state level innovations in primary health care - both in structures and in using decentralized agencies of governance set up under the 73rd/74th amendments to the Constitution for implementation. It was also to assess how far Indian system of medicine could be integrated in service delivery in rural areas. Since for preparing and in the course of its implementation, the 10th plan would need a large learning experience from successes and failures at State level the group was asked to visit a few States such as Karnataka and Madhya Pradesh. In the event only Karnataka could be visited, because of some logistical problems in undertaking the MP visit. However some literature on health care innovations from Madhya Pradesh was made available.

During its Karnataka visit the team met with the Health Minister, Chief Secretary and senior officials in Health and Rural development and Panchayati Raj departments The group had productive and detailed discussions with the members of the Task Force on Health set up by the Government of Karnataka . It also undertook a visit to Tumkur District to look at the working of primary health care under Panchayati Raj institutions at the block level. On the basis of the discussions and observations, the sense of the group is indicated below by the Chairman of the group.

At the outset the group would like to commend the Task Force (TF) approach adopted in Karnataka .Clearly it has resulted in enormous concurrent benefits as the TF submitted interim reports focusing on some immediate problems such as rural posting norms for doctors and transparent action. In respect of issues to which an acceptable solution has been found, TF had also been given responsibility for coordinating and monitoring implementation .This seems to have made some dent in limited solutions for changing motivation at various levels towards a people centred health care , more result oriented procedures and close search for local solutions for inter--sector issues which had otherwise been blocking progress A key reason for the success of TF was its composition which was representative and non partisan and professionally influential and experienced with TF having access and acceptability at high political levels. OUR observations and suggestions draw largely on the TF analysis and action.

Observations

1. At the end of almost a decade of liberalization, the health care delivery system has been pushed more and more towards private provision which envisages for the most part (and certainly in rural areas) fee charging service, uneven quality and loose accountability. As a result that in large almost all States particularly in the less developed districts, the poor have not been able to get basic health care at affordable levels as witnessed by raised morbidity levels and continuing high incidence of infectious diseases. The public funded primary health care structure was therefore envisaged as the main stay three tier system for preventive and first level curative care backed by referral arrangements. An enormous network has been laboriously built but the size and financial aspects of the PHC structure has made it deflect from and fail in its goal due to absence of a balance between health and population tasks to be delivered at PHC level, to shortages in funds - especially for meeting recurring costs and from imbalances in staffing and supervision/control systems to ensure appropriate accountability. Recognizing this many States have been attempting to practice health sector reform and rejuvenate the PHC system, which has been further accelerated through a period of broader structural economic reforms and consequential compression of public expenditure. The Karnataka TF is a good example of optimization of existing resources while plotting directions of change for an integrated and accountable primary health care system. Our group had the advantage of the experiences of Dr. H.S Sudharshan, Chairman of the Task Force as a member.

2. Another direction has been taken in Madhya Pradesh where with strong political direction and commitment for decentralizing powers, there has been relentless pushing down of funds, tasks and responsibilities to the PR levels to the Grampanchayat and indeed further down to the Gramsabha all seen as a key instrument of social policy. The decentralization has enabled government to become partner with the local community and has unleashed several initiatives in devolving fund to local institutions , encouraging community health volunteers for locally manageable tasks , district level, health planning consisting of village level health plans and creation of capacity for local people to assess their own key problems in health and to seek local solutions. The most critical problem to face seems to be the enormous change needed within the current vertical state health care infrastructure to learn to work with the local community on the basis of their expressed health priorities and to be accountable to local constitutional structure. This will of course be a problem that can be solved incrementally and over a period of time and sustained political will.

3. In the face of compression of public budgets at the Centre and the State there has also been some innovative search for getting better value and focused expenditure within the public health care structure. One good example is in Tamil Nadu where the drug delivery system has been

streamlined to produce about a third more value out of the same budget. In addition, wherever the PHC structure has settled down experiments are made for expanding its role suiting local circumstances e.g. some PHCs on highways equipped to deal better with trauma. There have been some experiments in Gujarat and Tamil Nadu of partnership between public private/voluntary structure for management of PHCs - the success in such efforts would however critically depend upon the extent of shared outcomes envisaged by both parties in the partnership. So far there seems to have been only a more or less a sgency function discharged by the non public partners like Sewa rural in Gujarat which has also underlined the fact that under funding in PHC exists to the extent of 25% if proper service delivery is to be ensured.

4. On the whole, the area of public health, as the Karnataka Task force found, has been neglected whether in regarded to orientation of programmes, the logistics of supply, staff training and functioning under supervision, and monitoring to ensure that public health tasks are not only done but done in time. TF also found that there are still too many directly delivered programmes acting as impediments to integrated care. Disease surveillance is hampered by absence of appropriate data and capacity to use it as an active tool for intervention. There is also a lack of transparency in administrative procedure which leads to ambiguity in decision making, poor morale fostering corruption, particularly in the matter of recruitment posting and transfers of doctors in primary health care. This is a correct assessment of the existing situation in several States and it is clear that more funds and better management are both concurrent needs. What the TF experience proves is that taking into account genuine difficulties of personnel and attempting second best solutions with consultation helps in progress. TF had provided in Karnataka a mediatory body in which practical solutions could be ironed out

5. From the success in the attempts it was clear to the group that transparent guidelines, greater consultation with the community of doctors, more robust methods of devolving funds and accountability to local PRIs would be useful and feasible. But it also requires identification of detailed linkages, formulation of criteria for handling staff matters and supplies and the tenacity to persist with implementation of such ideas over a sufficiently long period. In many cases even to identify such intervention requires. an eminent group of outsiders, with sufficient exposures to different method of care. The Task force in Karnataka has been a success precisely because it was able to assemble eminent men with experience and address itself to many matters of routine administrative consequences, not forgetting methods to tackle pervasive corruptions. The group would like to comment further the ideas of allowing the Task force after its final report to be associated with implem ientation of key recommendations. The experience of Karnataka would definitely have a meaningful impact on the state's 10th Plan proposal in the Health Sector.

6. Notwithstanding the positive features mentioned above, the team observed that in the country side, especial!y with the growth of small towns and growing urbanization and access to much larger information to TV etc., there are many pathways for health care adopted by people as convenient and sensible in their situation. The Tumkur visit indicated that referral systems cutting across public - private systems are not still working and the market for medical services is slowly emerging with some degree of competition. At the same time the ZP in Karnataka with elected representatives have the onerous responsibility of making a large public system work efficiently. To assist this ZP we need more practical suggestions - like the task force report itself - which will enable ZP to exercise effective, not only formal, control over process; expenditures and outcomes. Right at the level of the district and below, we now have the PRI, the technical agency and NGOs as three distinct entities offering services, sometimes supplementing each other but not always SO. There was some evidence that this triangular potential partnership is yet to stabilise, though the task force has addressed itself to anchoring district funds, district cadres and local accountability as the key feature of decentralized health care. There is a long way to travel before achieving substantial success,

7. Judging from documents received from Madhya Pradesh, the team noted that a new beginning is being made in selecting, training and using a local community volunteer (Jan Swasthya Rakshak) as a key agency for linking identified health needs with public structures in the health sector. A key point is that, unlike earlier experiments of community volunteers, the Panchayat is integrated into the exercise by a village health plan and a local health survey - both of which create capacity in the community to address their own problems. Above all, these linkages are strengthened by connecting them to the health/education sub committee of the Standing Committee, a constitutional device. It can be nobody's claim that the first crop of JSR's have become fully functional but the patterns of recruitments and the struggle to depart from previous failures has been noted by a consultant assisting the MP government who spoke to the team. To the extent that the HFA/PHC approach was founded, inter-alia, on downstaging to the community of knowledge and capacity in dealing with health issues, the MP experiment marries the PRI structure with the process of identifying and tackling local health needs.

Recommendations:

1. The team would commend the Karnataka State on the Task Force approach, the composition and participatory role assigned to it. All states may not have the same opportunity, but must be requested to strive early in the 10th plan to constitute a diverse group of experienced people to look holistically at the local health situation in the State linking it - with intersectoral action, proper data generation and analyses for limited evidence based decisions and above all to ensure that the vast investment in creating the

primary health care structure does not go wasted. The period of the 10th and the 11th Plans should be used for a concerted effort to make it fully functional with public funds, public private partnerships, private provision with proper accountability etc. By 2010 when the demographic profile of the country would be at a decisive stage, a relevant functioning and caring health systems is available. At the same time the team would like caution against any fundamentalist adherence to past structures the three tier ratio based provision. There must be greater flexibility to do local planning and induce responsiveness to needs circumstances which will help the PR institutions grow. Where ever such local changes are sound and relevant, the rural primary health care structure would be energized and made functional and locally accountable. As for per the urban scene, fresh thinking is necessary taking into account the steady dominance of private sector care, the dynamics introduced by risk-pooled health insurance - in particular to its tendencies towards adverse selection - and the explosion of information on good health and medical care. The urban planning will have to be based on a proper linkage between general practitioners, specialists/hospitals and new and community based insurance products to be required by IRDA and made available The exact package will differ from state to state on the basis of the level of development and its health situation. There could indeed be no objection to state health plans substantially differing from each other, built up from local plans initiated by PRIs and integrated at the state level. Where such plans need additional funds the national health plan and the central government role will determined and central social sector assistance funds must flow out of such integrated state health plans. The Task Force, as a concept, entity and evolving practice, as in Karnataka ,can be useful instrument in this connection.

2. Clearly we need to prove success in tackling well known impediments in PHC and in PRI role. Many of these impediments relate to the issue of administrative transparency and human resource development . They also call for clear guidelines and criteria for staffing, supplies rules of access, etc. To the extent these have been identified, the Task Force demonstrates that pragmatic and partial solutions are possible in the short run. What is necessary is to set afoot in each state a concerted attempt to meet these impediments, Largely in proper devolution of funds , full access to such funds constructive inputs from the technical agency for local planning and wide exercise of the right to information. A second difficulty is related to the increasingly lower emphasis given to public health action both in population based preventive programs for infectious disease control and child nutrition and for water supply and sanitation. There is a key task of deliberate down staging the content and delivery of all these programs with massive community participation and education. Again the solution lies in integrating funds response cities and supervision to the district level, where the emergence of a constructive relationship must be nurtured between PRIs, technical agencies and NGOs. A third aspect is in regard to preventive action of population on the basis of disease surveillance relevant to the local area.

Given the degradation of soil, water and air in many parts of the country, the initiative with the health ministry must be used proactively in the formulation of standards and criteria. E.g. water quality standards to avoid water borne diseases becoming an input to water and sanitation sector. A greater understanding of the inter sector process by which health outcome become assured is necessary for pointed intervention by health departments

3. The team feels strongly that mutual learning between states should be supported'. There must be support for considered increases in non-plan budget subject to the conditions laid down for streamlined procedures. Indeed in the course of the 10th plan the role of the central ministry in health should be assessed in relation to the success achieved in such multilevel planning for health development. Taking a broad view, demography technology and equity would constitute the three powerful forces deciding the shape of future health care in India. To look for special programs and reassess capacities to meet resulting demographic transition must constitute one component of the gap filling central health planning. Similarly, technology management in medical care has to be monitored and in conjunction with the profession, effort should be made to moderate the impact of technology to avoid irrelevance and high cost. What may be needed in many cases is to lay down stringent standards make price-service details more transparent, support consumer education efforts and creatively use public institutions to set standards for quality: of care and its prices. Finally as far as equity is concerned a key input will be good quality and value of services rendered whether free or at a cost. The issues of quality of care and professional accountability for quality would be mainly an area for central regulation and local implementation through legislation, guidelines, incentives and institution building by states.

4. As regards the decentralized structures, the experiment in MP should be watched and encouraged, notwithstanding inevitable difficulties faced. For the MP experiment has been able to break a long standing problem namely how to ensure that resources actually get down. Indeed the importance given to the Gramsabha is critical but must be made to work to ensure that there is no neglect from within the poor themselves. All past experience reveals that mere devolution was incapable of pushing down resources. Now, operating under a constitutional cover, it is possible to locate resources, planning, control and responsibility together at the same place.

5. The team was also asked to look into the association of ISM into rural public health infrastructure. The evidence and data available to the team in Karnataka was not sufficient for any recommendations. The team would observe however, that already in a number of states provision of ISM is at PHC level. sometimes as a supplement. A number of hospitals and dispensaries in ISM are supported. There is also evidence from health melas of customer preference for ISM for chronic diseases. In any case, the merit of ISM stands established by a substantial private sector in ISM, with a reputation for reasonable cost of care and able to attract specific customs.

The persistence of plural systems of medicines in India has been a manifest of the different perceptions of planners, professionals and people. This discard can be bridged to some extent by the devolution process whereby people will have a greater voice in the type of facility and system they believe in. In the view of the team, the state governments will have a larger role in regard to ISM provision of services. The central ISM department should while keeping a focus on herbal medicine in international trade and advantages for India, reckoned with the question of how to promote state efforts in delivery of ISM services and products.

ANNEXURE 1.1

LIST OF MEMBERS OF THE STEERING COMMITTEE ON HEALTH

K. Venkatasubramanian Member (Health), Planning Commission	Chairman
Dr. D.N.Tiwari Member Planning Commission	Co-Chairman
Mr.S.S.Boparai Principal Adviser Planning Commission	Member
Sh.A.R.Nanda Secretary Deptt.of Familty Welfare M/o Health & Family Welfare Nirman Bhavan New Delhi	Member
Sh. J.A. Chowdhury Secretary Deptt. Of Health M/o Health & Family Welfare Nirman Bhavan New Delhi	Member
Ms. Shailaja Chandra Secretary Deptt. Of ISM&H M/o Health & Family Welfare Red Cross Building New Delhi	Member
Prof. B.S. Ramamurthy Secretary Deptt. Of Science & Technology Technology Bhavan, New Mehrauli Road New Delhi	Member
Dr. (Mrs.) Manju Sharma Secretary Deptt. Of Biotechnology C.G.O.Complex Lodi Road, New Delhi	Member

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Dr. Lalit Nath Former Director AIIMS New Dehi	Member
Dr. Alok Mukhopadhyay Director Voluntary Health Association of India 40, Institutional Area (Near Qutab Hotel) New Delhi 110016	Member
Dr. Sudarshan Chairman Karnataka Task Force on Health care Bangalore	Member
Dr. Prema Ramachandran Adviser (Health) Planning Commission, New Delhi	Member-Secretary

Annexure 1.2

List of Working groups with the chairman and member secretaries of each group

Working Group	Chairman	Member Secretary
Working Group on Communicable Diseases	Shri Javed Choudhary, Secretary (Health)	Dr. K. K. Dutta, Director, NICD
Working Group on Non-communicable Diseases	Dr. S.P. Aggarwal, DG, DGHS	Dr.Shiv Lal Addl DG, DGHS
Working Group on Environment & Occupation Health	Dr. N.K. Ganguly, DG, ICMR	Dr Sayeed Diretor NIOH
Working Group on ISM & H	Dr.D.N.Tiwari, Member (S&T)	Shri. L Prasad, JS Dept of ISM&H
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CHAPTER-II
PUBLIC HEALTH CARE SYSTEM

The Health care system consists of:

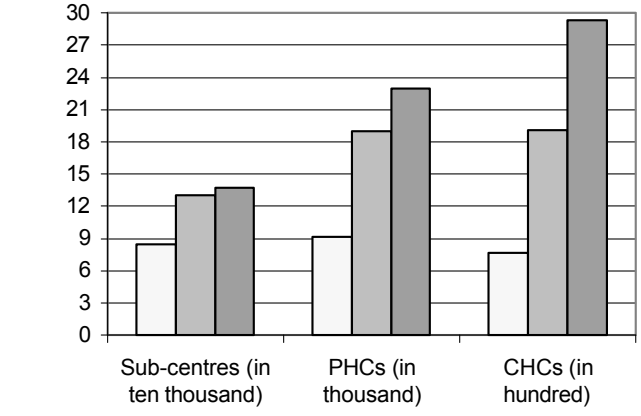
- primary, secondary and tertiary care institutions, manned by medical and paramedical personnel;
- medical colleges and paraprofessional training institutions to train the needed manpower and give the required academic input;
- programme managers managing ongoing programmes at central, state and district levels; and
- health management information system consisting of a two-way system of data collection, collation, analysis and response.

So far the interaction between these components of the system had been sub-optimal. In spite of the plethora of primary, secondary and tertiary care institutions and medical college hospitals there are no well organised referral linkages between the primary, secondary and tertiary care institutions in the same locality. The programme managers and teachers in medical colleges do not link with institutions in any of the three tiers; essential linkages between structure and function are not in place (Annexure - 2.1). Logistics of supply and HMIS are not operational in most states. During the Tenth Plan period, efforts should be made to reorganise health system, build up essential linkages between different components of the system so that there should be substantial improvement in functional status (Annexure - 2.2).

Primary Health Care Services

The primary health care infrastructure provides the first level of contact between the population and health care providers. Realising its importance in the delivery of health services, the centre, states and several government related agencies simultaneously started creating primary health care infrastructure and manpower. This has resulted in substantial amount of duplication of the infrastructure and manpower.

Figure 2.1 - GROWTH OF SUB-CENTRES, PRIMARY HEALTH CENTRES AND COMMUNITY HEALTH CENTRES



Source: IAMR,

The government funded primary health care institutions include:

- the rural, modern medicine primary health care infrastructure created by the states (Figure 2.1) consisting of:
  - -Subcentres 137271 (1/ 4579 population)
  - -Primary Health centres 22975 (1/27364 population)
  - -Community Health centers 2935 (1/214000 population)
- subdivisional/Taluk hospitals/speciality hospitals (estimated to be about 2000)
- 5435 rural family welfare centres, 871 urban health posts, 1083 urban family welfare centres, 550 district post partum centres and 1012 sub-district postpartum centres funded by the Department of Family Welfare.
- 22,104 dispensaries, 2862 hospitals under the Dept of ISM&H.
- urban health services provided by municipalities.
- healths care for central government employees provided by Central Government Health Scheme (CGHS).
- hospitals and dispensaries of Railways, Defence and similar large departments providing the health care to their staff.
- medical infrastructure of PSUs and large industries.
- Employee's State Insurance Scheme (ESIS) hospitals and dispensaries providing health care to employees of industries.
- all hospitals - even those providing secondary or tertiary care also provide primary health care services to rural and urban population
- over three-fourths of the medical practitioners work in the private sector and majority of them cater to the primary health care needs of the population.

The state-wise information regarding institutions listed under hospitals and dispensaries in modern system of medicine and ISM&H, rural primary health care infrastructure as well as postpartum centres is given in Annexure-2.3. Health manpower in government primary health care institutions is given in Annexure- 2.4. The vast infrastructure and manpower catering to the primary health care needs of the population is not evenly distributed. The segments of the population whose health care needs are greatest have very poor access to health care

Sub-Centre

The Sub-centre(SC) is the most peripheral health institution available to the rural population. Even though the sub-centre/population norms at the national level has been met, there are wide inter-state variations. States with poor health indices do not have the required number of sub-centres especially in remote areas. In order to ensure that lack of funds does not hamper the filling up vacancies in the posts of auxiliary nurse midwife (ANM) the Department of Family Welfare has taken up funding of sub-centre ANMs (1.37 lakh) from 1st April 2002. The States should in return take over the funding of the staff of the rural family welfare and post partum centres, who have for the last two decades functioned as a part of the respective institutions in the state. There are a large number of vacancies in the posts of male multi-purpose workers (MMPW) whose salaries are borne by the state government

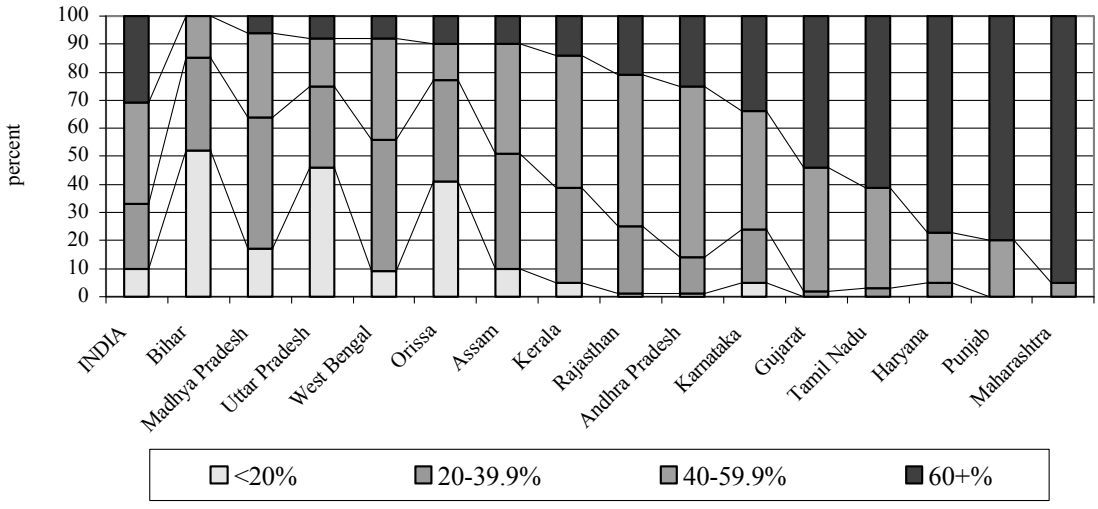
(Annexure- 2.4). Even where they are present, their contribution to the ongoing national disease control programmes, disease surveillance and water quality monitoring is negligible. There are a large number of male uni-purpose workers with insufficient workload in various centrally sponsored disease control programmes. With appropriate skill up gradation these uni-purpose male workers and contractual staff should be able to perform the task of MMPW in improving the coverage and quality of all health programmes.

Primary Health Centres (PHCs)

PHC is a referral unit for six sub-centres. All PHCs provide outpatient services; a majority has four to six in-patient beds. According to the norms they have one medical officer, 14 Para-medical and other supporting staff. At the national level there are more than an adequate number of PHCs and doctors posted at PHCs but the distribution across states is uneven; there are no functional PHCs in many remote areas in dire need of health care.

Facility Survey undertaken by the Department of Family Welfare in 1999 showed that a majority of the PHCs lack essential infrastructure and inputs (Figure-2.2). Only 77 per cent had an infant weighing machine, 65 per

Figure- 2.2 Percentage Distribution of PHCs having all Critical Inputs



Source: Facility Survey-1999, Deptt. of FW

cent had a deep freezer, 16 per cent had a refrigerator, and 60 per cent had an autoclave and steam sterilizer drum. Less than 20 per cent had facility for medical termination of pregnancy (MTP). Essential drugs for the treatment of common ailments were not available in a majority of the PHCs. Only around one-thirds of the PHCs had stock of iron and folic acid (IFA) tablets, 56 per cent had stocks of contraceptives and 61 per cent had vaccines. No more than a third of the PHCs provided delivery cases; in them on an average of 26 deliveries occurred in the last three months before the survey. It is obvious, therefore that PHCs are functioning sub-optimally and are not providing the expected health and family welfare services.

Community Health Centres/First Referral Units

Community Health Centre(CHC) is the first referral unit(FRU) for four PHCs offering specialist care. According to the norms each CHC should have at least 30 beds, one operation theatre, X-ray machine, labour room and laboratory facilities and is to be staffed at least by four specialists i.e. a surgeon, a physician, a gynecologist and a pediatrician supported by 21 para-medical and other staff.

The reported gap in the number of CHCs (about 2000) is more apparent than real. Currently there are over 2000 functioning sub-divisional, taluka and other speciality hospitals below the district hospital. From the Seventh Plan onwards, it has been emphasized that these should be re-organised and brought into the mainstream, given status of CHC and the responsibility of being the referral centre for well defined PHCs and SCs. Many CHCs/FRUs have sub-district post partum centers located within their premises or in the vicinity, but they are not functioning as a part of CHC.

The Facility Survey carried out by the Dept. of Family Welfare showed that though more than 90 per cent of the CHCs have an out patient and in patient facilities and operation theatre, only about one-third had adequate equipments. A majority of the CHCs do not function as the FRUs because they either do not have any specialist or the posted specialists are not from the four specified specialties.

Experiments for improving access to primary health care among tribals:

- Andhra Pradesh – Committed government functionaries are running health facilities in tribal areas
- Orissa – Additional central assistance is provided for mobile health units with a fixed tour schedule. However, this is expensive and difficult to replicate.
- Karnataka, Maharashtra – NGO have `adopted' and are running PHCs in tribal areas

The success of all these experiments is mainly due to the commitment of individuals and credibility of NGOs, which is difficult to replicate.

Tribal Health

In order to ensure adequate access to health care services for the tribal population, 20,769 SCs, 3286 PHCs, 541 CHCs, 142 hospitals, 78 mobile clinics and 2305 dispensaries have been established in tribal areas. In addition, 16845 SCs, 5987 PHCs, 373 CHCs and 2750 dispensaries are located in villages with 20 per cent or more scheduled caste population. Most of the centrally sponsored disease control programmes have a focus on the tribal areas. Under the National Anti Malaria Programme (NAMP) 100 identified predominantly tribal districts in Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Orissa and Rajasthan

Table: 2.1 -Health indices of various social groups

	IMR	U5MR	%Under nutrition
SC	83.0	119.3	53.5
ST	84.2	126.6	55.9
Other disadv	76.0	103.1	47.3
Others	61.8	82.6	41.1
India	70	94.9	47

Source: NHP, 2002

are covered. In spite of all these, the access to and utilisation of health care remain suboptimal and health and nutrition indices in the tribal population continue to be poor (Table-2.1).

Urban Primary Health Care Services

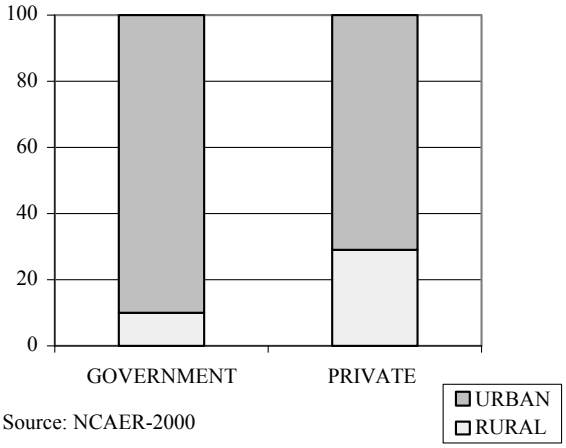
Nearly 30 per cent of India's population lives in the urban areas. Urban population is aware and has ready access to health care. Data from SRS, NFHS (Table 2.2.) and other surveys indicate that health indices of the urban population are better than those of the rural population. However, urban migration has resulted in rapid growth of urban slum; the slum population face greater health hazards due to over-crowding, poor sanitations, lack of access to safe drinking water and environmental pollution. Small scale research studies have shown that health indices of urban slum dwellers in some areas are worse than those of rural population.

Table- 2.2-Urban/rural health indicators

	BPL(%)	IMR	U5MR	% children Under-nourished
Urban	23.6	44	63.1	38.4
Rural	27.1	75	103.7	49.6
Total	26.1	70	94.9	47.0
Source: NFHS-2				

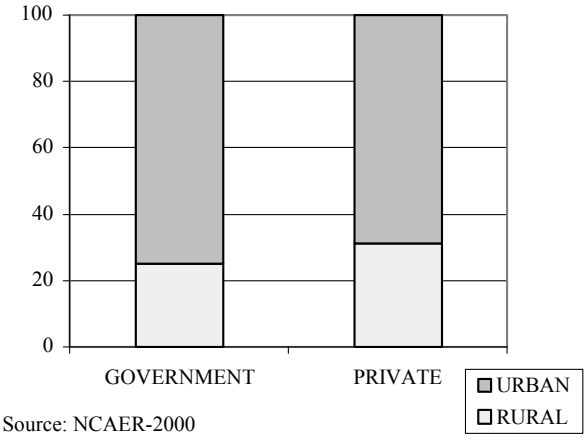
Realising that the available infrastructure is insufficient to meet the health care needs of growing urban population, the municipalities, state governments and the central government have tried to build up urban health care facilities. Majority of the hospitals and beds (Figure-2.3 & 2.4), doctors and para-professionals are in urban areas These urban health facilities especially the tertiary care institutions cater to both the urban and rural population. Unlike the rural health services there have been no efforts to provide well-planned and organized primary, secondary and tertiary care services in geographically delineated urban areas. As a result in many areas primary health care facilities are not available; some of the existing institutions

Figure: 2.3- RURAL & URBAN DISTRIBUTION OF HOSPITAL BEDS: PUBLIC AND PRIVATE



Source: NCAER-2000

Figure- 2. 4 - RURAL & URBAN DISTRIBUTION OF HOSPITALS: PUBLIC AND PRIVATE



Source: NCAER-2000

are under utilised while there is over-crowding in most of the secondary and tertiary care centres. As there is no screening and referral system, the

available equipment and expertise in secondary hospitals are under utilised; in-appropriate use of available diagnostic and therapeutic facilities result in escalating cost of health care without commensurate health benefits.

The Ninth Plan envisaged the development of a well-structured network of urban primary health care institutions providing health and family welfare services to the population within one to three km of their dwellings by re-organizing existing institutions. In addition to funds provided by corporations/municipalities, state government and the central government, externally assisted projects were taken up to achieve the goal. The Planning Commission also provided additional central assistance to some states for undertaking such restructuring. Though there are several small success stories, hardly any progress has been achieved in the overall task of restructuring the urban primary health care linked to secondary and tertiary care and appropriate retraining and redeployment of personnel. One of the major factors responsible for the tardy progress is the multiplicity of agencies funding these institutions.

Health System Reforms at primary health care level during Ninth Plan

Faced with the problems of sub-optimal functioning and difficulties in providing adequate investments for improving health care facilities in the public sector, almost all state governments have initiated health system reforms with public sector institutions playing lead role. The structural reforms relate to reorganisation and restructuring of all the elements of health care so that they function as integral components of the health system. The functional reforms are aimed at improving efficiency by creating a health system with well-defined hierarchy and functional referral linkages; the health personnel would work as a multi-professional team and perform duties according to their position, skills and level of care. The community-based link worker who acts as a liaison between people and health care functionaries and ensures optimal utilization of available facilities should provide the last link. The PRIs should participate in planning programmes and assist in implementation and monitoring. Almost all the states have attempted introduction of user charges for diagnostic and therapeutic procedures in government hospitals from people above the poverty line and use the funds so generated to improve the quality of care in the respective institutions.

Some of the ongoing health system reforms to improve health services include:

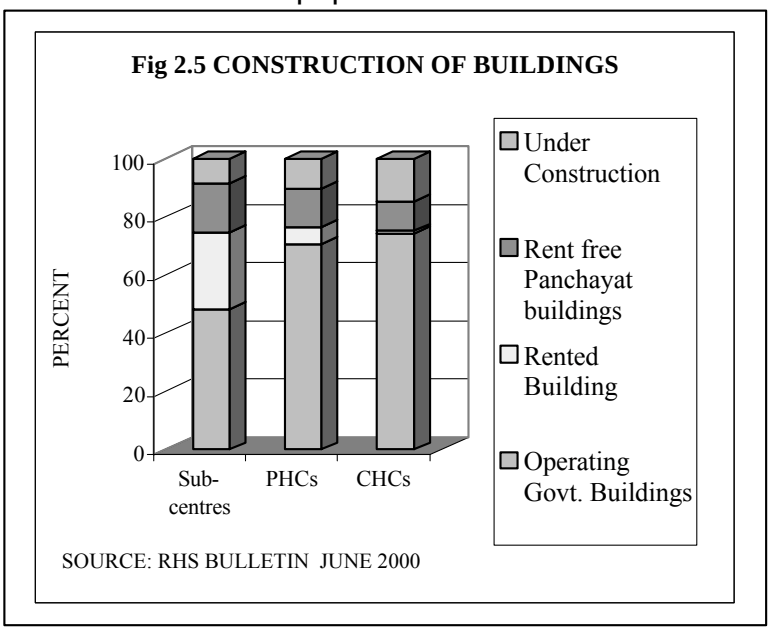
- strengthening and appropriately relocating sub-centres/PHCs e.g. Tamil Nadu, Gujarat;
- merger, restructuring, relocating of taluk, sub-divisional and rural hospitals, dispensaries and block level PHCs, integrating them with the existing infrastructure to fill the gap in CHCs e.g. Himachal Pradesh;
- utilizing funds from Basic Minimum Services (BMS), Additional Central Assistance (ACA), Pradhan Mantri Gramodaya Yojana (PMGY) and externally aided projects to fill critical gaps in manpower and facilities; this is being done in all states;

- district-level walk-in-interviews for the appointment of doctors in PHCs; this had limited success – e.g. Madhya Pradesh and Gujarat;
- use of mobile health clinics; this is very expensive and had limited success e.g. Orissa, Maharashtra (for Tribal areas), Delhi (for urban slums);
- handing over of PHCs to NGOs – Karnataka, Orissa; only Karnataka reported success;
- training MBBS doctors in certain specialties (obstetrics, anaesthesia, radiology) in a teaching institution for three to six months and posting them to fill the gap in specialists in FRUs e.g. Tamil Nadu and West Bengal; however, professional associations do not support this;
- improving the logistics of supply of drugs and consumables – e.g. Tamil Nadu, Orissa.

Several states have obtained external assistance to augment their own resources so that the pace of reforms can be accelerated. Funds were provided under PMGY for improving functional status of rural primary health care institutions. Fifty per cent of the outlay was to be used for procurement of drugs and essential consumables and repair of essential equipments. The other 50 per cent was to be used for repair and maintenance of infrastructure in sub-centres, PHCs and CHCs. Under the RCH Programme, funds are provided for minor repair and maintenance of buildings, especially for operation theatres and labour rooms and for improving water and electric supply. Review of the health sector reforms during the Ninth Plan period indicates that on the whole, the content, coverage are poor; pace of implementation is very slow and uneven across the states.

Initiatives during the Tenth Plan

During the Tenth Plan every effort should be made to implement the recommendations of the Seventh, Eighth, and Ninth Plan that all hospitals and dispensaries below district level should be mainstreamed, reorganised, restructured and integrated into the three tier rural primary health care system so that these institutions serve the population in a well defined area and have appropriate referral linkages with each other. The village under each sub-centre, sub-centres under each PHC, PHCs under each CHC/FRU should be defined using Geographical information System (GIS) mapping, taking into account distances, road linkages and other factors that will



improve access. All sub-district institutions with specialists should be recategorised as CHC/FRU and all hospitals and dispensaries without specialists should be merged or recategorised as PHCs. By the end of Seventh Plan most of the states have completed setting up required number of Subcentres and PHCs required to meet the norms for 1991 population (Figure 2.1). About 50% of them were located in their own building and cannot be shifted out (Fig 2.5). Population under each of these primary health care institutions has grown; but it will be difficult to locate new institutions to cater to the additional population in appropriate locations. Therefore the Tenth Plan goals for primary health care institutions for each state should be number of the primary health care institutions required to meet the health care needs of the 1991 population as per the norms (Annexure 2.3). Opening new centers and construction of new centres should be undertaken only under exceptional circumstances

Ninth Plan recommendations regarding re-organisation of urban primary health care institutions making them responsible for the health care of a population living in a defined geographic area and linking them to existing secondary and tertiary care institutions should be fully implemented during the Tenth Plan.

In order to cope with the growing/changing needs for health care the staffing pattern of both urban and rural primary health care institutions may be suitably modified taking into account the population, their health care needs, the work load, difficulties in delivery of services and distances to be covered. Most of the gaps in critical manpower should be met by re-orientation, skill up gradation and redeployment of the existing manpower. For instance vacancies in the posts of specialists in FRUs should be reduced by integrating the staff of the post partum centres with the FRU staff. As and when required part time or contractual staff including those provided under the national disease control programmes and family welfare programme could be utilised to fill the gaps in manpower. Release of grants under the centrally sponsored schemes should be conditional on filling the vacancies in staff who are critical for improving performance under the national programmes. Mis match between the equipment and personnel should be corrected by shifting equipment to centres which have the personnel to operate it or vice versa.

Available funds should be utilized to make all the existing institutions fully functional by providing needed equipment, consumables, diagnostics and drugs. In addition to funds from the centre, state, externally aided projects, locally generated funds from user charges and donations should be used for maintenance and repair to ensure optimal functional status and improve quality of services.

Secondary Health Care

The secondary health care infrastructure at the district hospitals and urban hospitals is currently also taking care of the primary health care needs

of the population in the city/town in which they are located. This inevitably leads to overcrowding and under utilisation of the specialized services. Strengthening secondary health care services was an identified priority in the Ninth Plan. In addition to the funds they get from the state plan, seven states have taken World Bank loans to initiate projects to build up FRUs/district hospitals. The aim of these projects is to :

- strengthen FRUs to take care of referrals from PHCs/SCs;
- strengthen district hospitals so that they can effectively care for referrals;
- strengthen the referral system and rationalize care at each level to:
  - enable patients to get care near their residence;
  - ensure optimal utilisation of facilities at PHCs/ CHCs; and
  - reduce overcrowding at the district and tertiary care level.

The states have initiated construction works and procurement of equipments. They have reported increased availability of ambulances and drugs, improvement in quality of services following training to health care providers, reduction in vacancies and mismatches in health personnel/infrastructure and improvement in hospital waste management, disease surveillance and response systems. All these states have attempted to levy user charges for diagnostics and therapeutics services from people above the poverty line. Some states have been unable to ensure that the collected charges are retained for use in the same institution and this problem need be speedily resolved.

During the Tenth Plan priority should be accorded to the evaluation of the ongoing World Bank funded secondary health care systems projects in these seven states regarding:

- progress in strengthening of physical infrastructure;
- functional improvement in terms of patient care, organization of referral linkages between CHCs, district hospitals and tertiary care institutions;
- improvement in different components of care - hospital waste management, disease surveillance and response, HMIS etc;
- operationlisation of cost recovery through user charges from people above poverty line while ensuring that people below the poverty line do have access to health services free of cost;
- efforts currently underway to make the programme sustainable so that it remains fully functional after project period.

During the Tenth Plan strengthening of the secondary health system and building up referral services should be taken up in other states using the lessons learnt from these seven states.

Tertiary Health Care

Over the last two decades a majority of the tertiary care institutions in the governmental sector have been facing a resource crunch and have not been able to obtain funds for equipment maintenance, replacement of obsolete equipments, supply of consumables and upgrading the

infrastructure to meet the rapidly growing demand for increasingly complex diagnostic and therapeutic modalities. There is a need to optimise facilities available in tertiary care institutions, enhance the quality of services and strengthen linkages with secondary care institutions. Overcrowding in tertiary care hospitals and underutilization of expert care due to the lack of a two way referral system with primary and secondary care levels requires correction. To meet some of the recurring costs and to improve the quality of services in tertiary health care institutions the Ninth Plan suggested levying user charges and establishing pay clinics/pay cabins.

Some states have provided land, water and electricity at a lower cost to private entrepreneurs setting up tertiary care/superspeciality institutions on the condition that they provide outpatient and inpatient care free of cost for people below the poverty line. In an effort to augment the availability of tertiary care, several states (e.g. Rajasthan and Himachal Pradesh) are trying out innovative schemes to give greater autonomy to government institutions, allowing them to generate resources and utilise them locally. Most states have not yet fully documented the extent and impact of their efforts in this direction. Available data suggest that Kerala, Punjab and Haryana have cost recovery ratios of around 10 per cent and more than 80 per cent of the fees for public facility care were paid by the richest 40 per cent of the population both in the urban and rural areas. This may be because this section uses the services more or the quality of care provided to those who pay may be better than to those who are exempt from paying. A review of the existing cost recovery system in states has shown that:

- an appropriate institutional framework for reviewing user charges has not yet been established;
- the level of cost recovery is minimal due to the low structure of fees and inadequate collection mechanisms;
- mechanisms for identifying and exempting the poor from user charges are ill defined; and
- funds collected are not retained at the point of collection in many states.

During the Tenth Plan, the ongoing efforts at cost recovery from people above the poverty line should be encouraged and evaluated; models which improve the access of all segments of the population to appropriate care at an affordable cost should be replicated. One of the major recommendations of the Ninth Plan was that a Technical Appraisal Committee should be constituted in all major government institutions to assess and prioritise the essential requirements for strengthening and up grading of facilities keeping in mind the funds available. Every effort should be made in the Tenth Plan to implement this recommendation, improve autonomy and encourage decentralised planning.

Reorganisation of Family Welfare Infrastructure

When the Family Welfare Programme was initiated in the early 1970s the infrastructure for providing maternal and child health and family planning services was inadequate at the primary health care level, and sub-

optimal in the secondary and tertiary care levels. In order to quickly improve the situation, the Department of Family Welfare created and funded post-partum centres, urban family welfare centres/ health post and provided additional staff to the then existing PHCs (block level PHC's). In addition, the ANMs in the sub-centres, created after the initiation of the Family Welfare Programme, were also funded by the Department. The Department of Family Welfare also created state and district level infrastructure for carrying out the programmes and setting up training institutions for pre/in-service training of personnel. All these activities were being funded through Plan funds.

Over the last three decades, there has been considerable expansion and strengthening of the health care infrastructure by the State. Family welfare services are now an integral part of services provided by primary, secondary and tertiary care institutions. The staff funded by the Department of Family Welfare under the scheme of rural family welfare centres and post partum centres are state health services personnel functioning as part of the state infrastructure. In view of this, the Ninth Plan recommended that the funding should be taken over by the state Department of Health. States should take over the responsibility of funding post partum centres and rural family welfare centres from 1 April 2002.

Since ANMs are crucial for increasing the outreach of the programme, it is important to ensure that the posts of ANMs are filled and steps taken to ensure that they are available and perform the duties they are assigned. One of the major problems with respect to the ANMs is that while the Department of Family Welfare funded over 97,000 posts, about 40,000 were funded by the state (from non-Plan). The Ninth Plan recommended that this dichotomy in funding should be removed and all the ANMs, as per the norms for the 1991 population should be funded by the Department of Family Welfare. This should be done from 1 April 2002. It is expected that this would ensure that the states do employ the required number of ANMs, streamline their functioning and improve the coverage, content and quality of maternal and child health care.

Improving equitable service delivery

Data from research studies and clinical experience shows that social and economic deprivation lead to poor health outcomes. Poor health, in turn, results in deterioration of economic status partly due to loss of wages and partly due to cost of health care. Specific efforts have been made to focus on health and nutrition interventions so that the vulnerable segments of the population have better access to health and nutrition services and the vicious circle of poverty and ill health is broken. However, in spite of efforts over the last 50 years, better access to public health services continues to elude the poor, whose health care needs are the greatest. While this is true in all states, RHS data brings out some interesting inter-state comparisons. The poorest quintile in Tamil Nadu have better immunisation coverage rates than the richest quintile in Uttar Pradesh suggesting that socio-economic barriers can be overcome through improved awareness and access . During the Tenth

Plan, every effort should be made to improve access to essential primary health care, family welfare services and diseases control programmes totally free of cost. The Centre and the states should evolve and evaluate various options for reducing the financial burden of hospitalisation on the poor.

Quality and Accountability in Health care:

Quality control is a system of supervision and control of all activities in order to detect and correct any undue deviation from pre-defined norms of care. In recent years, there has been increasing public concern over issues of quality both because of increasing awareness of the population and mushrooming of health care institutions particularly in private sector. Ultimately assessment of quality of care does depend upon value judgement but there are determinants and ingredients of quality which can be measured objectively. These include assessment of infrastructure and manpower, process such as diagnosis and treatment or outcome such as case fatality, disability and patient satisfaction. Health care quality evaluation of institution includes safety, effectiveness, patient centredness, timeliness of interventions, assessment of the performance of the system should also be in terms of meeting the changing needs of the individuals and population to stay healthy, get better and learn to live with illness and disability. Introduction of effective efficient quality control systems now in India should:

- prevent over use, under use, abuse, misuse of the facilities
- improve effectiveness, efficiency and
- bring in accountability in the health system

Some initiatives have been taken to address quality of care issues. The Consumer Protection Act provides one mechanism for redressal of grievances pertaining to quality of care. Some States have attempted to provide a legal framework for the functioning of private health care institutions on the lines of Bombay Nursing Home Registration Act 1949. Until now these legislative measures have not been effectively implemented mainly because of lack of objective criteria for defining `quality of care' and the possible impact of such regulations on the cost of care.

During the Tenth Plan quality control concepts and tools should be introduced into every aspect of health care so that

- the population and the system (public funded, private and voluntary sector) benefit from the defined and institutionalized norms, accountability and responsibility.
- the goals set in the Tenth Plan for processes and impact in various sectors and programmes are achieved and health indices of the population improve
- the health care needs of the population are met at a cost which is affordable for the individual and the country.

Logistic Support

Ninth Plan strategy
Improve uninterrupted supply of essential drugs, devices, vaccines and contraceptives, adequate in quantity and appropriate in quality.

Under the Family welfare program the central government procures and supplies drugs, equipment kits, contraceptives and vaccines to the states. While the drug kits are supplied at district level, vaccines and contraceptives are supplied at the state or regional level. The states have, so far, not created any specialised or dedicated system for receiving such supplies, storing them in acceptable conditions and distributing them. As a result, there are delays, deterioration in the quality and wastage of drugs. Supplies under the family welfare programme are to the tune of Rs. 500 crore and it is estimated that the losses due to deterioration and inefficiencies may be to the extent of 20 to 30 per cent.

The Department of Family Welfare, in collaboration with different external funding agencies working in different states, has formulated logistic projects for each of the major states. It envisaged that a specialised agency should be created in each state which should manage warehouses at the regional level for each cluster of five to eight districts. These warehouses should receive an indent from each hospital in the area and should ensure delivery of supplies within 15 days through a contracted transporter. To ensure efficiency, the state government agency should be paid only on the basis of a per centage of supplies it handles. The logistics project has already been initiated in some states.

During the Tenth Plan, efforts should be made to ensure that facilities which are being created, handle all the drugs/vaccine/devices provided by the central government and state governments for all health care institutions. The progress of this programme and the problem encountered should be monitored and appropriate mid-course corrections instituted.

Initiatives To Address The Needs Of Underserved Population

Access to health care is poorer in the States like Uttar Pradesh, Madhya Pradesh, Bihar, Rajasthan. The Empower Action Group (EAG) constituted in the Department of Family Welfare reviews the available infrastructure, performance of the health system and health indices and suggest steps for improving access to health care so that there is rapid decline in fertility and mortality. During the Tenth Plan special efforts should be made to upgrade the capacity of health system in these states/districts to meet all the felt needs for care so that there is rapid decline in both fertility and mortality. This is an essential step if the ambitious goals for decline in fertility and mortality set in NPP 2001 are to be achieved because these states/districtrs contribute to over 50% of the country's mortality and fertility.

Tribal population (except in the northeastern states); majority of tribal population face problems in accessing essential health care services and have poor health indices, Department of Family Welfare has already initiated several programmes with focusing meeting the health care needs of tribal population. These should be continued during the Tenth Plan. Special efforts should be made to address the health needs through area specific programmes. Increasing involvement of NGOs and tribal community in all activities is envisaged.

Urban slum population has been shown to have poor maternal and child health indices. In many slums immunization coverage is very low and children are undernourished. The Department of Family Welfare and Department of Health have been investing in improving urban primary health care infrastructure and ensuring that they are linked to existing secondary and tertiary care institutions. The IPP V, VIII and Urban RCH Pilot Projects have build up capacities of urban health system in several cities. Efforts to rationalise urban health care and improve efficiency so that reproductive care needs are fully met within available infrastructure should be continued during the Tenth Plan period.

Strategies for Increasing Efficiency

A vast infrastructure for delivery of health and family welfare services has been created over the last three decades based on uniform norms for the entire country. Evaluation studies have shown that they are functioning sub optimally because of

- mismatch between structure and function;
- lack of skill upgradation training to update their knowledge skills and programme orientation
- absence of proper medical hierarchy with well defined functions;
- lack of first line supervision and mechanism to bring about accountability;
- absence of referral system and lack of functional FRUs.

Under the RCH Programme DOFW has invested heavily in training of Programme Managers in managerial aspects for effective implementation of RCH programme including decentralised district-based planning, implementation, monitoring and mid-course corrections. Skill upgradation of all categories of the health care professionals and paraprofessionals is envisaged for improving the quality of screening and management of persons with complications including referral as and when required. It is expected that these efforts should promote effective functioning of the infrastructure and improve efficiency. These efforts to make the health system effective and efficient should continue during the Tenth Plan period .

Though all states have shown some improvement in access to health care the health and demographic indices over time, the rate of change has been very slow in some states. Efforts during the Ninth Plan to provide more funds to these states/ districts to improve infrastructure and manpower, and making schemes for implementation more flexible to enable private, voluntary sector participation has not succeeded in

accelerating the rate of change in access to health care or improvement in the health indices. During the Tenth Plan, efforts should be made to improve efficiency by undertaking task analysis, assigning appropriate duties/ tasks to designated functionaries and training them to act as a multi-professional team. In such a chain, the first link should be provided by the village-based workers who will act as a liaison person between the people and health functionaries and ensure utilisation of available facilities. The Panchayati Raj Institutions should participate in the planning and assist in the implementation and monitoring of the programme. The ANM should administer vaccines, screen infants, children and pregnant women, identify and refer the "at risk" persons to appropriate institution. The medical officer at PHC should undertake PHC-based planning and monitoring of the Health and Family Welfare programmes and provide curative services, organise and supervise preventive and promotive health and family welfare-related activities and develop a viable, functional referral systems. The specialists in CHC should provide appropriate emergency care and care for referred patients, participate in the development of the CHC based RCH programmes, monitor the activities and initiate midcourse corrections. If this pattern of functioning is followed, the community, the link worker and the health functionaries should be performing the tasks that they are best suited to do and the implementation of the programme should improve because of linked effective functioning of the entire system.

Involvement of PRIs

According to Article 243 G of the 73rd Constitutional Amendment Act, states are required to devolve adequate powers and responsibility to the PRIs in order to make them effective institutions of local self government. Funds and personnel have to be made available to the PRIs for planning and implementation of schemes pertaining to various sectors. The PRIs can play a critical role in ensuring area specific microplanning, monitoring of the implementation of the national, state level and district specific programmes, ensuring accountability and improving inter-sectoral coordination. However, in many states, there have been no concrete steps to involve PRIs in the planning and implementation of state sector or centrally sponsored schemes.

The Ninth Plan envisaged the involvement of PRIs for:

- ensuring inter-sectoral coordination and community participation in planning, monitoring and management of the RCH programme.
- assisting states in supervising the functioning of the health care related personnel including ANM, MMPW and AWW.
- ensuring coordination of activities of workers of different departments such as health, family welfare, ICDS, social welfare and education etc. functioning at the village, block and district levels.
- improving the acceptance of the Family Welfare Programme through increased community participation.

There are immense differences between states in the involvement of PRIs in the Family Welfare Programme. States like Kerala have embarked on decentralised planning and monitoring programmes utilising PRIs and have devolved powers and finances to PRIs. Rajasthan, Andhra Pradesh and Haryana have implemented their own models for the involvement of the PRIs in the health sector. In other states, the involvement is mainly in planning and monitoring without devolution of power and finances. In some states, the PRIs have not yet started participating in the programme. There is a need to continuously review the situation and initiate appropriate interventions.

The real challenge to health services lies in effectively delivering the needed services in the remote and inaccessible areas where the services provided by the government machinery are the weakest and the private sector and NGOs are non-existent. During the Tenth Plan, it is envisaged that mature PRIs with intelligent, service-oriented members should play a key role in making the programme a people's programme and improving access to its services. The health committee of the gram panchayat can plan locally, identify area-specific unmet needs for reproductive health services and ensure that efforts are made to meet them. It can also be entrusted with the task of monitoring the attendance and performance of health care personnel. The PRIs can play a vital role in programme advocacy and monitoring the availability, accessibility and quality of services in government PHCs, NGOs and private practitioners and the cost of services provided by the latter. The PRIs should have the advance tour programmes of the ANM and male multipurpose worker and lists of nearest functioning PHCs with a doctor, nearest FRU/CHC with a peadiatrician, obstetrician, surgeon or physician where persons with complications and those requiring emergency care could be referred. They should monitor the funding of emergency transport provision as well as dispersal of funds under the Balika Samridhi Yojana and the Maternity Benefit Scheme. The active role and supervision of the PRIs is also crucial for ensuring 100 per cent registration of births, deaths, marriages and pregnancies at the village level.

Role of PRIs in the Tenth Plan

The National Population Policy 2000 has given high priority to decentralized planning of involvement of PRIs in programme implementation to achieve the task of population stabilization. The real challenge of family welfare programme lies in meeting the unmet needs of the population in districts with high IMR and high fertility especially in the remote, inaccessible, hilly, tribal and desert areas where the services provided by the government machinery are the weakest and private/NGOs Sectors are non-existent. If the mandate of providing health, maternal, child and family welfare services is shared by the PRIs in such areas, the two can work in a complementary mode to strengthen the existing network and to supervise the execution of the programmes. Thus the major role of the PRIs is greater involvement and responsibility in ensuring effective implementation of the existing programmes.

- The Health Committee of the Gram Panchayat, which may be preferably headed by an elected women panchayat member, should be geared to promote gender sensitive, multi-sectoral agenda for population stabilization that should "think, plan and act locally and get the support from the states and the Centre. These committees may identify area specific unmet needs for reproductive health services and prepare need based, demand driven, socio demographic plans at the village level for providing responsive, people centred, and integrated basic reproductive and child health care.
- It is of utmost importance that all the village level functionaries like the Patwari, Gram Sewak, ANM, Anganwadi Worker, School Teacher, etc., should be made directly responsible to the Village Panchayat so that the latter can not only maintain a supervisory influence but also play a positive role in integrating the services of the various departments at the services delivery level for synergising of energy and effort. Simply put the Gram Panchayat should be entrusted with a task of monitoring the attendance and performance of services given by these officers and should also be empowered to take disciplinary action in case or erring officials.
- The programme of family welfare and population stabilization can be successful only when it is seen by the people as their programme and not a Government agenda. The PRIs can play a vital role in programme advocacy.
- Since 33% of membership of PRIs has been reserved for elected women candidates, the involvements of PRIs in the agenda for empowerment of women through issues like universalization of primary education, ensuring conformity to legal requirement for age of marriage, promoting female participation in paid employment, mobilization of the community against malpractices like dowry and son preference etc., are of vital importance for the success of the family welfare programme.
- The PRIs can also involve civil society in monitoring the availability, accessibility and affordability of services and supplies in Govt. primary health centers. Similarly NGOs and private practitioners should be monitored for quality content and cost of services provided.
- The PRIs should have the advanced tour program of the ANM, MMPW; they should also have a list of nearest functioning PHC with a Doctor, nearest FRU/CHC with a Peadiatrician, Obstetrician, Surgeon or Physician where persons with complications and those requiring emergency care could be referred. They should monitor the funding of emergerncy transport provision as well as dispersal of funds under BSY and Maternity Benefit Scheme.
- The PRIs should maintain the list of community midwives, trained birth attendants, village health guides, Panchayat Sewa Sahayakas, primary school teachers and anganwadi workers who should be entrusted with various responsibilities in the implementation of integrated services delivery.
- Active role and supervision of the PRIs is also crucial for registration of births, deaths, marriages and pregnancies at the village level.
- The PRIs should oversee the services provided by the ANM and the anganwadi worker to pregnant women, new born and infants. The anganwadi should become the hub of the mother and child activities at the

village level. A fortnightly camp should be organized at the Anganwadi Centre where the concerned member of the village health committee should be present. In this case:

- ANM should immunize children, provide antenatal check up and examine children with grade III/IV under-nourised children and treat common infections;
- AWW should inform the PRI and get their help to provide take home food to children with grade III/IV under nutrition and then care; and pregnant women weighing below 40 Kg who should continue food supplementation;
- counselling for family planning, health sanitation and other related issues would also be done at such camps;
- the PRIs should be actively associated in overseeing the delivery of health care for women and children at the village level.

All these can be taken up wherever the Panchayati Raj Institutions are mature and their members are intelligent, service oriented and committed to the public agenda.

Intersectoral Coordination

Inter -sectoral coordination, especially between the Departments of Health, Department of ISM&H, Women and Child Development, Human Resource Development, Rural Development, Urban Development, Labour, Railways, Industry and Agriculture is critical for increasing the coverage of the Family Welfare Programme and improving implementation. Some of the areas where inter sectoral coordination is envisaged during the Tenth Plan include:

- involvement of the extension workers of these departments in propagating IEC messages pertaining to reproductive and child health care to the population with whom they work;
- efforts to improve the status of the girl child and women, improving female literacy and employment, raising the age at marriage, generating more income in rural areas, improving nutritional status of women and children;
- coordination among village-level functionaries - anganwadi workers, TBAs, Mahila Swasthaya Sangh, Krishi Vigyan Kendra volunteers and school teachers - to achieve optimal utilisation of available services.

Suggested areas of convergence of services with Department of Education include:

- inclusion of educational material relating to health, nutrition and population in the curriculum for formal and non-formal education;
- involvement of all zilla saksharata samitis in IEC activities pertaining to the RCH programme;

- involving school teachers and children in Class V and above in growth monitoring , immunisation and related activities in the village at least once a month as a part of socially useful productive work;

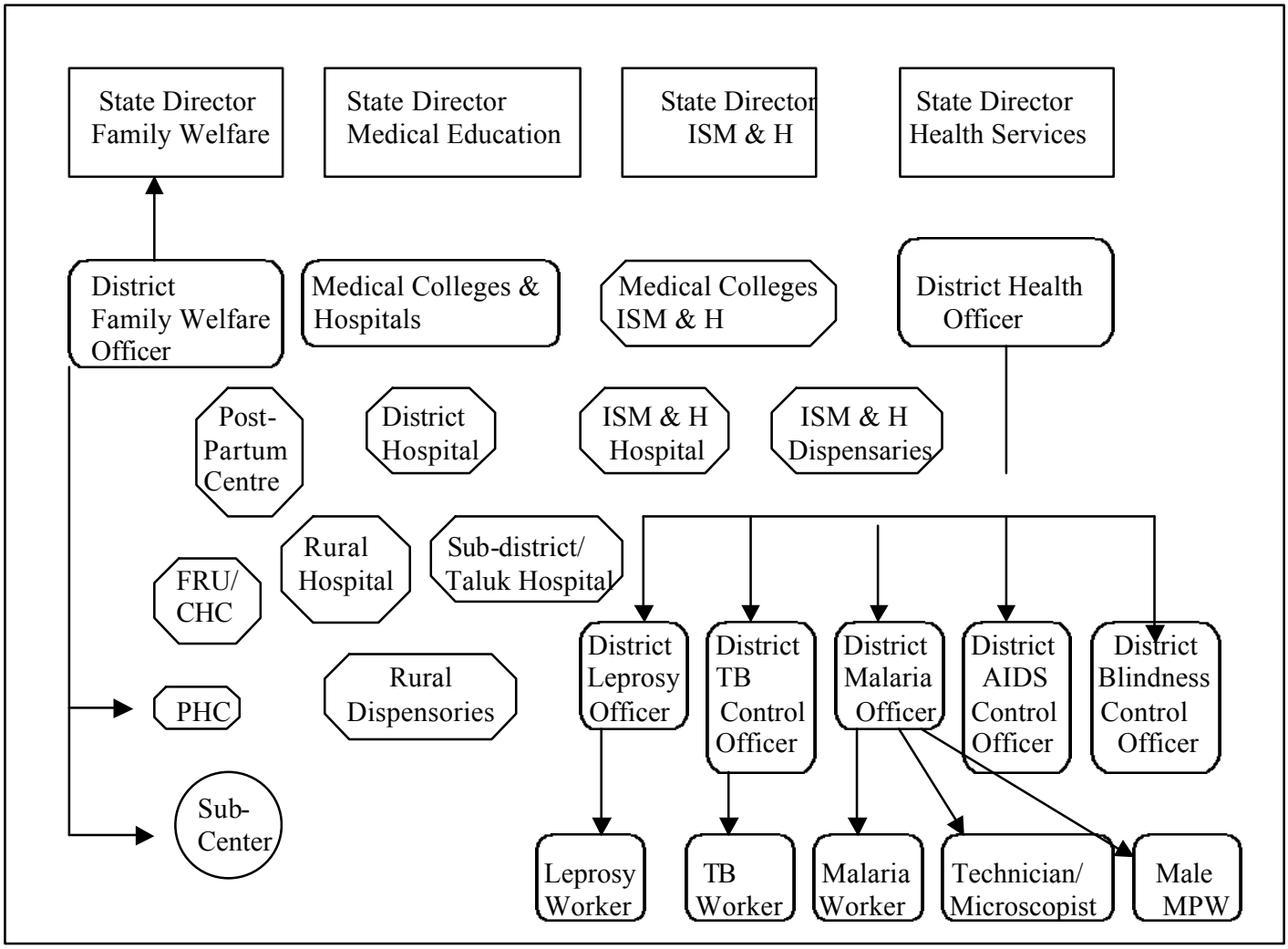
Convergence of services with the Department of Women and Child Development include :

- involvement of anganwadi workers in the compilation of births and deaths and the identification of pregnant women;
- involving anganwadi workers in weighing babies as soon as possible after delivery and referring neonates with weight below 2.2 kg to centres where a paediatrician is available;
- utilising the services of the anganwadi worker in improving the coverage of Massive Dose Vitamin A in children when they are 18 months, 24 months, 30 month and 36 months and improving the compliance among pregnant women under iron-folic acid medication;
- identification of undernourished pregnant and lactating women and pre-school children to ensure that they get priority in food supplementation programmes under the ICDS and appropriate health care from ANMs and doctors;
- promoting the cultivation of adequate quantities of green leafy vegetables, herbs and condiments in coordination with the PRIs and agricultural extension workers and ensuring that these are supplied to anganwadis on a regular basis to improve micro-nutrient content of food supplements.

The anganwadi worker can assist the ANM in organising health check ups of women and children and immunisation in the anganwadi. She should act as depot holder for iron and folic acids tablets, ORS, condoms and disposable delivery kits . She should be provided with a list indicating the nearest facility to which women and children could be referred so that she can help in organising emergency referral.

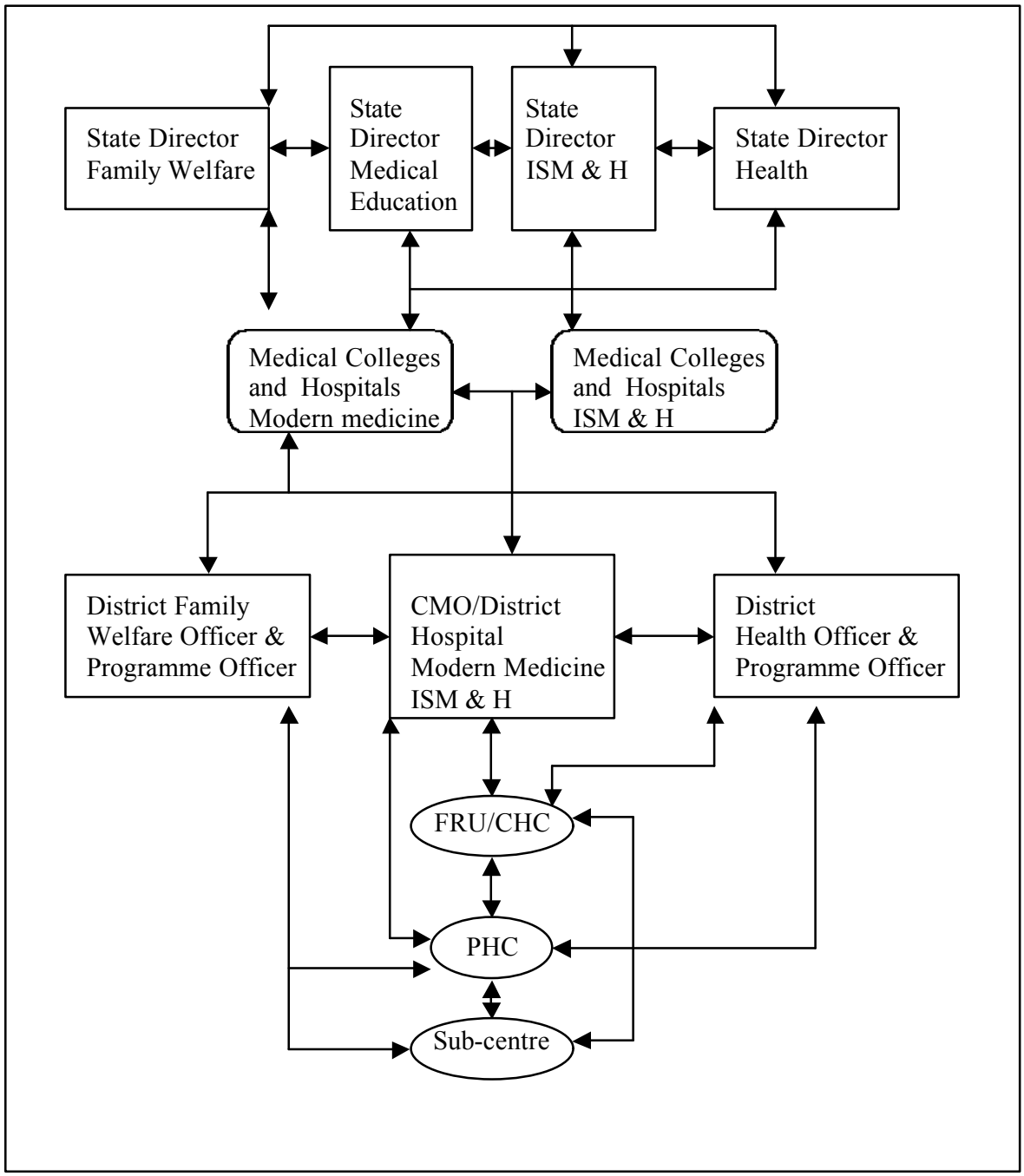
Annexure –2.1

CURRENT STATUS OF HEALTH CARE INFRASTRUCTURE



Annexure 2.2

REORGANISATION AND LINKAGES PROPOSED IN THE HEALTH CARE INFRASTRUCTURE



Annexure-2.3

STATE WISE/ SYSTEM WISE NUMBER OF HOSPITALS AND DISPENSARIES UNDER MODERN SYSTEM AND ISM & H

		RURAL HEALTH CARE INFRASTRUCTURE									DISPENSARIES**			HOSPITALS**					Urban Family Welfare Centres**		Post Partum Centres**	
	STATES/ UTs	Sub centres			Primary Health Centres			Community Health Centres			Modern System of Medicine @		ISM & H @@	Modern System of Medicine @		ISM & H @@		State				
		Reqd. 1991	In Position	Goal for the 10th Plan	Reqd. 1991	In Position	Goal for the 10th Plan	Reqd. 1991	In Position	Goal for the 10th Plan	DISPENSARIES	Beds	DISPENSARIES	HOSPITALS	Beds	HOSPITALS	BEDS		UFWC	Health Posts	District level	Sub-district level
1	ANDHRA PRADESH	10242	10568	*	1707	1386	321	427	219	208	134	0	1930	3133	69778	22	1249	Andhra Pr.	131	-	28	55
2	ARUNACHAL PRADESH	220	273	*	37	65	*	9	20	*	11	0	46	262	2476	1	15	Arunachal Pr.	6	-	-	1
3	ASSAM	4356	5109	*	726	610	116	181	100	81	325	42	409	268	12661	6	260	Assam	10	-	11	30
4	BIHAR	11547	10332	1215	1961	1642	319	490	87	403	427	96	831	328	29090	14	1385	Bihar	42	-	37	54
5	CHHATISGARH	4692	3818	874	704	545	159	176	150	26												
6	GOA	138	172	*	23	19	4	6	5	1	33	0	115	105	3848	6	245	Goa	-	-	4	-
7	GUJARAT	6168	7274	*	1028	1044	*	257	253	4	7255	9289	583	2528	63417	55	2476	Gujarat	113	28	33	55
8	HARYANA	2482	2299	183	414	402	12	103	64	39	130	126	454	80	7230	7	850	Haryana	19	16	13	20
9	HIMACHAL PRADESH	973	2069	*	162	302	*	40	65	*	173	169	1081	63	5463	18	355	Himachal Pr.	89	-	11	22
10	JAMMU & KASHMIR	1176	1700	*	196	337	*	49	53	*	610	0	445	67	8202	4	235	Jammu & Kashm	12	-	11	6
11	JHARKHAND	4278	4462	*	676	561	115	169	47	122												
12	KARNATAKA	6431	8143	*	1072	1676	*	268	249	19	797	1163	642	293	38479	178	8400	Karnataka	87	-	39	64
13	KERALA	4325	5094	*	721	944	*	180	105	75	53	164	3523	2107	97840	182	4031	Kerala	-	-	22	60
14	MADHYA PRADESH	7430	8835	*	1316	1193	123	329	229	100	256	2	2363	363	18141	47	1810	Madhya Pr.	63	99	47	75
15	MAHARASHTRA	10533	9725	808	1756	1768	*	439	351	88	8143	1622	486	3115	78920	160	18618	Maharashtra	74	278	52	69
16	MANIPUR	344	420	*	57	69	*	14	16	*	42	0	10	17	1626	3	75	Manipur	2	-	3	1
17	MEGHALAYA	464	413	51	77	85	*	19	13	6	21	0	5	9	1828	0	0	Meghalaya	1	-	3	1
18	MIZORAM	122	346	*	20	58	*	5	9	*	13	130	2	12	1021	0	0	Mizoram	1	-	2	4
19	NAGALAND	325	302	23	54	46	8	14	9	5	17	68	2	29	1158	0	0	Nagaland	-	-	1	1
20	ORISSA	6374	5927	447	1062	1352	*	265	157	108	1197	282	1104	273	11980	13	473	Orissa	10	8	19	60
21	PUNJAB	2858	2852	6	476	484	*	119	105	14	1469	5503	629	220	14921	17	956	Punjab	23	64	19	35
22	RAJASTHAN	7484	9926	*	1247	1674	*	312	263	49	268	134	3689	219	21387	102	1631	Rajasthan	61	90	35	100
23	SIKKIM	85	147	*	14	24	*	4	2	2	147	0	2	1	300	0	0	Sikkhim	1	-	1	2
24	TAMILNADU	7424	8682	*	1237	1436	*	309	72	237	512	278	396	408	48780	229	2187	Tamil Nadu	65	100	32	87
25	TRIPURA	579	539	40	96	58	38	24	11	13	612	0	96	29	1866	2	30	Tripura	9	-	1	3
26	UTARANCHAL	1764	1609	155	265	257	8	66	30	36												
27	UTTAR PRADESH	20573	18576	1997	3458	3551	*	865	280	585	1750	5729	2239	735	47278	1843	11496	Uttar Pr.	81	150	72	147
28	WEST BENGAL	10356	8126	2230	1726	1262	464	431	99	332	571	0	1153	399	53732	19	1007	West Bengal	111	-	27	55
29	ANDAMAN & NICOBAR ISLANDS	45	100	*	7	18	*	2	4	*	138	0	7	10	901	0	0	A & N Islands	-	-	1	-

		RURAL HEALTH CARE INFRASTRUCTURE									DISPENSARIES**			HOSPITALS**					Urban Family Welfare Centres**		Post Partum Centres**	
	STATES/ UTs	Sub centres			Primary Health Centres			Community Health Centres			Modern System of Medicine @		ISM & H @@	Modern System of Medicine @		ISM & H @@		State				
		Reqd. 1991	In Position	Goal for the 10th Plan	Reqd. 1991	In Position	Goal for the 10th Plan	Reqd. 1991	In Position	Goal for the 10th Plan	DISPENSARIES	Beds	DISPENSARIES	HOSPITALS	Beds	HOSPITALS	BEDS		UFWC	Health Posts	District level	Sub-district level
30	CHANDIGARH	13	13	0	2	0	2	1	1	0	33	0	9	1	500	3	185	Chandigarh	3	10	2	-
31	DADRA & NAGAR HAVELI	40	36	4	7	6	1	2	1	1	3	6	2	3	115	2	0	D & N Haveli	-	-	-	-
32	DAMAN & DIU	12	21	*	2	3	*	1	1	0	28	0	1	3	150	1	5	Daman & Diu	-	-	-	-
33	DELHI	190	42	148	32	8	24	8		8	490	0	236	77	19345	17	1322	Delhi	69	28	9	5
34	LAKSHADWEEP	7	14	*	1	4	*		3	*	0	0	6	2	70	0	0	Lakshadweep	-	-	-	-
35	PONDICHERRY	58	80	*	10	39	*	3	4	*	12	0	21	29	3136	0	0	Pondicherry	-	-	3	-
36	CGHS	-	-		-	-	-	-	-	-	241	-	79	-	-	1	25		-	-	-	-
37	CENTRAL RESEARCH COUNCILS		-		-	-	-	-	-	-	-	-	85	-	-	39	930		-	-	-	-
38	M/o RAILWAY	-	-		-	-	-	-	-	-	-	-	162	-	-	0	0		-	-	-	-
39	M/o LABOUR	-	-		-	-	-	-	-	-	-	-	157	-	-	0	0		-	-	-	-
40	M/o COAL	-	-		-	-	-	-	-	-	-	-	28	-	-	0	0		-	-	-	-
	TOTAL	134108	138044	8181	22349	22928	1714	5587	3077	2562	25911	24803	23028	15188	665639	2991	60251	**Total**	1083	871	538	1012

* INDICATES SURPLUS INFRASTRUCTURE, INFORMATION AVAILABLE AS ON AUG.2002; @ FOR THE PERIOD 1.1.1998; @@ FOR 1.4.1999; ** INFORMATION AVAILABLE FOR UNDIVIDED BIHAR, MP & UP

NOTE :- - = NIL INFORMATION.

SOURCE: HEALTH INFORMATION OF INDIA, ISM&H IN INDIA AND D/O FAMILY WELFARE; FIGURES ARE PROVISIONAL

Annexure - 2.4

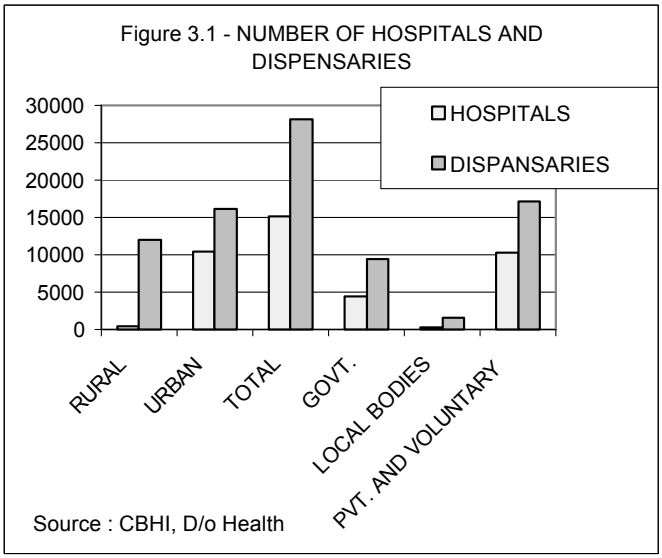
MANPOWER REQUIREMENT IN RURAL PRIMARY HEALTH CARE INSTITUTIONS

	Category of manpower	Requirement for Census 1991	In position as on 30.06.2000	Number sanctioned	Gap
					37684
1	2	3	4	5	6
1	Specialists	22348	3741	6579	18607
	(4/CHC)				
2	Doctors at PHCs	22349	25506	29702	3157*
	(1/PHC)				
3	Block Extension Educator/				
	Health Educator	22349	5508	6534	16841
	(1/PHC)				
4	Pharmacist	27936	21077	22871	6859
	(1/CHC+1/PHC)				
5	Lab. Technician	27936	12709	15865	15227
	(1/CHC+1/PHC)				
6	X-ray Technician/				
	Radiographer	5587	1768	2137	3819
	(1/CHC)				
7	Nurse Midwife	61458	17673	22672	43785
	(7/CHC+1/PHC)				
8	Health Assistant (M)	22349	22265	26427	84
	(1/PHC)				
9	Health Assistant (FM)	22349	19426	22479	2923
	(1/PHC)				
#	Health Worker (M)	134108	73327	87504	60781
	(1/SC)				
#	Health Worker (FM)	156457	134086	144012	22371
	(1/SC+1/PHC)				
	TOTAL	525226	337086	386782	191297

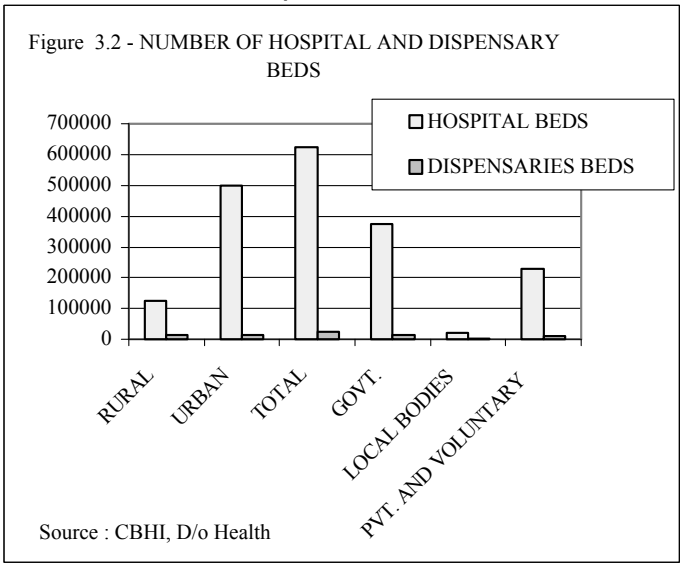
* indicates surplus and has not been added to the gap.
Source :- RHS Bulletin, June, 2000 (Ministry of Health & FW)

CHAPTER-III
PRIVATE PARTICIPATION IN HEALTH CARE

The private health sector has played a significant role in health service delivery right from the pre-independence days. At the time of independence public-private participation was in the form of government doctors being allowed private practice, an arrangement that continues even today in majority of states. To cope with the lack of medical teachers in the 1950s and 1960s many medical colleges appointed private practitioners as honorary teachers and honorary physician in teaching hospital but the number of such teachers declined with the increasing availability of full-time paid government teachers.



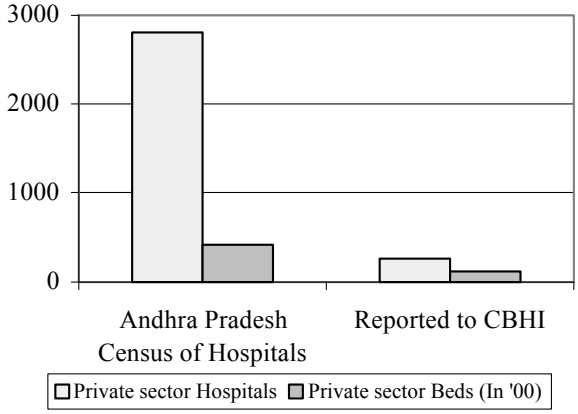
At present, there is no uniform nationwide system of registering either practitioners or institutions providing health care in the private/voluntary sectors nor is there a mechanism for obtaining and analyzing information on health care infrastructure and manpower in these sectors at the district level. During the Ninth Plan a Standing Technical Advisory Committee headed by the Director General of Health Services was set up and the Central was set up and the Central Bureau of Health Intelligence (CBHI) was given the task of compiling data on health care infrastructure and manpower at all levels in the private, voluntary, industrial, governmental and other sectors. So far, very little progress has been reported in this direction. This task should be taken up and completed on a priority basis during the Tenth Plan.



Available data on infrastructure and manpower in the hospitals and dispensaries (excluding PHCs and CHCs) in private and public sector from both rural and urban area computed from CBHI reports is shown in Figure 3.1 & 3.2. While information on the government sector institutions is reliable, data on the private sector is incomplete and is based on information provided by

the state medical councils and state governments. Data from Andhra Pradesh indicate that there may be massive differences between the data reported by CBHI and the actual census conducted by the state government (Figure 3.3).

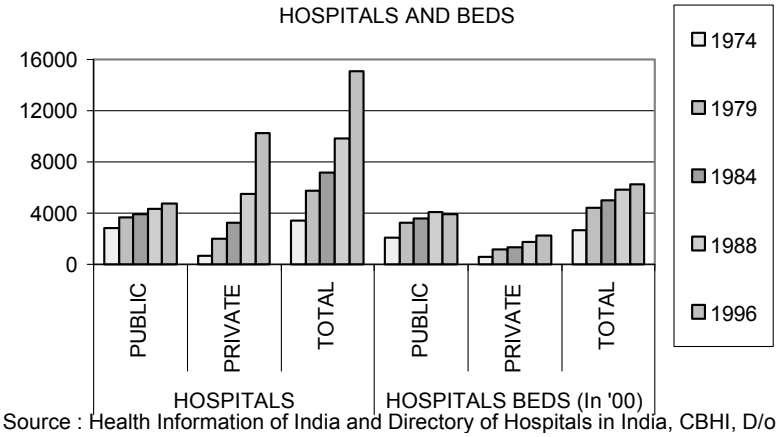
Figure 3.3 - NUMBER OF HOSPITALS AND BEDS IN PRIVATE SECTOR



Source: Census 1993, Director of Health Services and the Andhra Pradesh Vaidhya Vidhan Parishad

Available data from National Sample Survey Organisation (NSSO) carried out by independent investigators and studies funded by the Department of Health suggest that a majority of the physicians in both the modern system of medicine and ISM&H work in the private sector. The growth and share of private sector hospitals and beds over the years is shown in Figure 3.4. The growth and share of government sector hospitals and beds appear low because the CBHI does not include the PHCs (there are 22975 PHCs; majority have six beds) and CHCs (2985 each with atleast 30 beds) under hospitals and dispensaries**.** While there has been a substantial increase in the number of hospitals under the private sector during the 1990s, the rise in the number of beds has been modest (Figure 3.4).

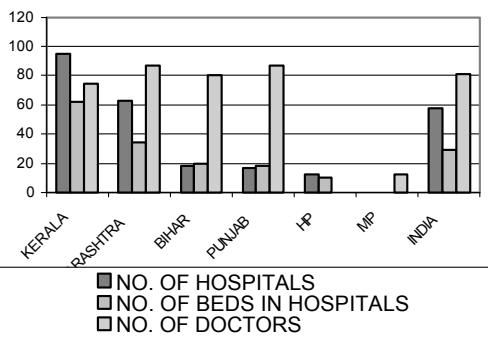
Figure 3.4 - GROWTH AND SHARE OF PRIVATE SECTOR HOSPITALS AND BEDS



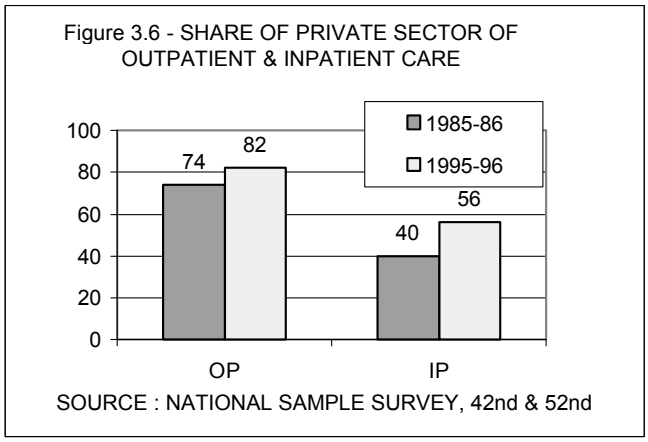
Source : Health Information of India and Directory of Hospitals in India, CBHI, D/o Health

There are wide inter-state differences in the distribution of private sector hospitals and beds. The private sector prefers to set up facilities in the more prosperous districts/states (Figure 3.5). Currently private sector health services range from those provided by large corporate hospitals, smaller hospitals/ nursing homes to clinics/ dispensaries run by qualified practitioners and services

Figure 3.5 - NUMBER OF HOSPITALS AND BEDS



SOURCE : M. Uplekar, A. George, 1995 & 1996



provided by unqualified persons. A majority of the private sector hospitals are small establishments; 85 per cent of them have less than 25 beds; average bed strength of 10 beds. Private tertiary care institutions providing specialty and super-specialty care account for only 1 to 2 per cent of the total number of institutions while corporate hospitals constitute less than 1 per cent. The private sector accounts for 82 per cent of all outpatient visits and 52 per cent of hospitalisation at the all-India level (Figure 3.6), with no significant variations across income group.

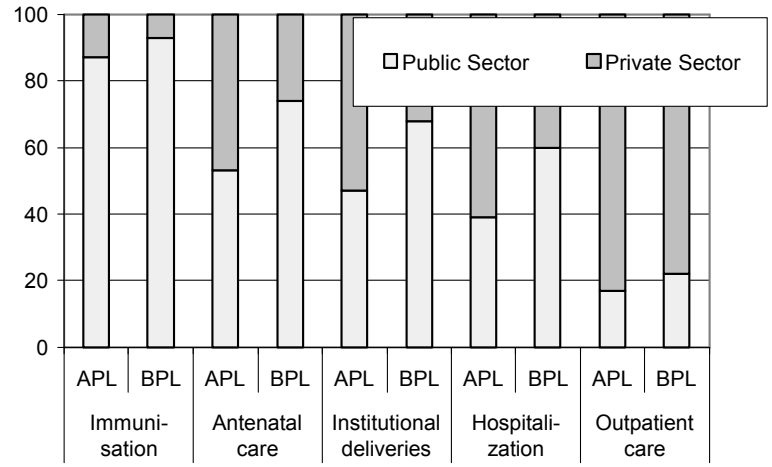
A majority of government and private sector hospitals and beds are located in urban areas. Qualified and registered private sector doctors or private sector institutions are not readily available in remote rural and tribal areas because people do not have ability to pay and there is a lack of social infrastructure. Thus, the population in these areas where health care needs are the greatest have very poor access to functioning government health services or private facilities. In spite of the abundant supply of registered physicians in modern system of medicine and ISM&H, unqualified persons still provide health care especially to the poorer segments of the population living in urban slums, remote rural and tribal areas.

Majority of private sector institutions are single doctor dispensaries with very little infrastructure or paramedical support. They provide symptomatic treatment for common ailments and because they are conveniently located and easily accessible, patients from even below the poverty line utilize them and pay for their services. These private practitioners do not have access to updated standard protocols for the management of common ailments; hence the quality of care they provide is often sub-optimal. Some private hospitals have also been found to be using inappropriate, unnecessary and expensive diagnostic tests and therapeutic procedures as well as inappropriate and unethical treatment practices. Other problems reported in private sector include use of unqualified service providers, overuse of diagnostic and therapeutic measures leading to exorbitant costs. There is no attempt to screen patients for complications and refer them to the appropriate level of care, rationalise drug use or contain the costs of treatment. These problems have to be addressed through appropriate interventions, including CME to update the knowledge and skills of practitioners, evolving and implementing standards for quality of care and operationalisation of an appropriate grievance redressal mechanism.

Data from 52nd round of NSSO 1995-96, National Family Health Survey (NFHS–2 and a National Council of Applied Economic Research (NCAER)

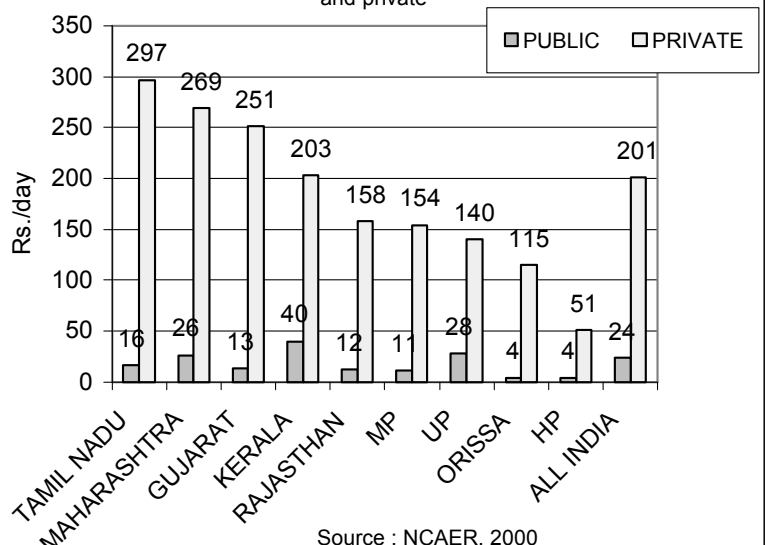
study shows that there were distinct patterns for the utilisation of out patient and inpatient services. A majority of the population both from below and from above the poverty line, approached the private sector for outpatient curative care for minor ailments. However, when it came to obtaining immunization or antenatal care, most people, irrespective of their income status went to government institutions. For inpatient care for all ailments 60 per cent of the below poverty line (BPL) families tend to use government hospitals and while an equal proportion of above poverty line (APL) families prefer private hospitals (Figure 3.7).

Figure 3.7 - Public and private sector shares in service Delivery for those Above and Below Poverty Line. All India. 1995-96



Source: NCAER, 2000

Figure 3.8 - Average Hospital Charge per inpatient day by public and private



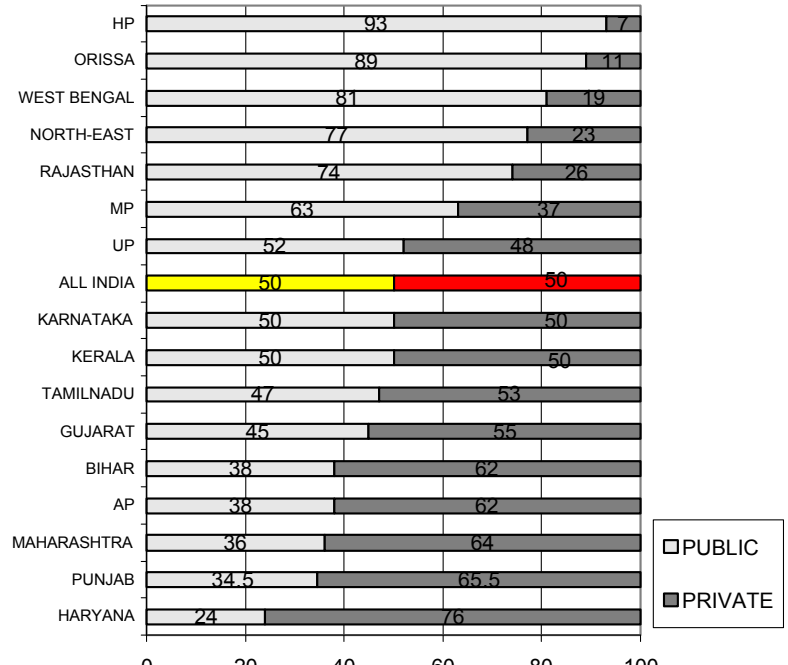
Source : NCAER, 2000

The average cost of hospital stay per day in government hospitals is low and there are no significant inter-state variations in this respect. The cost of inpatient treatment in the private sector is much higher (Figure 3.8). This has been cited as the major reason for poorer sections seeking inpatient care in government institutions. There are wide inter-state variations in the cost of private sector inpatient care, ranging from Rs.51 per day in Himachal Pradesh to Rs. 297 in Tamil Nadu. Part of the difference might be due to differences in diagnostic and therapeutic services available in these hospitals.

The state-wise distribution of in-patients in public and private hospitals is given in Figure 3.9. In spite of good government sector infrastrucure, a majority of patients in Punjab, Haryana, and Maharashtra went to private hospitals. In Himachal Pradesh, Rajasthan, West Bengal and the north

eastern states a majority of the patients seek admission in government hospitals in spite of inadequacies in infrastructure. In Bihar, poor government infrastructure might be responsible for over 60 per cent of patients seeking admission in private hospitals. Obviously the choice between public and private sector facilities depends on several factors including the functional status of government infrastructure, the price differential between the public and private sector, the person's ability to pay and the preferences of the community.

Figure 3.9 - Distribution of inpatients between Public and Private by State

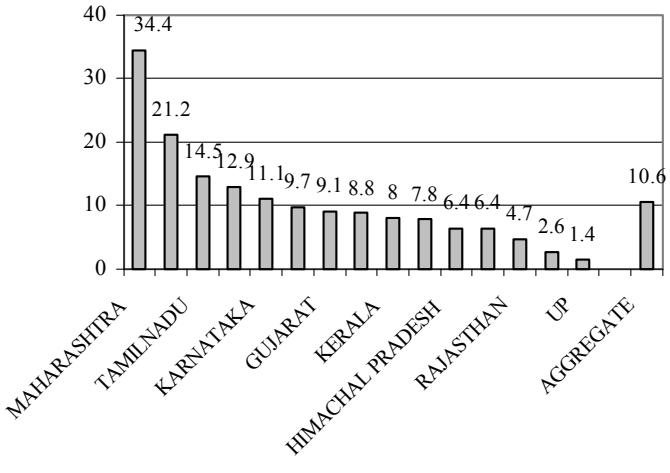


Source : NCAER, 2000

NGO and voluntary sector

Apart from purely private providers of health care, the NGO and the voluntary sector have been providing health care services to the community. It is estimated that more than 7000 voluntary agencies are involved in health-related activities. Wide inter-state differentials exists in the coverage of villages by NGOs (Figure 3.10). NGOs providing a variety of services are relatively few, unevenly distributed across and within states and have limited area of operation. Some implement government programmes of the departments of family welfare and health. Others run integrated or basic health services programme or provide special care/

Figure-3.10 - PERCENTAGE OF VILLAGES WITH NGOs, 1994



SOURCE : AJAY MAHAL, 1999

rehabilitation to people suffering from some specific diseases e.g., leprosy patients. Health care activities are also carried out by agencies like the Red Cross, Industrial establishments, Lion's Club, Helpage India etc.

The problems faced by NGOs in delivery of health care include:

- limited interaction between the government and NGOs;
- limited financial management, technical and managerial capacity of the NGO;
- paucity of funds; and
- delays in transfer of funds from the government.

Ongoing efforts in Public - Private Collaboration in Health Care

There have been very few studies documenting the geographic distribution of outpatient/inpatient facilities, existing collaborations between private sector and public sector institutions and the role each of them play in outpatient/ inpatient health care in different districts/states. The Ninth Plan had recommended that these shouldl be documented and the information utilised for decentralized district -based planning. This has not yet been done and may have to be taken up on a priority basis during the Tenth Plan. During the Ninth Plan period, the centre as well as the states initiated a wide variety of public- private collaborations. Some of the ongoing collaborations include:

- majority of states government doctors are allowed private practice. The doctor benefits monetarily; patients also gain because they are being treated by doctors who had updated their knowledge and skills through in-service training;
- contractual appointment of the health care personnel and hiring of private practitioners for providing services in the PHCs have been attempted in order to fill the gaps. However, the response has been poor; these practitioners need orientation training to fulfill the role expected of PHC doctors;
- part time hiring of general practitioners and specialists to visit and provide health care in PHCs/CHCs in under-served areas. Limited success has been reported in this experiment;
- state and central governments, PSUs reimburse cost of medical care provided by recognized private health care providers/institutions;
- involving NGOs/private sector practitioners in the national programmes e.g. utilizing the services of NGOs, and not for not for profit institutions in the leprosy eradication programme, involvement of private practitioners/institutions in the blindness control programme and the HIV/AIDS control programme;
- private sector individuals/institutions/industry e.g. Tata Steel Company provide health care to the population living in a defined area;
- private super-specialty, tertiary/secondary care hospitals are given land, water and electricity etc. at a concessional rate and permission for duty-free import of equipment with the understanding that they should provide in-patient/out-patient services to poor patients free of charge. The experience and this has been varied with several problems being reported;

- private practitioners provide information for disease surveillance in some districts in Kerala.

The impact of all these on improving access to and affordability of health care and on the coverage under disease control programmes have not yet been evaluated. However, available information suggest that these schemes succeeded in places where there were well-defined committed groups and clear-cut memorandums of understanding (MOUs) and the MOUs were implemented properly. During the Tenth Plan attempts should be made to improve area-specific public-private collaborations, taking into account the health care needs of the population, the presence of each of these sectors, their strengths and weaknesses. Feasibility of GIS mapping to identify under-served areas and providing suitable incentives to encourage private sector to set health facilities in such areas should be explored. Monitoring the implementation of these programmes along with the PRIs and local leaders should go a long way in ensuring accountability.

Since private practitioners provide most of the curative care in the country, it is important that they are given ready access to updated protocols for the management of common illnesses and current regimens used in the national disease control programmes and family welfare programme. They must be allowed to have easily access to drugs, devices, and vaccines provided through the national programmes. If this is done, private practitioners can play an important role in increasing the coverage as well as containing the cost of care.

One essential pre-requisite for improving the quality of care should be the development of standard treatment protocols appropriate for each level of care. The medical colleges and research institutions should play a key role in preparing these documents quickly. The existing government institutions at each level should take up the responsibility of testing these management protocols, suggest necessary modifications. These protocols should be made available to all practitioners through CME programme for skill upgradation and training. Available IT tools have to be fully utilised by CME programmes to ensure easy access to the materials for updating skills and knowledge. Online consultation services between paraprofessionals and doctors and among doctors may improve the quality of services and reduce the problem of transporting patients to hospitals for diagnosis and advice regarding management. Government institutions in the states which should be 'model institutions' should evolve appropriate norms for the cost of care at different levels of institutions and monitor both the cost and the quality of care in their own institutions,. The district health officials should monitor the performance of both public and the private sector institutions in the district and assist them in improving the quality of care and containing cost of care.

Over 80 per cent of the practitioners of modern medicine and a higher proportion of the ISM&H practitioners work in the private sector. It is estimated that while the private sector provides more than three-fourths of all curative health care services, its contribution to maternal and child health and

family planning services is less than one-third. The major limitations in private sector participation include:

- the focus till now has been mainly on curative services ;
- the quality of services is often variable; and
- the poorer sections of population cannot afford to pay for these services.

Under the RCH programme, several initiatives were taken to improve collaboration between the public and private sectors in providing family welfare services to the poorer sections, especially in the under-served areas. Efforts were made to increase the involvement of private medical practitioners in RCH care by providing them orientation training and ensuring that they have ready access to contraceptives, drugs and vaccines free of cost. These efforts should be augmented during the Tenth Plan. The private sector has immense potential for improving the coverage and quality of RCH services. The challenge is to find ways to optimally utilise this potential.

During the Tenth Plan appropriate policy initiatives should be taken to define the role of government, private and voluntary sectors in meeting the growing health care needs of the population at an affordable cost. The public sector should develop institutional capability at the central, state and local levels to:

- evolve policies and strategies for providing healthcare and monitor their implementation;
- increase public-private-voluntary sector collaborations to meet the health care needs of the poor and vulnerable segments of population;
- draw up standards for appropriate quality and cost of care and establish accreditation systems for individuals/institutions;
- monitor and enforce regulations and contractual obligations;
- promote excellence and ethics among professionals, identify and punish professional misconduct;
- set up an appropriate and speedy grievance redressal mechanism.

Monitoring of the activities of the NGOs

The interventions undertaken by the NGOs should be independently assessed at the end of the project period. Funding of the NGOs should be dependent upon mid-term evaluation on specific bench-marks. Efforts should be made to improve networking between the NGOs, State district administration as well as Panchayati Raj institutions. The NGO movement should be provided with institutional support through establishment of Regional Resource Centres either in government institutions or in voluntary organizations. Appropriate training modules as well as IEC material for use by the NGOs should be developed. The district and state officials as well as Mother NGOs should assist the Field NGOs in preparation of model projects. In order to strengthen the NGO Movement the Department should improve institutional support, provide financial flexibility, ensure technical

skill/knowledge building. A stringent system of monitoring and evaluation should be followed. There should be:

- broadening the panel of upraising agencies to ensure timely submission of expenditure and utilization of the grants provided;
- random audit by a Chartered Accountant;
- involvement of Regional Directors, District Medical Officers and Civil Surgeons in fixing and coordinating the activities of the NGOs with that of government sector.

Role of Industries and Other Organisations

Governmental efforts alone should not be sufficient to achieve the desired goals of the family welfare programme. The NDC committee on population had recommended that the corporate sector should make Family Welfare an integral part of their planning and it should get priority in its budget. Labour employed in organised sector is easier to reach because of the concentration of workers in defined work areas. They are better informed, better educated and have exposure to process of organisation and modernisation. Support to health and family welfare activities should be seen as vital activities linked to health and happiness of workers and improve productivity. The organised industrial sector provides health/family welfare services to about 14 per cent of the country's population. Industry can improve acceptance of health and family welfare services by educating, motivating workers and improving access to services. Industries which provide health care to their personnel and their families can extend these facilities to the people living in the vicinity of factories, especially when they are located in under-served semi-urban and rural areas. They may take up an area-specific approach to improve services available in a block by adopting it. Smaller industries could form a cooperative group for providing health and family welfare services in collaboration with the government. Managerial and other skills available in industry can be made available to improve the efficiency of the government infrastructure. The marketing skills of industry may be useful in improving the IEC and motivation activities and in social marketing.

The labour force in the organised and unorganised sector and their families require coverage in order to achieve rapid improvement in health and demographic indices. Trade unions can expand their role to address the health care needs of workers and their families. The Ministry of labour covers the working population both in the corporate sector as well as non-corporate sector. The 5 major organizations under the Ministry of labour provide population and health education to working class. These are Employees State Insurance Corporations (ESIC), Directorate General of Employment Training (DGET), Central Board of Workers Education (CBWE), Vocational Training Institute and DG Labour Welfare.

The ESIC provides population education and family welfare services as an integral part of the health services through their120 hospitals and 512 Employees Centres. These organisations cover a population of 6.6 million

workforce. ESIC also gives awards to the best performing States in respect of family welfare activities.The DGET have developed modules on population education in their training programmes. These modules are displayed in the training Institutes. The Central Board of Workers education provides population education through its various training curriculum for overall skill development of workers and the vocational training provides this education through partnership training course as part of social safety net.

A number of industrial concerns and public sector undertakings namely TISCO, Escorts, Sail, UPASI (United Planters association of South India), L&T (Larsen and Tubro) etc. have done excellent work in health and family welfare, extending services not only to their own employees and their families but to the neighbourhood communities where the industry is located. FICCI had developed a scheme for voluntary expenditure by industry on social welfare programmes. According to the scheme, new industries to be set up should be required to earmark certain amount of the project cost to be spent on Education and Health care etc. Profit making units will have to spend 1 or 2 per cent of their net profit for social welfare programmes. AITUC had been able to persuade the workers and now the plant hospital of Bhilai Steel Plant is covering the total population of its command area.

During the Tenth Plan, attempts should be made to enhance the quality and coverage of health and family welfare services through the involvement and participation of the organised and unorganised sectors of industry, agriculture and labour representatives. The problem-solving approach of the corporate sector can be used to improve the operational efficiency of the health care services.

CHAPTER-IV
INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

The umbrella term, Indian systems of medicine and homoeopathy (ISM&H), includes Ayurveda, Siddha, Unani, Homoeopathy and therapies such as Yoga and Naturopathy. Practitioners of ISM&H catered to all the health care needs of the people before modern medicine came to India in the twentieth century. Currently, there are over 680,000 registered ISM&H practitioners in the country; most of them work in the private sector. A major strength of ISM&H system is that it is accessible, acceptable and affordable.

India also has a vast network of governmental ISM&H healthcare institutions. There are 3,004 hospitals with 60,666 beds and over 23,000 dispensaries providing primary healthcare. Over 16,000 ISM&H practitioners qualify every year from 405 ISM&H colleges. The Department of ISM&H supports four research councils and provides research grants to a number of scientific institutions and universities for conducting clinical research, ethno-botanical surveys and pharmacopoeial and pharmocognostic studies on herbal drugs and medicinal plants. Pharmocopoeial Committees constituted by the Department are finalising standards for single simple formulations and will shortly take up the task of formulating standards for compound ISM formulations.Despite all these efforts, the ISM&H have not realised their full potential because:

- existing ISM&H primary, secondary and tertiary healthcare institutions lack essential staff, infrastructure, diagnostic facilities and drugs.
- the potential of ISM&H drugs and therapeutic modalities has not been fully exploited.
- lack of quality control and good manufacturing practices have resulted in the use of spurious and substandard drugs.
- the quality of training of ISM&H practitioners has been below par. Many ISM&H colleges lack essential facilities, qualified teachers and hospitals for practical training. There is no system of Continuing Medical Education (CME) for periodic updating of knowledge and skills.
- the ISM&H practitioners are not involved in national disease control programmes or family welfare programme.
- Medicinal plants have been overexploited and, as a result, the cost of ISM&H drugs have increased and spurious products are getting into the market.

The National Health Policy (1983) visualised an important role for the ISM&H practitioners in the delivery of health services. In order to give focused attention to the development and optimal utilisation of this branch of medicine, a separate Department for ISM&H was set up in 1995. The Department is making efforts to ensure that ISM&H practitioners are brought into the mainstream so that they provide a complementary system of care along with practitioners of modern systems of medicine.

Globally, there has been a revival of interest in a complementary system of healthcare especially in the prevention and management of chronic

lifestyle-related non-communicable diseases and diseases for which there are no effective drugs in the modern system of medicine. India is currently undergoing demographic and lifestyle transition which will result in the increasing prevalence of non-communicable diseases and lifestyle related disorders. ISM&H, especially ayurveda, yoga and naturopathy, can play an important role in the prevention and management of these disorders. ISM&H practitioners can undertake the task of counselling and improving the coverage and continued use of drugs in national diseases control programmes and the family welfare programme. If ISM&H practitioners take up these tasks, they can enable the country to achieve the health and demographic goals set for the Tenth Plan.

The Steering Committee recommended the following approach during the Tenth Plan to ensure that the ISM&H system achieves its full potential in providing healthcare:

- improving the quality of primary, secondary and tertiary care;
- mainstreaming ISM&H institutions and practitioners with modern systems of medicine so that people have access to a complementary system of care;
- strengthening ISM&H educational institutions so that students get adequate training, giving them confidence to practise their system and participate in national programmes;
- investing in continuing medical education;
- ensuring the conservation, preservation, promotion, cultivation, collection and processing of medicinal plants and herbs required to meet growing domestic demand for ISM&H drugs and the export potential;
- completing Pharmacopoeia of all the systems of ISM&H and drawing up a list of essential drugs and ensuring their availability;
- ensuring quality control of drugs and improving their availability at an affordable cost;
- investing in research and development (R&D) for the development of new drugs and formulations, undertaking clinical trials and patenting them; and
- undertaking clinical trials of promising drugs being in use, by appropriately strengthening Central Research Councils and coordinating their research with other research agencies such as Indian Council of Medical Research (ICMR), Delhi.

Health Care Services

The Ninth Plan aimed at improving the quality of primary, secondary and tertiary care in ISM&H, with the Departments of ISM&H in the Centre and the states taking up several initiatives to improve the quality and coverage of these services at each level.

Primary Health Care

ISM&H practitioners provide primary healthcare to vulnerable sections of the population especially those living in urban slums and remote areas. Details of the number of ISM&H hospitals and dispensaries (as on 1 April

1999) is given in Annexure 4.1. In some states like West Bengal and Gujarat, ISM&H practitioners alone are posted in primary health centres (PHCs) in some remote rural and tribal areas. In Kerala, ISM&H practitioners provide a complementary system of care in the PHCs. It is important to ensure that the ISM&H dispensaries and hospitals are linked with PHC/urban health care centres so that they can have ready access to diagnostic and other facilities available in these institutions and, at the same time, patients can chose the system for treatment .

Secondary Health Care

A majority of existing ISM&H secondary hospitals function as separate institutions and do not have linkages with either primary ISM&H healthcare institutions or with secondary healthcare institutions in the modern system of medicine. Very often these institutions lack adequate diagnostic facilities, infrastructure and manpower. The Ninth Plan had envisaged initiation of a pilot project to test the feasibility and usefulness of posting ISM&H practitioners in district hospitals. Some states did attempt to provide ISM&H clinics in district hospitals but the experience in this area has been limited.

Infrastructure

Vast infrastructure has been created:

- Hospitals 3,004
- Beds 60,006
- Dispensaries 23,028

Problems:

- No organised referral system.
- They provide healthcare only to those who come to them.
- Each centre is isolated. They are not linked with other institutions in the area.
- No organised referral system.
- No linkage with existing modern system hospitals – hence they are unable to function optimally as a complementary system or utilise the diagnostic facilities available.

Tertiary Healthcare

All ISM&H colleges, private as well as public, have attached tertiary care hospitals. In addition, there are tertiary care and/or speciality centres attached to national institutes. Private /voluntary sector institutions also provide tertiary care in ISM&H. During the Ninth Plan, the Department of ISM&H provided funds to strengthen many of these institutions. One Unani speciality clinic was established in the Ram Manohar Lohia Hospital, Delhi and one Ayurvedic and one Homoeopathic unit was established in the Safdarjung Hospital, Delhi. The Department has also provided funds for establishing speciality clinics in the National Institute of Mental Health and Allied Sciences (NIMHANS), Bangalore,. These clinics are reported to have very good attendance.

During the Tenth Plan, a major thrust will be given to mainstream the ISM&H system and utilise ISM&H practitioners by:

- ensuring that ISM&H clinics are located in the primary, secondary and tertiary care institutions in modern medicine and financing ISM&H care through funds provided for these institutions;
- focusing on the use of ISM&H therapeutic modalities for diseases for which the modern system does not have effective drugs free of serious side effects and prevention and management of lifestyle-related chronic diseases;
- increasing the utilisation of ISM&H practitioners working in government, voluntary and private sectors to improve information, education and communication (IEC) and counselling to improve utilisation of services under national disease control and family welfare programmes;
- strengthening tertiary care institutions, especially those attached to ISM&H colleges and national institutions, in order to improve patient care teaching, training, R&D;
- establishing effective referral linkages between primary, secondary and tertiary care institutions;
- monitoring how patients are responding to the efforts in providing complementary system of healthcare in these hospitals; and
- assess the pros and cons of providing complementary system of healthcare and effect mid-course corrections.

Development of Human Resources for ISM&H

There has been a progressive increase in the number of practitioners graduating from ISM&H educational institutions during the last five decades. Currently there are 405 under graduate and 77 post graduate colleges in ISM&H (Table 4.1). But the quality of training these colleges impart is poor. A recent inspection of 160 colleges showed that:

Table 4.1 - Medical Education in ISM&H

System	Colleges	
	Undergraduate	Postgraduate
Ayurveda	198	53
Unani	39	5
Siddha	2	2
Homoeopathy	166	17
Total	**405**	**77**
Admission capacity	16,845	821

Source: Department of ISM & H, 2001

- 44 per cent of them lack the required number of departments;
- 89 per cent do not have the requisite number of teachers;
- 52 per cent lack required hospital beds;
- 79 per cent have less than 60 per cent bed occupancy;

Current Problems In Medical Education

* Students join IS&M institutions through a common entrance examination; those who do not get admission in modern system of medicine opt for ISM&H colleges.
* The quality of teachers is poor and teaching aids are in short supply.
* Morale of ISM&H teachers and students is low
* Present ISM&H syllabus and curriculum are inadequate. As a result, graduates do not have the knowledge, skills and confidence to practice ISM&H therapy.

- 91 per cent do not have adequate diagnostic equipment;
- 52 per cent of all colleges have a student/bed ratio, which is higher than the prescribed ratio of 1:3.

While a lot of time is spent on teaching anatomy, physiology and bio-chemistry, not enough attention is paid to train the students to use ISM&H diagnostic and therapeutic modalities. As a result, these students lack confidence, knowledge and skills in using ISM&H therapeutic modalities and tend to practise the modern system of medicine in which they are not trained. Patients, therefore, do not get the benefit of ISM&H therapy in spite of accessing ISM&H practitioners.

During the Tenth Plan, states would be encouraged to:

- introduce an entrance examination for ISM&H undergraduate courses with appropriate eligibility criteria to identify the potential and interest of students;
- ensure uniformity in the admission system in undergraduate and postgraduate courses;
- reorient the syllabus keeping in mind the potential for employment in industry and ISM&H services being offered through speciality clinics;
- strengthen existing national centres of excellence in collaboration with the Department of ISM&H;
- strengthen and mainstream at least one college for each system as a model of undergraduate/postgraduate college in each of the major states; and
- operationalise an appropriate and transparent accreditation system for educational institutes through Councils of ISM&H.

Quality Assurance in Education in ISM&H

The Indian Medicines Central Council Act, 1970 was enacted for the constitution of Central Council of Indian Medicines, maintenance of a central register of Ayurveda, Siddha and Unani and related matters. The Central Council of Indian Medicine (CCIM) and the Central Council of Homoeopathy (CCH), constituted in 1970 and 1973 respectively, are responsible for:

- laying down and maintaining uniform standards of education for ISM&H courses, prescribing standards of professional conduct, etiquette and code of ethics for practitioners and
- advising the central government on matters relating to the recognition of appropriate qualifications of ISM&H.

They also work in coordination with state-level board/council to maintain standards in ISM&H medical institutions. In addition, they maintain central registers for Indian systems of medicine and homoeopathy respectively.

A review of the functioning of the Councils by the Department of ISM&H shows that the monitoring procedures and schedules are not adequate. The recommendations of the CCIM and CCH are often not acted

upon. There is no legal framework and, consequently, no institutional mechanism available to lay down and enforce standards relating to yoga and naturopathy. The standards of education in these two disciplines are, therefore, the weakest.

A large number of colleges are being opened predominantly in the private sector, after obtaining permission from state governments and getting affiliated to universities. Between 1995 and 2000, the CCIM permitted setting up of 73 ayurveda Colleges, 11 homoeopathy colleges and three siddha colleges. This mushrooming of colleges has adversely affected the quality of ISM&H education. The problem was discussed in the Central Council for Health and Family Welfare 1997 and at the first conference of State Health Ministers in ISM&H in 1997. It was recommended that suitable amendments be made to the Indian Medicines Central Council Act, 1970 and the Homoeopathy Central Council Act, 1973 to ensure that new colleges comply with the prescribed guidelines.

During the Tenth Plan, every effort should be made to reduce the proliferation of substandard medical colleges and check the deterioration in standards of teaching. Simultaneously, the Department of ISM&H will take steps to ensure that the statutory councils perform the role assigned to them. Periodic inspection of all established ISM&H colleges is necessary to ensure that only those colleges which have the necessary infrastructure, manpower and facilities be allowed to continue operating. This is, undoubtedly, a difficult task but is necessary to improve the standards of ISM&H education.

Paraprofessionals in ISM & H

Currently there are no arrangements for providing a degree or diploma in IS&M pharmacy nor is it included as one of the options in the general pharmacist course. Similarly, there is no training for nursing in ISM&H. The Tenth Plan should take up these two matters so that ISM&H practitioners have the necessary support staff.

National Institutes in ISM&H

National Institutes Funded By The Central Government

- National Institute of Ayurveda, Jaipur
- National Institute of Unani Medicine, Banglore*
- National Institute of Homoeopathy, Calcutta
- National Institute of Naturopathy, Pune
- Morarji Desai National Institue of Yoga, New Delhi
- National Institute of Siddha, Chennai*
- Rashtriya Ayurveda Vidyapath, New Delhi

* being established

The Department of ISM&H has set up national institutes in each of the major disciplines which are meant to act as centres of excellence providing high quality patient care, teaching and research. While some of these institutes are well established and are functioning effectively, many are in the initial stages of operationalisation. During the Tenth Plan, these centres will play a pivotal role

in improving teaching, training, patient care and research and patient care standards.

Continuing Medical Education (CME) in ISM&H

Most of the Registered Practitioners of ISM&H (Table 4.2), are in the private sector; there is a need to periodically update their knowledge and skills through continuing medical education. During the Ninth Plan period, the Department of ISM&H started a scheme for re-orientation and in-service training. The scheme offered one month's course for teachers and physicians and a two months' course for ISM&H practitioners in specialised fields like *ksharasutra, panchakarma therapy*, dental practices and in yoga. The response to this course has been poor because as most practitioners felt that they cannot leave their practice for an extended period.

Table 4.2 - Registered Medical Practitioners In ISM&H

Ayurveda	4,27,504
Unani	42,445
Siddha	16,599
Naturopathy	429
Homoeopathy	1,94,147
Total	**6,81,124**

Source: Department of ISM&H, 2001

During the Tenth Plan, a major effort will be made to provide all registered ISM&H practitioners with updated information about advances in their respective systems. Government-employed ISM&H practitioners will be the first to get the benefit of this in-service training. The training material will be produced by the national institutes and the state ISM&H colleges with the help of experts. Optimal use will be made of advances in information technology to improve the outreach of the CME programme so that it does not disrupt their practice.Attempts will also be made to increase the involvement of ISM&H practitioners in counselling and improving the utilisation of services under the national health and family welfare programmes during the Plan period. The ISM&H practitioners will play an important role in:

- health education;
- drug distribution for national programmes;
- motivation and counselling in family welfare programmes;
- acting as depot holders for selected items such as condoms and oral rehydration therapy (ORT) packages;
- motivation for immunisation; and
- improvement in environmental sanitation through community efforts.

Preservation, Promotion and Cultivation of Medicinal Plants and Herbs

Over the last two decades there has been a steady increase in the demand for drugs used in ISM&H. However, the demand for good quality medicinal plants and herbs have not been met. The prices of several plants have increased sharply, making them unaffordable and some species of medicinal plants are also reported to be endangered because of increasing pressure on forests.

The Planning Commission had constituted a Task Force on the Conservation, Cultivation, Sustainable Use and Legal Protection of Medicinal Plants. The Task Force recommended:

Medicinal Plants

Current Problems:-

- The demand for medicinal plants is growing; the trade in medicinal plants is secretive and exploitative.
- The profit motive is leading to unsustainable practices being employed. As a result, plant species are in danger of extinction.
- Quality of ingredients is poor, leading to poor quality of drugs.
- Cultivation has not been encouraged and most plants are uprooted from the wild.

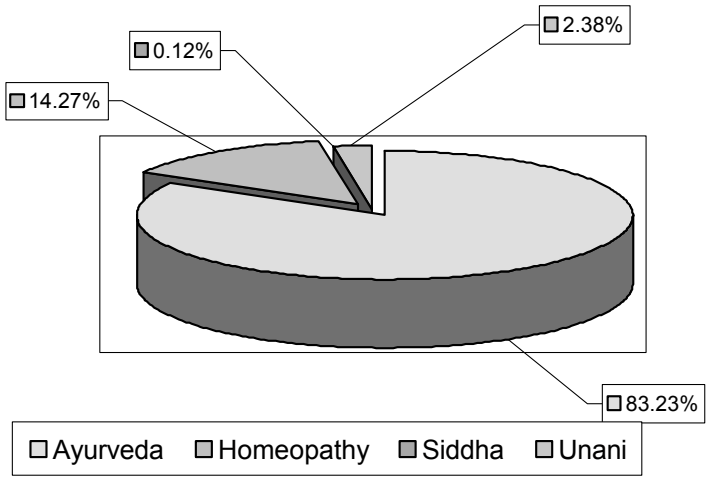
- establishment of medicinal plants conservation areas (MPCA), covering all ecosystems, forest types and sub types;
- ex-situ conservation of rare, endangered medicinal plants may be tried out in established gardens managed by the Departments of Agriculture, Horticulture or Forests;
- gene banks created by the Department of Biotechnology should store the germplasm of all medicinal plants;
- `establishment of *Vanaspati vans*' in degraded forest areas;
- forest areas rich in medicinal plants should be identified, management plans formulated and sustainable harvesting encouraged under the Joint Forest Management System;
- technically qualified NGOs must be encouraged to take up the task of improving awareness and increasing availability of plant stock and involved in the promotion of agro-techniques for cultivation of medicinal plants;
- screening/testing/clinical evaluation of herbal products to be taken up and completed;
- drug testing laboratories for ISM&H products should be established with qualified staff;.
- establishment of a Traditional Knowledge Digital Library so that information on medicinal plants and their use in the country could be accessed readily..
- establishment of a Medicinal Plant Board for integrated development of the medicinal plants.

Many of the recommendations of the task force have been implemented. The Medicinal Plant Board has been established in the Department of ISM&H to look after all multi-sectoral issues relating to the development of medicinal plants. The Board is expected to formalise and organise the marketing of and trade in medicinal plants, coordinate efforts of all stakeholders in the sector and improve the awareness availability of herbal products. Twelve state governments have established State Medicinal Plant Boards. The ministries of Health and Family Welfare, Environment and Forest, Rural Development and Agriculture are promoting the cultivation of medicinal plants. Agro-techniques are being standardised for 28 plants identified for fast track cultivation. States have been requested to introduce

measures to register cultivators and traders dealing with medicinal plants and to make the Forest Development Corporation the conduit for supply of medicinal plants to industry. The proposals to encourage R&D, support gene banks and support industry for the identification of export markets and market segmentation are under consideration.

The Department of ISM&H has initiated a scheme on a Traditional Knowledge Digital Library. Around 35,000 formulations described in 14 ancient texts relating to ayurveda are now entered in this library and can be accessed by all. This step will help ready access to traditional practices and prevent outsiders taking patents on them. The Department has established a Patent Cell to keep track of patents concerning ayurveda, siddha and unani drugs being filed in India and abroad. The cell will also provide professional and financial assistance to government and private ISM&H scientists for filing of patents. An Expert Group has been constituted for advising the Department with regard to patenting issues.

Figure 4.1 - Market Share of drugs of diffffernt systems of ISM&H



Source: Department of ISM&H, 2001

ISM&H Industry

The global market in herbal products in alternative systems of medicine is estimated to be $62 billion. India's share in this is very meagre. Even within the country the share of ISM&H products is only a modest Rs. 4,200 crore ; Ayurvedic drugs and formulations account for over 80% of the products (Figure 4.1).

Table 4.3 - ISM&H Industry in India

- Rs.4, 200 crore industry (ayurveda accounts for Rs. 3,500 crore)
- 7,000 manufacturers of ayurvedic products
  - Large (> Rs. 50 crore) 10
  - Medium (Rs. 5-10 crore) 25
  - Small (Rs. 1-5 crore) 965
  - Very Small (<Rs. 1 crore) 6,000

Source: Deptt of ISM&H 2001

A survey of the current status of the ISM&H industry undertaken by the Department of ISM&H showed that it is divided into the large, medium, small and very small-scale sectors (Table 4.3). The small-scale sector is not pursuing good manufacturing practices. Patent proprietary medicines are being introduced through wide-scale licensing without checking their efficacy or quality. These medicines have become expensive. A number of products claiming to be ayurvedic medicines use large quantities of synthetic

ingredients as excipients. Classical and *shastra* preparations are not getting due importance.

The Department has taken several steps to ensure good manufacturing practices and quality control of drugs so that there is increasing confidence in ISM&H drugs and formulations, as a result of which their market will expand both within the country and abroad.

Quality Control of Drugs

There are a large number of ISM&H pharmacies in the country (Table 4.4) and many of them, especially smaller ones, do not adopt good manufacturing practices. The Department of ISM&H has finalised and notified good manufacturing practices for ayurveda, siddha and unani drugs over the last two years.

Table 4.4 - Licensed Pharmacies in India

Ayurveda	8,533
Unani	462
Siddha	385
Homoeopathy	613
Total	**9,992**

Source: Department of ISM&H, 2001

Setting up pharmacopoeial standards and strengthening of the drug control laboratories has been identified as a priority in the Ninth Plan. The Pharmacopoeial Laboratory of Indian System of Medicine (PLIM) and Homoeopathic Pharmacopoeial Laboratory (HPL) at Ghaziabad are the major ISM&H drug testing laboratories. However, ensuring quality control is still a major problem because of lack of adequate number of ISM&H testing laboratories. In order to address this problem, the Department has initiated a centrally-sponsored programme for strengthening of state drug testing laboratories and for improving good manufacturing practices in ISM&H pharmacies. However, complaints of poor quality of ingredients or adulteration and substitution of components used for preparation of ISM&H drugs and lack of confidence in the safety, efficacy and quality of the drugs persists,testing of complex ISM&H drugs is difficult. Drug testing laboratories at the state level are either inadequate or non-existent. State governments are not properly implementing licensing or quality testing requirements for the enforcement of Pharmacopoeial standards.

Central Government's efforts to strengthen drug quality control

* Pharmacopoeial Laboratory for Indian Medicines, Ghaziabad and Homoeopathy Pharmacopoeial Laboratory, Ghaziabad are being strengthened.
* Appellate laboratories for drug testing and quality control are being identified.
* Preparation of drug formularies and Pharmacopoeias for ayurveda, siddha, unani and homoeopathy drugs are proceeding rapidly.
* The Department of ISM&H is assessing and training ISM drug industry personnel and drug inspecting staff in standardisation and quality control.

During the Tenth Plan every effort should be made to improve the quality control of drugs used in ISM&H by:

* completing all pharmacopoeial work by 2004;
* modernising state ISM&H pharmacies;
* motivating these pharmacies and the ISM&H industry to adopt good manufacturing practices;
* strengthening the central and state quality control laboratories and exploring the feasibility of utilising laboratories of the Central Council for Research in Ayurveda and Siddha (CCRAS) and chemistry and biochemistry laboratories of universities/college departments as well as existing drug testing laboratories in the modern system of medicine for testing and quality control of ISM&H drugs.
* implementing stringent drug quality control and strictly enforcing the provisions of the Drugs and Cosmetics Act (1940**)** and the Magic Remedies Prevention Act, 1954.
* Monitoring work relating to survey samples and statutory samples of ISM&H.

Neutraceuticals and Food Supplementation Products

Food supplements, cosmetics and toiletries and neutraceuticals are flooding the Indian market. It has been reported that they have export potential. These products contain not only plant-based materials, exotic plant ingredients but also synthetic chemicals. As all these products do not come under the category of either modern system or ISM&H drugs, they are not governed either by the Drugs and Cosmetic Act or the Prevention of Food Adulteration Act (1986) , they enter the market without any quality control. It is important that these products are brought under the purview of Drugs and Cosmetic Act or the Prevention of Food Adulteration Act through suitable amendments of these acts and compliance with the act should be monitored carefully

Medical Tourism

There has been a resurgence of interest in traditional medicine in India and abroad, leading to an increased demand for specialised treatment available in ISM&H. A number of tourists are visiting Kerala for *panchakarma* treatment for rejuvenation, and treatment of neuro-muscular and orthopaedic disorders. Himachal Pradesh has initiated a scheme on health tourism by offering *panchakarma* in good hotels. During the Tenth Plan, opportunities in this area will be explored and catered to. At the same time appropriate transparent quality and cost of care norms will be set up and monitored to prevent exploitation of the clients.

Research and Development

There are four research councils in ISM&H: the CCRAS, the Central Council for Research in Unani Medicines (CCRUM), the Central Council for Research in Yoga and Naturopathy (CCRYN) and the Central Council for Research in Homoeopathy (CCRH). These councils are the apex bodies for research in the various systems of medicine and are fully financed by the Government of India. They initiate, guide, develop and coordinate basic and applied research, medico-botanical surveys, research on cultivation of medicinal plants and pharmacognostical studies. These councils also conduct research programmes aimed at drug standardisation and clinical trials of new ISM&H drugs.

Some of the major problems in R&D in ISM&H include:

- ISM&H practitioners and researchers need training in research methodology.
- in spite of growing interest in Indian health systems, alternate and complementary medicine, none of the research done by research councils, industry and academic institutions has been published in scientific journals of national and international repute.
- research has not concentrated on areas where ISM&H has unique advantages such as prevention and management of lifestyle-related diseases, aand diseases for which drugs are not available in the modern system;
- research work is not carried out in collaboration with modern hospitals where abundant clinical material is available.

During the Tenth Plan the following measures should be taken to improve R&D.

- Priority will be accorded for bio-medical research pertaining to drug development in specific areas where strength of ISM has already been established.
- Importance will be given to research on the fundamental principles of ISM&H.
- Emphasis will be laid on research in the preventive and promotive aspects of ISM especially lifestyle-related disorders.
- Medico-historical investigations of ISM&H will be continued.
- Promising and widely accepted practices and skills of traditional healers in rural and tribal areas will be identified and evaluated.

Zero Based Budgeting

The Planning Commission had directed all central ministries/departments to review the ongoing schemes using the zero-based budgeting methodology and to ascertain which of the ongoing schemes require continuation in the Tenth Plan. The Department of ISM&H also went through this exercise.

Since the Department started functioning only in 1995, most of the schemes had been initiated during the Ninth Plan. A majority of them relate to strengthening essential central institutions in medical education, healthcare, drug quality and research. All these schemes are, therefore, essential. It was found that there were a large number of small schemes and these were merged into broad programmes. Some of the centrally-sponsored schemes had been misclassified as central sector schemes and this error has now been corrected (Table 4.5). The outlays and expenditure under each of

Table 4.5 – Summary of Zero Based Budgeting Exercise –2001
Centrally Sponsored Schemes

Scheme	No. of schemes	Ninth Plan outlay (Rs. Lakh)	Ninth Plan – Sum of yearly outlays (Rs. Lakh)
Schemes to be retained	1	51	51
Schemes to be merged	3/8	5,992	8,047
Schemes to be weeded out	1	0	410
Total	4/10	6,043	8,508
Central Sector Schemes			
Schemes to be retained	1	480	680
Schemes to be merged	8/34	20,112	27,465
Total	9/35	20,592	28,145

The Steering Committee recommended that during the Tenth Plan the following areas should receive a major thrust:

- mainstreaming the ISM&H system;
- utilisation of the services of the ISM&H practitioners for improving access to health care and coverage under national programmes;
- improvement in quality of under graduate, postgraduate education and continuing medical education of all practitioners, so that there is improvement in the quality of care provided by ISM& H practitioners;
- monitoring the quality and cost of care at all levels of health care;
- promotion of health tourism especially for prevention and management of lifestyle related disorders;
- implementation of the recommendations of the Planning Commission's Task Force on the Preservation, Promotion and Cultivation of Medicinal Plants and Herbs;
- enforcement of stringent drug quality control measures and good manufacturing practices for ISM&H drugs and formulations;
- improving the availability of good quality ISM&H drugs at affordable prices within the country;
- realising fully the export potential for ISM&H drugs and formulations.

Successful implementation of the above initiatives will enable ISM&H system to get its due share in providing health care for the population, improve quality and access to health care and enable the country to achieve goals set in National Health Policy(2002).

Annexure - 4.1

HOSPITALS AND DISPENSARIES UNDER INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

SL. NO.	*NAME OF STATES/ UTs*	*AYURVEDA*			*UNANI*			*HOMOEOPATHY*			*OTHERS*		
		DISPENSARIES	HOSPITALS	BEDS	DISPENSARIES	HOSPITALS	BEDS	DISPENSARIES	HOSPITALS	BEDS	DISPENSARIES	HOSPITALS	BEDS
1	ANDHRA PRADESH	1437	8	444	207	7	390	286	6	280	0	1	135
2	ARUNACHAL PRADESH	4	1	15	1	-	-	41	-	-	0	0	0
3	ASSAM#	329	2	130	1	-	-	75	3	105	4	1	25
4	BIHAR#	522	9	871	128	4	414	181	1	100	0	0	0
5	DELHI#	122	9	771	19	4	311	95	3	190	0	1*	50
6	GOA	59	6	245	-	-	-	56	-	-	0	0	0
7	GUJARAT	539	45	1745	-	-	-	34	9	730	10	1	1
8	HARYANA	414	6	840	20	1	10	20	-	-	0	0	0
9	HIMACHAL PRADESH	1064	16	330	3	-	-	14	-	-	0	2	25
10	J & K#	247	1	25	171	2	200	2	-	-	25	1	10
11	KARNATAKA	561	124	6132	45	11	202	25	25	1480	11	18	586
12	KERALA	759#	109	2561#	1#	-	-	2754	72	1440	9#	1#	30
13	MADHYA PRADESH	2105	34	1160	56	1	60	202	12	590	0	0	0
14	MAHARASHTRA#	463	73	11713	23	10	1400	-	77	5505	0	0	0
15	MANIPUR	-	-	-	-	-	-	9	1	10	1	2	65
16	MEGHALAYA	-	-	-	-	-	-	5	-	-	0	0	0
17	MIZORAM	1	-	-	-	-	-	1	-	-	0	0	0
18	NAGALAND	-	-	-	-	-	-	2	-	-	0	0	0
19	ORISSA	527	8	323	9	-	-	503	5	150	65	0	0
20	PUNJAB#	489	11	771	35	-	-	105	6	185	0	0	0
21	RAJASTHAN	3486	90	1179	79	5	270	121	5	160	3	2	22
22	SIKKIM	-	-	-	-	-	-	1	-	-	1	0	0
23	TAMILNADU	10	4	267	6	1	54	41	3	150	339	221	1716
24	TRIPURA	30	1	10	-	-	-	66	1	20	0	0	0
25	UTTAR PRADESH#	713#	1671	9911	148#	136	1186	1378	36	399$	0	0	0
26	WEST BENGAL#	254	3	215	-	2	110	899	14	682	0	0	0
27	A & N ISLANDS	-	-	-	-	-	-	7	-	-	0	0	0
28	CHANDIGARH#	5	1	150	-	-	-	4	1	25	0	1	10
29	D & N HAVELI	1	1	-@	-	-	-	1	1	-@	0	0	0
30	DAMAN & DIU	1	1	5	-	-	-	-	-	-	0	0	0
31	LAKSHADWEEP	4	-	-	-	-	-	2	-	-	0	0	0
32	PONDICHERRY	12	-	-	-	-	-	1	-	-	8	0	0
33	CGHS	31	1	25	9	-	-	34	-	-	5	0	0
34	CENTRAL RESEARCH COUNCILS	32	20	475	8	12	265	41	5	105	4	2	85
35	M/o RAILWAY	38	-	-	-	-	-	124	-	-	0	0	0
36	M/o LABOUR	129	-	-	1	-	-	25	-	-	2	0	0
37	M/o COAL	28	-	-	-	-	-	-	-	-	0	0	0
	TOTAL	14416	2258	40313	970	196	4872	7155	297	12836	487	254	2660

Source: Department Of ISM&H, 1999

Note :- Institutions functional as on 1.4.1999; - = Nil Information.

= Information for the current year has not been received. Hence repeated for the latest available year. * = Information regarding Yoga Hospitals in Delhi is under clarification. $ = Figures as on 1.4.98. @ = No. of beds reported nil in under clarification

Figures are provisional

CHAPTER-V
HUMAN RESOURCE DEVELOPMENT FOR HEALTH

The outcome and impact of any health programme depends on the competencies and skills of the personnel who implement it. At the time of Independence, the country had a population of 300 million. Famine, starvation and epidemics took a massive toll of human life; infant and maternal mortality rates were among the highest in the world and life expectancy was about 33 years. There were about 50,000 medical graduates and 25,000 nurses in the modern system of medicine to provide health care to the population.

Ninth Plan Priorities for Human Resources Development for Health

- creation of a district data base on requirement, demand and availability for health manpower in the government, private and voluntary sectors;
- periodic updating of information on
  - requirement availability and of different categories of health manpower;
  - health manpower production based on the needs;
- improvement in quality of undergraduate/ postgraduate education;
- promotion of equitable and appropriate distribution of health manpower;
- continuing medical education for knowledge and skill upgradation;
- appropriate people and programme orientation; and
- continuing multiprofessional education for promoting team work & intersectoral co-ordination

The country then embarked on a massive expansion of medical and para-professional training so that the manpower needs for the proposed expansion of the health system are met . Five decades later there are 181 medical colleges in the modern system of medicine and over 400 ISM&H colleges. The country produces over 17,000 doctors in modern system of medicine annually and a similar number of ISM&H practitioners, nurses/ANMs as well as para professionals. A vast health care infrastructure in the government, voluntary and private sector has been created and is manned by people trained in the country. Personnel costs form a major portion of the investment in health service delivery. In spite of several constraints, Indian health professionals and paraprofessionals have migrated to other countries and have gained global recognition for their knowledge, skills and commitment. However, it is a matter of concern that there are huge gaps in critical health manpower in government institutions that provide health care to the poorer segments of population living in urban slums, remote rural and tribal areas. To address this problem, some states have made rural service for compulsory health professionals and preference is given for those opting for rural services in postgraduate courses. The sustainability and impact of these measures are yet to be evaluated.

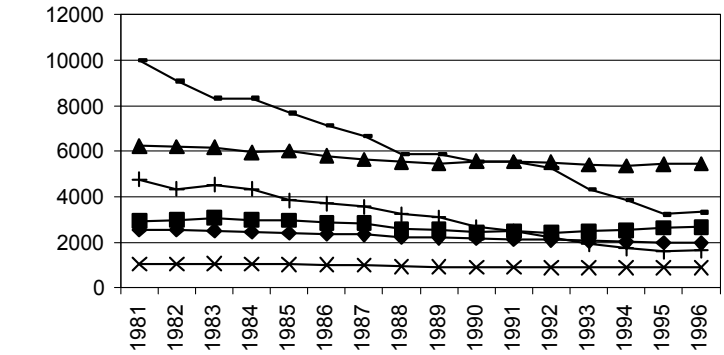
During the Tenth Plan medical education will have newer opportunities and challenges. The country has to train an adequate number of health

professionals with appropriate knowledge, skill and attitude to meet the health care needs of the growing population and dual disease burden. In this era of globalization, India with its excellent teachers and abundant clinical material can become a key player in medical education. The health care institutions can transform India into a major medical tourism destination. Appropriate investment in research and development and quality control can result in a massive expansion of the pharmaceutical sector. The next two decades will show whether the country has successfully used these opportunities to train and provide gainful employment to the highly skilled medical manpower.

Health manpower Planning

Unlike health services planning, health manpower planning in India has not received adequate attention. Sir Joseph Bhore Committee, 1946 recommended a population-based norm for medical (one doctor/population of 1500) and nursing personnel (one nurse/ population of 500). This was subsequently modified taking into account the changes over the last five decades. The Bajaj Committee suggested that assessment of health manpower requirement should be based on multiple parameters including functionary to population ratio, inter-professional ratio and manpower-mix. Health manpower requirements vary from region to region depending upon stage of epidemiological transition, the availability of institutions, income-elasticity and public and private expenditure on health. Available information on the health care provider-population ratio over the last two decades is given in Figure 5.1.

Figure 5.1 - HEALTH CARE PROVIDER-POPULATION RATIO



SOURCE : Department of Health, 1995 & 1996

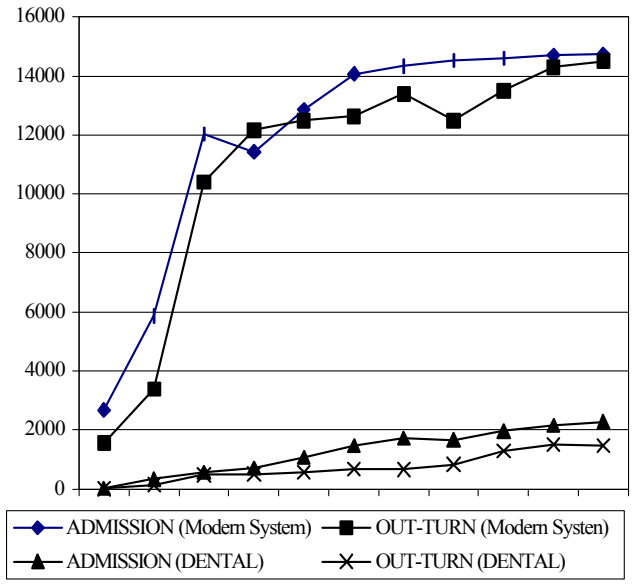
The Ninth Plan envisaged that health manpower planning will be based on the district-specific assessment of available manpower and facilities, the needs and demands of health services. Fine tuning will be done taking into account the manpower needed for implementing national programmes and the manpower requirements in the voluntary and private sector. In order to realistically assess the health manpower availability, the CBHI initiated efforts to obtain reliable and accurate district-wise data on the number of medical, dental, ISM&H professionals, nursing and para professionals and institutions (centre, state, defence services, railways, private sector or voluntary sector). There has been very little progress in this effort; attempts to match the supply of health manpower with the requirement have not even begun. During

the Tenth Plan, this database will be created so that decentralised district-based health manpower planning to meet the needs would become possible.

Health Manpower Production

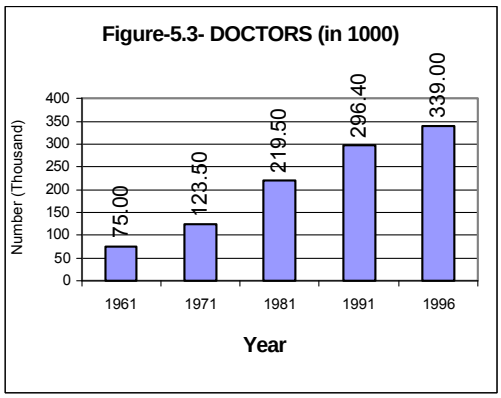
As on June 2001, there were 181 medical colleges out of which 155 (46 of them private) were recognised and 26 (19 of them private) were permitted under section 10A of the Indian Medical Council Act, 1956. A total of 5,38,909 MBBS doctors were registered with the Medical Council of India (MCI) till December 2000. At the national level, the physicians and specialists has been more than the estimated requirements (Figures 5.2 & 5.3). The current doctor population ratio is 1:1800 if only the modern system is considered and 1:800 if ISM&H doctors are also taken into account.

Figure-5.2- ADMISSION AND OUT-TURN IN PROFESSIONAL COURSES



SOURCE : INDIA YEARBOOK 2001, IAMR

Figure-5.3- DOCTORS (in 1000)



There are massive interstate differences in health indices, health care institutions (Annexure 5.1) and health manpower production. Just four states (Karnataka, Andhra Pradesh, Tamil Nadu and Maharashtra) have 81 out of 181 medical colleges. On the other hand populous states like Bihar and Uttar Pradesh with poor health indices and large gaps in health manpower have very few medical colleges. The medical education curricula have not kept pace with the changing requirements of the population or skills required for implementing health and family welfare programmes. The current system of medical education does not appear to enable the students to develop clinical and analytical skills required for functioning effectively in the primary health care settings. The number of family physicians with clinical skills, appropriate people orientation and commitment to improvement of the health status of the community appears to be dwindling. There has been a decline in candidates opting for public health and paraclinical subjects and increasing competition for potentially lucrative clinical and diagnostic specialties. These trends which may have an adverse impact on public health programmes have to be reversed.

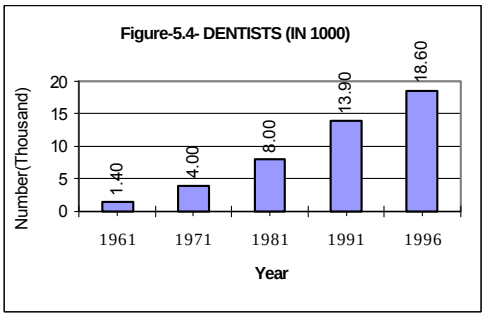
During the Tenth Plan under graduate and post graduate training will have to be reoriented to enable students to become competent professionals who can effectively implement programmes aimed at improving the health status of the population. The curriculum may be periodically reviewed and revised in keeping with changing health care needs. Several states have established University of Health Sciences (UHS) to which all medical colleges, dental colleges, para professional and nursing colleges are affiliated. The University ensures uniformity in admission criteria, curriculum and evaluation system co-ordinates activities aimed at improving the quality of education. During the Tenth Plan all states will be encouraged to establish a UHS.

Initially, most medical colleges were funded either by the central or state government. Over the last two decades, several private medical colleges have been set up. There have been wide disparities among medical colleges regarding the adequacy of infrastructure, quality of teaching, criteria for admission and fee structure. Concerned about the mushrooming growth and poor quality of medical colleges, the Indian Medical Council Act was amended in 1993 making the permission of the central government mandatory for establishing a medical college, starting a new or higher course of study or training and increase in admission capacity. However, this did not stop the increase in the number of medical colleges. Judicial intervention has to some extent, moderated the differences in the criteria for admission and fee structure between private and government funded institutions.

Medical educationists feel that over years there has been a decline in quality of medical education. This might partly be due to the problems both teachers and students have in coping with the explosive expansion in medical knowledge and technology during the last two decades. The mushrooming of medical colleges and para-professional institutes with inadequate staff and infrastructural facilities has also undoubtedly contributed to the decline in the quality of teaching and training. Implementation of the of the Ninth Plan recommendation regarding setting up a commission on the pattern of University Grants Commission (UGC) to provide financial assistance to medical colleges to improve quality of education may help in arresting the deterioration in quality of medical education. Another Ninth Plan recommendation that inspections by MCI would be necessary not only for initial recognition but also for continued recognition as medical colleges and admission of students, may go a long way in improving the quality of medical education.

Dental Manpower

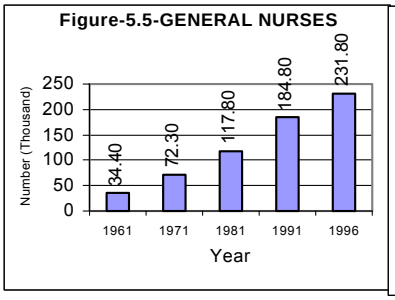
At present, there are 142 (113 private) recognised/approved dental colleges in the country with 8900 BDS admissions a year. There are 48 institutions with 869 seats providing postgraduate training (Figure 5.4). As in

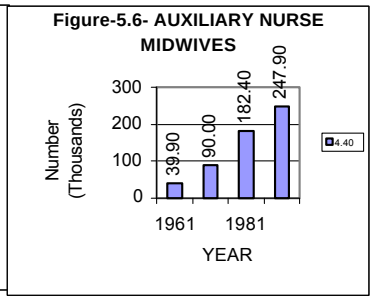


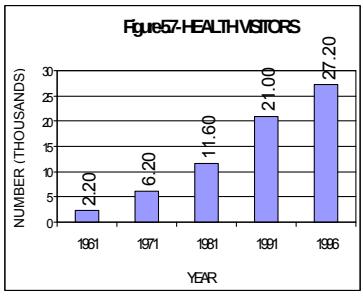
the case of medical colleges, there are regional imbalances in the distribution of dental colleges (Annexure 5.2). The needs of dental paraprofessionals has not been assessed and met. During the Tenth Plan efforts will be made to assess state-wise demand for dental professionals and district-wise dental paraprofessionals and take steps to meet the requirements.

Nursing Manpower

Around 6.79 lakh nurses have been registered in the various state nursing councils in the country (Figure-5.5); it is estimated that only about







40% are in active service. About 1.5 lakh nurses are employed in the government sector. Out of the 654 general nursing-midwives training schools in the country, 465 are run by private/voluntary organizations /missionary institutions. Around 20,000 trained nurses become available annually; the current production capacity is sufficient for filling up vacancies in the Government sector. There is a growing demand for nurses with specialized training, which has to be met. There are over 4 lakh ANMs (Figure-5.6) of whom nearly 1.5 lakh work in the government sector. In some states where there is a shortfall in required number of ANMs, the ANM training schools are being reopened in the government sector. There has been a progressive in the number of health visitors also (Figure – 5.7).

Paramedical staff

Adequate paraprofessional support is essential for an efficient and effective functioning health system. Lack of critical para-professional manpower especially laboratory technicians and male multipurpose workers have been cited as a major factor responsible for poor performance of the tuberculosis and malaria control programmes. Information on paraprofessional training institutions and the admissions state wise is not are not readily available except for pharmacists (Annexure 5.3). The need for different categories of para-medical persons vary between districts and over time. The current needs have to be assessed at district level, and critical gaps filled by skill upgradation and training of unipurpose workers and laboratory technicians working under the disease control programmes.

During the Tenth Plan the changing requirements for para-professionals will be assessed preferably at the district level and necessary steps taken to meet the requirement through all available training channels. Preference should be given to the 10+2 vocational training courses because:

- ☛ it would improve career prospects of the persons trained;

- ☛ the problem of trained para professionals not staying in the place of posting will be reduced if training is done in the districts after assessing the need.

The UHS will ensure that appropriate curricula are evolved and followed. The state governments will amend the recruitment rules for these posts so that those who qualify through vocational courses and open university system become eligible for the jobs in the government, voluntary and private sectors. Efforts to set up paraprofessional councils and utilise the UHS to improve the standard of education and training of paraprofessionals should continue during the Tenth Plan period

Continuing Medical Education (CME)

Continuing education and skill upgradation are essential for all health professionals. Currently, in-service training courses are being carried out as a part of all national programmes. CME programmes are being carried out in various institutions, such as the National Academy of Medical Sciences, National Board of Examinations, and various professional bodies and associations. However their outreach, quality and content are sub-optimal. CME efforts will receive greater impetus if the proposal that all medical practitioners have to under go knowledge and skill up gradation and re-certification every five years is implemented. Critical thrust areas such as the ongoing and new national programmes, rational use of drugs, protocol for management of common ailments, quality control in clinical practice, infection control and waste management in health care settings require focused attention. The National Academy of Medical Sciences has proposed that they will hold intramural CME in these topics where eminent professionals will participate and the proceedings will be put on the website and made accessible to all. These efforts will continue to receive support during the Tenth Plan. Open Universities will be expected to play a major role in periodically updating the knowledge of various categories of health personnel in a cost effective and efficient manner.

Bio informatics, Telematics and Distance Education

Information Technology is now one of the major components of the technological infrastructure for health management. All sub-sectors dealing with the generation, transmission and utilisation of demographic and epidemiological data such as bio-informatics, bio-statistics, HMIS and the decision support systems (DSS) are finding increasing use in health planning and management. The nationwide network of NICNET provides rapid reporting mechanism for health information, MEDLARS Biomedical Informatics Programmes provides ready access to medical databases to post graduates and research workers as well as practicing physicians. Planning Commission has provided additional central assistance to the UHSs in Karnataka, Andhra Pradesh, Tamil Nadu, Punjab and Maharashtra for strengthening of libraries and networking them through IT. This effort has to be augmented and all medical colleges need to be brought into the network.

Telemedicine programmes bring experts together to assist local doctors in the management of complicated cases. A pilot project on telemedicine in primary health care is currently ongoing in Maharashtra. Some of the major hospitals have taken up online consultation service with other specialists within the country as well as abroad. Efforts are underway to link tertiary care institutions especially in the north-eastern states with major super-speciality institutions for other regions so that patients could benefit from tele-consultations.

Annexure 5.1

NUMBER OF MEDICAL COLLEGES IN THE COUNTRY STATEWISE (AS ON JULY, 2001)

S.No	NAME OF THE STATE/UT	RECOGNISED			PERMISSION GIVEN u/s 10A			TOTAL
		GOVT.	UNIV.	PVT.	GOVT.	UNIV.	PVT.	
1	ANDHRA PRADESH	9	-	1	1	-	5	16
2	ASSAM	3	-	-	-	-	-	3
3	BIHAR	9	-	2	-	-	-	11
4	CHANDIGARH (U.T)	1	-	-	-	-	-	1
5	DELHI	3	1	-	-	-	-	4
6	GOA	1	-	-	-	-	-	1
7	GUJARAT	7	-	1	1	-	1	10
8	HARYANA	1	-	-	-	-	-	1
9	HIMANCHAL PRADESH	1	-	-	1	-	-	2
10	JAMMU & KASHMIR	3	-	-	-	-	1	4
11	KARNATAKA	4	-	15	-	-	5	24
12	KERALA	5	-	-	2	-	-	7
13	MADHYA PRADESH	6	-	-	-	-	1	7
14	MAHARASHTRA	16	-	17	-	-	1	34
15	MANIPUR	-	-	1	-	-	-	1
16	ORISSA	3	-	-	-	-	-	3
17	PONDICHERRY	1	-	-	-	-	2	3
18	PUNJAB	3	-	2	-	-	1	6
19	RAJASTHAN	6	-	-	-	-	-	6
20	TAMIL NADU	10	-	5	2	-	-	17
21	UTTAR PRADESH	7	2	2	-	-	2	13
22	WEST BENGAL	7	-	-	-	-	-	7
	ALL INDIA	106	3	46	7	0	19	181

SOURCE : REPORT OF THE WORKING GROUP ON DEVELOPMENT OF HUMAN RESOURCES FOR HEALTH FOR THE 10TH PLAN

Annexure – 5 .2

NUMBER OF DENTAL COLLEGES IN THE COUNTRY ESTABLISHED BEFORE 1993 AND COLLEGES PERMITTED UNDER SECTION 10A OF THE DENTIST (AMENDMENT) ACT 1993.

S.No	NAME OF THE STATE/UT	POPULATION (in lakhs as per 1991 Census)	RECOGNISED		TOTAL	NO. OF ADMISSION	ADMISSION PER LAKH POPULATION
			GOVT.	PVT.			
1	ANDHRA PRADESH	665	2	5	7	360	0.54
2	ASSAM	224	1	-	1	40	0.18
3	BIHAR	864	1	6	7	320	0.37
4	CHANDIGARH (U.T)	6	-	-	0	-	0.00
5	DELHI	94	1	-	1	20	0.21
6	GOA	12	1	-	1	40	3.33
7	GUJARAT	413	2	2	4	280	0.68
8	HARYANA	165	1	4	5	320	1.94
9	HIMANCHAL PRADESH	52	1	3	4	200	3.85
10	JAMMU & KASHMIR	77	1	-	1	10	0.13
11	KARNATAKA	450	1	39	40	2460	5.47
12	KERALA	291	2	-	2	80	0.27
13	MADHYA PRADESH	662	1	2	3	200	0.30
14	MAHARASHTRA	789	4	12	16	1080	1.37
15	MANIPUR	18	-	-	0	-	0.00
16	ORISSA	317	1	1	2	80	0.25
17	PONDICHERRY	8	1	-	1	40	5.00
18	PUNJAB	203	2	9	11	640	3.15
19	RAJASTHAN	440	1	3	4	280	0.64
20	TAMIL NADU	559	1	13	14	1100	1.97
21	UTTAR PRADESH	1391	2	14	16	1260	0.91
22	WEST BENGAL	681	2	-	2	90	0.13
	ALL INDIA	8463	29	113	142	8900	1.05

SOURCE : REPORT OF THE WORKING GROUP ON DEVELOPMENT OF HUMAN RESOURCES FOR HEALTH FOR THE 10TH PLAN

Annexure 5.3

NUMBER OF INSTITUTIONS PROVIDING DIPLOMA IN PHARMACY. AS APPROVED BY 01.067TH COUNCIL (AUG. 2000) MEETING AT NEW DELHI

S.No	NAME OF THE STATE/UT	INSTITUTIONS	NO. OF ADMISSION
1	ANDHRA PRADESH	20	1011
2	BIHAR	7	443
3	CHANDIGARH (U.T)	2	100
4	DELHI	8	500
5	GOA	1	60
6	GUJARAT	9	640
7	HARYANA	9	545
8	HIMANCHAL PRADESH	2	60
9	KARNATAKA	81	5021
10	KERALA	20	1230
11	MADHYA PRADESH	7	370
12	MANIPUR	1	30
13	MAHARASHTRA	67	3910
14	ORISSA	19	1050
15	PUNJAB	20	1040
16	RAJASTHAN	10	600
17	SIKKIM	1	60
18	TAMIL NADU	36	2460
19	TRIPURA	1	60
20	UTTAR PRADESH	14	630
21	WEST BENGAL	7	285
22	JAMMU & KASHMIR (u/s 14)	1	60
	ALL INDIA	343	20165

SOURCE : REPORT OF THE WORKING GROUP ON DEVELOPMENT OF HUMAN RESOURCES FOR HEALTH FOR THE 10TH PLAN

CHAPTER-VI
PREVENTION AND MANAGEMENT OF COMMUNICABLE DISEASES

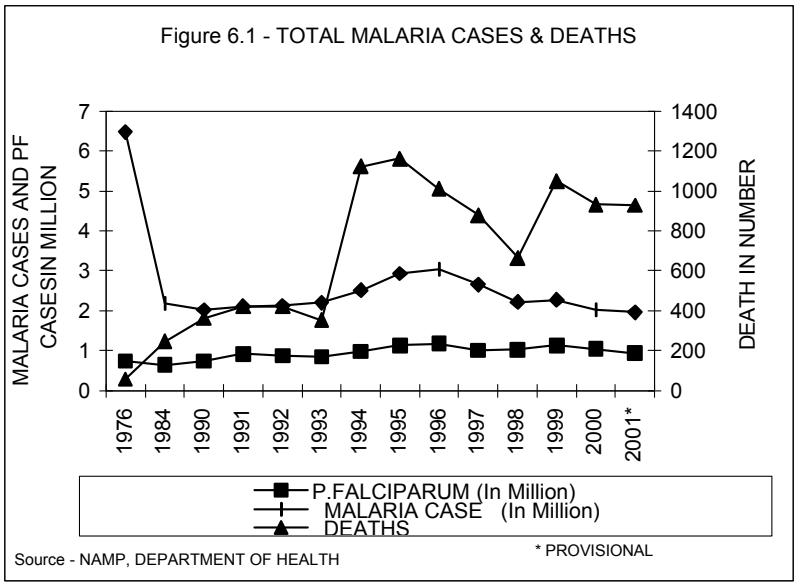
The control of communicable diseases has received priority attention right from independence. Effective antibiotic therapy for infections and vaccines for the prevention of infections were the major factors responsible for the steep decline in crude death rate from 25.1 in 1951 to 8.7 in 1999. However, morbidity due to communicable diseases continues to be high. Deteriorating urban and rural sanitation, poor liquid and solid waste management and overcrowding have contributed to the increasing prevalence of communicable diseases. Treatment of infections has become more difficult and expensive because of the emergence of antibiotic resistance; therefore increasing attention is urgently needed for prevention through effective implementation of infection control measures. Even though health is a state subject, the central government has provided additional funds through centrally sponsored schemes for disease control and this has paid rich dividends. Smallpox and guinea worm infections have been eradicated. There has been a substantial reduction in leprosy and polio cases and elimination of these two disease is likely to be achieved in the next few years. However malaria, tuberculosis and HIV infection have not shown any reduction and require continued vigorous attempts at containment and control.

Ninth Plan strategies for improving communicable disease control programmes

- Rectification of identified defects in design and delivery of diseases control programme.
- Filling critical gaps in infrastructure and manpower.
- Making service delivery responsive to user needs.
- Ensuring that health care providers have the necessary skills and support, including referral facilities and supplies.
- Improving community awareness, participation and effective utilisation of available services.
- Use of PRIs in improving community participation and monitoring implementation of programmes.

The strategies and programmes initiated in the Ninth Plan for control of communicable diseases should continue in the Tenth Plan. Modalities to improve delivery of services pertaining to these programmes through the existing health services should be worked out. Efforts should be made to improve states ownership of the programmes, participation of the community, private sector and NGOs. Local accountability and intersectoral co-ordination should be improved through the involvement of PRIs. Evaluation and operational research to rectify problems in implementation and improving efficiency should receive attention.

National Vector Borne Disease Control Programme



The National Malaria Control Programme, the first centrally sponsored programme, was initiated in 1953. The National Anti Malaria Programme currently deals with malaria, filaria, kala-azar, japanese encephalitis and dengue. During the Tenth Plan the programme should be implemented as National Vector Borne Disease Control Programme.

Ninth Plan strategy for Malaria

- early diagnosis and prompt treatment
- selective vector control and personal protection;
- prediction, early detection and effective response to outbreaks; and
- IEC

Target for 2002

- ABER (Annual Blood Examination Rate) of over 10%
- API (Annual Parasite Incidence) of less than 0.5%
- 25% reduction in morbidity and mortality due to malaria

Malaria

In the early 1950s, malaria was not only a major cause of morbidity and mortality but also one of the major constraints in the ongoing developmental efforts. The National Malaria Control Programme had spectacular success initially in bringing down incidence of malaria from 75 million cases with 0.8 million deaths to 0.1 million with no death by 1965 even though there was no well-established health care infrastructure in the rural areas. However, there was a resurgence of malaria subsequently. In 1976, over 6.7 million cases were reported. From 1977, the National Malaria Eradication Programme started implementing a modified plan of operation for control of malaria. In spite of these efforts, the number of reported cases of malaria have remained around two million in the 1990s (Figure 6.1).

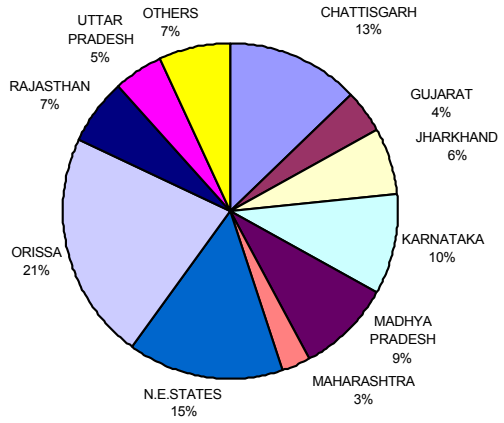
Strategies for vector control include:

- Indoor spraying with appropriate insecticide in areas where API is over 2
- Anti-larval measures in urban areas
- Introduction of medicated mosquito nets
- Use of larvivorous fishes and biolarvicides

In view of the high incidence of malaria (particularly of falciparum malaria) and high mortality, 100 per cent central assistance under the NAMP is being provided to the

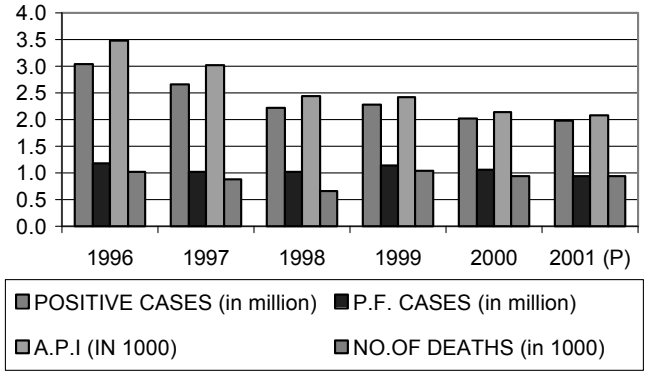
north-eastern states since 1994. Financial assistance was also obtained from the World Bank for the Enhanced Malaria Control Programme (EMCP) to cover 100 predominantly P. falciparum malaria endemic and tribal-dominated districts in Andhra Pradesh, Bihar/Jharkhand, Gujarat, Madhya Pradesh/ Chattisgarh, Maharashtra, Orissa and Rajasthan and 19 cities. The project also has the flexibility to divert resources to any area in case of malaria outbreak. In other areas, the NAMP continues to be implemented as a centrally sponsored scheme on a 50:50 cost-sharing basis between the Centre and states in urban and rural areas. The central government provides drugs, insecticides and larvicides and also technical assistance/ guidance as and when the state governments require. The state governments meet the operational cost, including the salaries.

Figure 6.2 - PERCENTAGE DISTRIBUTION OF MALARIA CASES - 2001



Source : NAMP, D/o Health

Figure 6.3 - NATIONAL ANTI MALARIA PROGRAMME



Source : NAMP, Deptt of Health

The percentage distribution of malaria cases in various states is given in Figure 6.2. The performance during the Ninth Plan period is shown in Figure 6.3. The Ninth Plan goal for reduction in API and morbidity has not been achieved. The programme review by the government of India and the World Bank showed that progress in capability building for malaria surveillance and response at the district level, early detection and treatment of cases, monitoring drug and insecticide resistance and insecticide spraying was slow. The utilisation of funds under the programme has been sub-optimal.(Table 6.1)

Table 6.1 – NAMP-Outlays and Expenditure

		Rs. Lakhs
YEAR	OUTLAY	EXPD./RE
9TH PLAN	103000.00	
1997-98	20000.00	14276.00
1998-99	29700.00	16371.00
1999-00	25000.00	17601.00
2000-01	25500.00	18832.00
2001-02	22500.00	23400.00*

Source: Department of Health
* Anticipated Expd.

Kala Azar

Kala azar is endemic in 33 districts of Bihar, 11 districts of West Bengal and three districts in Jharkand and sporadic cases have been reported in Uttar Pradesh. After a reported increase in the number of cases and deaths due to kala-azar between 1989-91 period, an intensive programme for containment of kala azar was launched in 1992.

The strategy for control infection includes interruption of transmission through insectidical spraying with DDT and early diagnosis and treatment of kala azar cases. The Central Government provides the insecticides and anti kala azar drugs while the state governments meet the expenses involved in the diagnosis and treatment of cases and insecticide spraying operations. The number of reported cases and deaths have not shown significant decline during the Ninth Plan period (Table-6.2). This is due to inadequate insecticide spraying operations and poor outreach of diagnostic and curative services. Increase in drug resistance to sodium stibogluconate has been reported in the Muzffarpur and Darbhanga districts of Bihar. Though sand fly is usually sensitive to DDT, pockets of insecticide resistance has been reported from Bihar.

Table 6.2 - CASES AND DEATHS DUE TO KALA-AZAR

Year	Bihar		West Bengal		Country	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
1997	15948	251	1450	3	17429	255
1998	12229	215	1113	6	13577	226
1999	11627	277	1091	6	12869	297
2000 (P)	12909	130	1244	11	14753	150

Source: Department of Health, 2001, P-Provisional

Dengue/Japanese Encephalitis (JE)

Periodic dengue outbreaks occur in many parts of India, in both rural and urban areas. Mortality is usually low but may be high in cases of dengue shock syndrome and dengue haemorrhagic fever. Diagnostic tests for dengue are not readily available. Japanese encephalitis outbreaks have been reported mainly in Andhra Pradesh, Karnataka, Uttar Pradesh and West Bengal. Diagnostic tests and case management facilities for Japanese encephalitis are not readily available in many parts of the country.

Table 6.3 CASES AND DEATHS DUE TO JAPANESE ENCEPHALITIS AND DENGUE/DHF

	JE		DENGUE/DHF	
Year	Cases	Deaths	Cases	Deaths
1997	2516	632	1177	36
1998	2120	507	707	18
1999	3428	680	944	17
2000 (P)	2313	535	605	7

Source: Department of Health, 2001

In endemic states, efforts are being made to improve early diagnosis, proper management and rehabilitation of those with residual disabilities. Innovative strategies for vector control are being investigated. The reported total cases and deaths due to dengue/Japanese encephalitis during the Ninth Plan are given in Table 6.3

Filariasis

Filariasis is endemic in 19 states/union territories. Estimates based on surveys by Filariasis Survey Units suggested that:

- about 454 million people (120 million in urban areas) are living in known endemic areas.
- there are 29 million filariasis cases in the country and 22 million micro-filaria carriers.

Currently there are 206 Filaria Control Units; 199 Filaria Clinics; and 27 filaria survey units. A total of 48 million people in urban areas are being protected through anti-larval measures. The Indian Council for Medical Research (ICMR) is conducting a feasibility and efficacy study on a mass annual single dose administration of Diethyl Carbamizine (DEC) and albendazole drugs for the control of filariasis. Kerala has initiated a pilot project for monitoring and management of mosquitoes' in three filariasis endemic districts (Kottayam, Alappuzha and Ernakulam) for the control of vector-borne diseases. The progress of such innovative initiatives should be evaluated and, if found feasible, they should be replicated. The Government of India is a signatory to the UN resolution to eliminate lymphatic filariasis by 2020. The National Health (NHP), 2002 envisages the elimination of lymphatic filariasis by 2015.

Tenth Plan Initiatives:

During the Tenth Plan, the National Vector-Borne Disease Control Programme should be implemented through the existing health care infrastructure. The programme should focus on:

- training of health personnel in the diagnosis of vector-borne diseases and appropriate treatment including referral;
- improving reporting, recording and monitoring of vector-borne diseases, including cases treated in the private sector, so that reliable estimates of the prevalence of vector borne disease is available;
- monitoring drug and insecticide resistance;
- using standardised protocol for the diagnosis and management of these diseases;
- involvement of PRIs to:
  - → chalk out the malaria worker's schedule;
  - → inform the community and the gram sabha of the spraying operations and seek their cooperation;
  - → ensure that insecticide spraying is started well in advance;
  - → identify villages, which are at the risk of epidemic outbreak;

- → ensure the availability of staff as well as consumables for diagnosis and drugs for treatment;
- → ensure that the malaria worker/male multi-purpose worker identify fever cases, take blood smears and ensure that the community follows treatment advice.
- → ensure that smear positive cases are given radical treatment and monitor implementation of the programme;

Goals for Tenth Plan

Malaria:

- ABER over 10 per cent
- API 1.3 or less
- 25 per cent reduction in morbidity and mortality due to malaria by 2007 and 50 per cent by 2010 (NHP 2002)

Kala azar

- Prevention of deaths due to kala azar by 2004 with annual reduction of at least 25 per cent
- Zero level incidence by 2007 with annual reduction of at least 20 per cent using 2001 as the base year
- Elimination of kala azar by 2010 (NHP 2002)

- ☛ improvement in IEC at patient, family and community levels;
- ☛ involvement of NGOs and the private sector in diagnosis and treatment of malaria cases;
- ☛ encourage the pharmaceutical industry, manufacturers of insecticides and bednets to produce low cost products for local use; back up these efforts through IEC and social marketing.
- ☛ evaluate community acceptance of insecticide-treated bed nets/curtains for personal protection;
- ☛ research studies on
  - → vector bionomics and behaviour
  - → bio-environmental methods of vector control;
  - → screening and development of new anti-malarial drugs especially herbal products;
  - → evaluation of new drugs and insecticides;

- ☛ include malariagenic potential as a parameter for health impact assessment of developmental projects.
- ☛ exploring the cost effectiveness of the use of remote sensing for mapping the breeding habitats of mosquitoes and prediction of densities of vector species, especially in remote hilly and tribal areas.

Revised National Tuberculosis Control Programme (RNTCP)

Tuberculosis (TB) is a major public health problem in India, with an estimated 40 per cent of the population suffering from the infection. India accounts for nearly one-third of the global incidence of tuberculosis. The

estimated prevalence of tuberculosis is 1.4 per cent, and sputum positive TB prevalence is estimated to be in the range of 4/1000 to 5/1000. A national sample survey to assess the current epidemiological situation of tuberculosis in different zones is currently under way. Some studies indicate that since 1980s there has been a progressing increase in primary and acquired multi-drug resistant cases of tuberculosis.

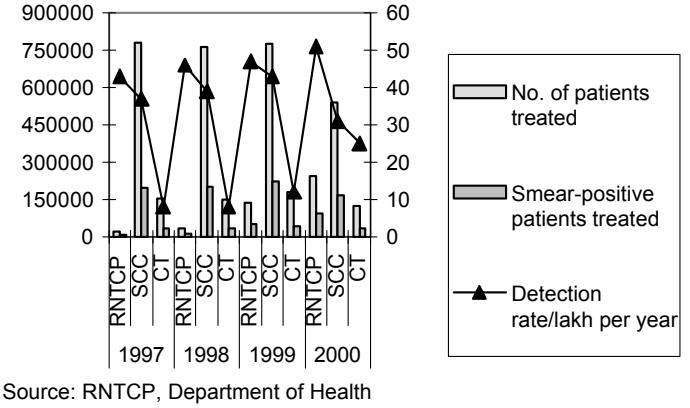
The aim of the fight against tuberculosis at the individual level is to cure the disease, to preserve and quickly restore the individual's work capacity, allow the person to be with the family and maintain their socio-economic status. At the community level, the aim is to reduce the risk of infection through effective case finding and appropriate management of sputum positive case. The National Tuberculosis Control Programme was initiated in 1962 as a centrally sponsored scheme. The programme was aimed at early case detection in symptomatic patients through sputum microscopy and X-ray and effective domiciliary treatment with chemotherapy. BCG vaccination at birth for protection against tuberculosis infection was incorporated into the immunisation programme. The short course chemotherapy, which shortened the duration of treatment to nine months, was begun in selected districts in 1983. In spite of the availability of effective chemotherapy, there has not been any decline in the morbidity or mortality due to TB because of low case detection, case holding and cure rates. The programme was reviewed in 1992 and a Revised National Tuberculosis Control Programme (RNTCP) was drawn up with emphasis on:

- diagnosis through sputum microscopy;
- uninterrupted supply of drugs for short course chemotherapy;
- direct observation of treatment with short course chemotherapy (DOTS) to improve compliance; and
- systematic monitoring, evaluation and supervision at all levels.

There were delays in the initiation of the RNTCP but a rapid scale-up of the programme began in late 1998. The performance during the Ninth Plan is given in Figure 6.4. According to programme reports:

- state and district societies have been formed and provided with funds.
- more than 1,50,000 health workers and 1,400 supervisors have been trained.
- diagnostic facilities have been established in more than 3,000 laboratories.
- the coverage of population under the programme increased from 89 million in 1998-99 to around 365 million in 2000-01.

Figure 6.4 - TUBERCULOSIS DETECTION AND TREATMENT IN INDIA



Source: RNTCP, Department of Health

- in the DOTS districts, the proportion of TB sputum positive cases detected and treatment completion rates have improved.
- an attempt to improve coverage, increased participation of NGOs and private practitioners is envisaged. The programme is being closely monitored.

A joint programme review by the Government of India and the World Bank in February 2000 showed that there was improvement in diagnosis, drug supply and proportion of patients cured in DOTS districts. The major problems in RNTCP continued to be:

- poor coverage due to gaps in primary health care infrastructure and manpower;
- poor quality of sputum examination;
- diagnosis not based on evolved criteria;
- use of non standard treatment regimens, especially by private practitioners;
- poor record keeping, lack of follow up care;
- lack of involvement of health care providers;
- poor coordination; and
- patient's difficulties in compliance with DOTS regimen.

It is now recognized that there are inherent problems in ensuring compliance with long-term drug therapy for any chronic disease. It is essential that the utility, acceptability and sustainability of the DOTS strategy is evaluated and if necessary mid-course corrections carried out. Utilisation of funds has been sub-optimal in the first three years of the Ninth Plan (Table 6.4).

Table 6.4
RNTCP- Outlays/Expenditure
(Rs. in Lakhs)

YEAR	OUTLAY	Expd./RE
9TH PLAN	45000.00	
1997-98	9000.00	3131.00
1998-99	12500.00	6888.00
1999-00	10500.00	8754.00
2000-01	12500.00	10875.00
2001-02	13600.00	13200.00*

Source: Department of Health
* Anticipated Expd.

During the Tenth Plan, the focus should be on:

- expansion of the RNTCP to cover population of over 800 million by 2004 and the entire country by the end of the Tenth Plan;
- involvement of medical colleges, TB hospitals, hospitals run by the armed forces, railways, corporate sector, NGOs and private practitioners in the programme;
- involvement of PRIs to ensure the availability of requisite staff;
- quality assurance of sputum microscopy and quality control of drugs;
- provision of sufficient stock of drugs and consumables in the PHCs/CHCs;
- facilitate referral;
- inform the community of time schedule for availing treatment;
- evaluation of RNTCP and operational research to improve performance; and

- research and development efforts to develop newer drugs to tackle drug resistance, testing of new generation of TB vaccines;

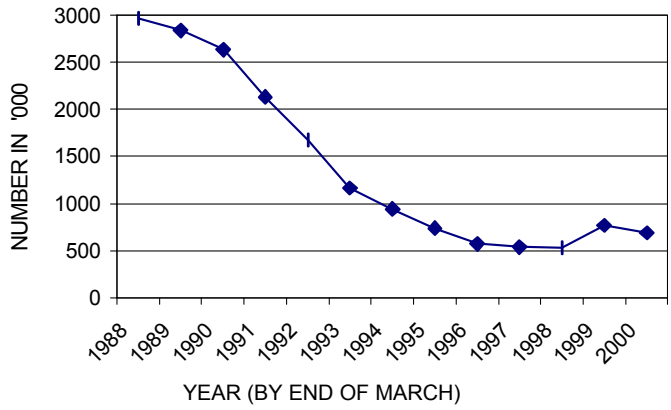
Table 6.5 Goals for the Tenth Plan						
INDICATOR	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Coverage under RNTCP (Population in Million)	550	650	800	900	1000	1070
Number of patients examined (Million)	2.08	2.50	3.04	3.42	3.80	4.07
Total Number of patients put on treatment under RNTCP (Million)	0.52	0.61	0.75	0.85	0.94	1.00
New smear positive patients put on treatment under RNTCP (Million)	0.21	0.24	0.29	0.33	0.37	0.40
Cure rate in new smear positive patients in RNTCP (%)	83	84	>85	>85	>85	>85
Source: Department of Health						

The NHP envisages a 50 per cent reduction in mortality due to tuberculosis by 2010. Goals for the tenth plan are indicated in Table 6.5

National Leprosy Eradication Programme (NLEP)

Leprosy has been a major public health problem in India. In 1984 it was estimated that there were nearly four million cases of leprosy in the country, 15 per cent of whom were children. Recognising that leprosy is a major cause of disability and the infected persons face social ostracism, several NGOs and social service/ voluntary agencies had taken up treatment and rehabilitation of leprosy patients in the pre-Independence period itself. However, the outreach of these services was very limited. With the availability of multi-drug therapy (MDT), it became possible to cure leprosy cases within a relatively short period of six to 24 months. The NLEP was launched in 1983 as a 100 per cent funded centrally sponsored scheme with the goal of arresting disease transmission and bringing down the prevalence of leprosy to one in 10,000 by 2000.

Table 6.5- PREVALENCE OF LEPROSY CASES (1988-2000)



Source: NLEP, Department of Health, 2001

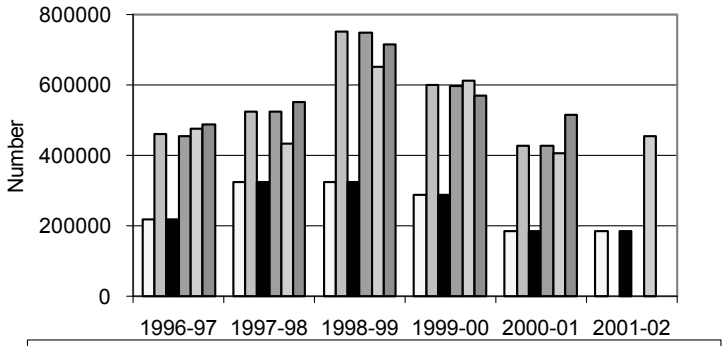
The strategy adopted to achieve this was:

- early detection of leprosy cases through active community based case detection by trained health workers;
- regular treatment of cases with MDT administered by leprosy workers in endemic districts and mobile leprosy treatment units and primary health care workers in moderate to low endemic areas/districts;
- intensified health education and public awareness campaigns to remove the social stigma attached to the disease; and
- appropriate medical rehabilitation and ulcer care services.

Over the years there has been a substantial decline in the prevalence of leprosy from 57/10,000 in 1981 to 5/10,000 in the year 2000 (Figure 6.5). The focus during the Ninth Plan was on:

- intensifying case detection and MDT coverage in states with a high prevalence of leprosy and areas that are difficult to access;
- preparing for and initiating horizontal integration of the leprosy programme into primary health care;
- strengthening laboratory services in PHCs/CHCs for detection of leprosy cases;
- establishing a surveillance system for monitoring time trends in prevalence of leprosy;
- providing greater emphasis on disability prevention and treatment; and
- implementation of the Modified Leprosy Elimination Campaign (launched in 1997).

Figure 6.6 - NATIONAL LEPROSY ERADICATION PROGRAMME



Source : NLEP, Department of Health, 2001

The performance of the NLEP during the Ninth Plan is shown in Figure 6.6. The department of health has initiated steps for the phased integration of the vertical programme within the general health services by training health care personnel in the detection and management of leprosy cases, making MDT available at all health facilities, improving disability and ulcer care and strengthening of monitoring and supervision. Outlays and utilisation of funds during the Ninth Plan period is shown in Table 6.6.

Table 6.6
NLEP – Outlays and expenditure

(Rs in crore)

YEAR	OUTLAY	EXPD. /RE
9TH PLAN	301.00	
1997-98	75.00	79.56
1998-99	79.00	78.03
1999-00	85.00	82.05
2000-01	74.00	73.86
2001-02	75.00	75.00*

Source: Department of Health, 2001
* Anticipated Expd.

During 1997-98, the duration of treatment with MDT was reduced from 24 months to 12 months for multi-bacillary patients and from 12 months to six months for pauci-bacillary patients.

Single dose rifampicin, ofloxocin and minocycline (ROM) treatment for single lesion patients was introduced. Prior to the initiation of the fixed dose treatment, treatment was continued until clinical inactivity. With fixed dose treatment, patients are released from treatment once the duration of treatment is completed. Under the programme, smear examination is optional, it is, therefore, difficult to determine cure rates and relapse rates. It is important that surveillance is strengthened so that relapses are detected early.

As of 2001, the estimated prevalence rate of leprosy is 4.3 in 10,000. Elimination level (PR < 1/ 10,000) has been achieved in Nagaland, Haryana, Punjab, Mizoram, Tripura, Himachal Pradesh, Meghalaya, Sikkim, Jammu and Kashmir, Rajasthan, Manipur and Assam. States that are close to achieving elimination (1-2/ 10,000) include Gujarat, Kerala, Arunachal Pradesh, Lakshadweep. Leprosy is now endemic mainly in the states of Bihar, Uttar Pradesh, Orissa, West Bengal, Madhya Pradesh, Jharkhand and Chattisgarh. These states account for 64 per cent of the country's case load, with Bihar alone contributing 24 per cent.

The Modified Leprosy Elimination Campaign (MLEC), aimed at the detection of unidentified cases, was taken up first in Tamil Nadu in 1997 and then extended to Maharashtra, Orissa, Gujarat, the Jammu division of Jammu and Kashmir and Daman and Diu during 1997-98. It was subsequently extended to all districts during 1998-99. Performance under MLEC is shown in Table 6.7.

Table – 6.7
Performance under MLEC

Population In Lakhs		No. of suspected cases	No. of confirmed cases	No. of single lesion	PR before MLEC	PR after MLEC	% increase in PR
Enumerated	Examined						
8209.67	6448.71	2858267.00	454290.00	53115.00	4.75	10.02	110.95

Source: MLEC 1998-99 PR – Prevalence rate/10,000.

Some of the evaluation studies indicate that during the MLEC there was both over diagnosis and under diagnosis in some districts as the detection was done by a large number of newly-trained persons. However, this campaign provided a mechanism for involving the entire health services and paved the way for the progressive integration of leprosy care within the health service infrastructure.

The MLEP has been successful in reducing the number of leprosy cases. However, this will not result in any immediate decline in the number of patients who have deformities. There is a need to give a major thrust to surgical correction of deformities so that the functional status of individuals can improve. So far 210 district leprosy societies were provided funds for conducting disability/ulcer care management training. Gujarat mobilised experienced surgeons from all over the country to undertake reconstructive surgery in in different district hospitals so that patients get treatment near their

residence. The impact and cost effectiveness of these initiatives need to be assessed.

The Tenth Plan goal is to eliminate leprosy and bring prevalence to less than 1/10,000 as a public health problem. The strategy to achieve this should focus on:

- completing horizontal integration of the programme into the general health care system by 2007. The personnel employed under the NLEP should be transferred to the states during the Tenth Plan;
- skill upgradation and redeployment of the over 30,000 leprosy workers and laboratory technicians so that existing gaps in male multi-purpose workers and laboratory technicians in PHC/CHS are filled and these workers get integrated into the primary health care system. This should result in improvement in all health programmes, including the leprosy programme;
- training of the existing personnel in primary health care institutions in the early detection and management of leprosy patient; identification and referral of those with complications;
- re-constructive surgery to improve functional status of individuals;
- inter-sectoral collaboration for rehabilitation of leprosy patients;
- increased involvement of PRIs/NGOs in the detection and management of leprosy patients; gram sabhas can facilitate house-to-house surveys by leprosy workers; and
- the panchayats can inform the community about institutions where facilities for treatment are available and facilitate referral.

National AIDS Control Programme

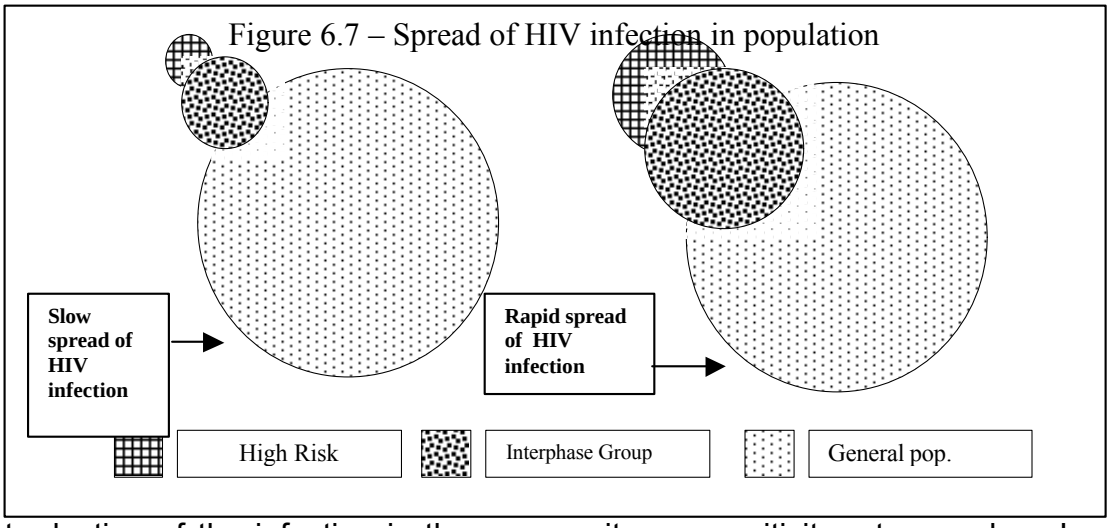
Sexually transmitted diseases (STD) have been a global problem since time immemorial. In India, a National STD Control Programme has been in operation since 1967 but its outreach and coverage have been poor. There is no nation-wide surveillance system for STD. Available data from small-scale studies indicate that the annual incidence of STD may be about 5 per cent (40 million new cases every year). Small scale studies have suggested that over the last three decades, there has been some increase in sexual promiscuity and perhaps also in prevalence of STD. However, because of the availability of effective treatment, the increase, if any, in the incidence of STD has not resulted in rising morbidity or mortality rates.

With the advent of HIV infection, in the late 1970s and early 1980s, there has been a dramatic change in the situation because there is no effective drug for the treatment, or vaccine for protection against, HIV infection. In the early 1980s, the AIDS (acquired immuno-deficiency syndrome) was perceived as a rapidly fatal disease affecting persons in their prime; health sector took up the challenge of combating and containing the infection. Over the last two decades the natural history of the disease has been documented and it is now realised that HIV infection has a long, silent phase, and that AIDS represents the pre-terminal phase of the infection. Sustained multi-sectoral efforts are needed to contain the infection, and

combat the adverse consequences on the affected person, the family, community and the country.

The load of HIV infection in the community depends upon the prevalence of infection in three groups of population – the high-risk group, the interphase group and the low risk group. The high risk group (HRG) is a relatively small group e. g. commercial sex workers, intravenous (IV) drug users. Soon after the introduction of infection in the community, there is a steep rise in prevalence of infection in this group because they are frequently exposed to the risk of infection. The inter-phase group consists mainly of men and women who have multiple sex partners. They form the link through which infection spreads to the numerically vast low risk group of the general population. The general population (low risk group) acquires HIV infection from spouses who have multiple sex partners. The size of the three groups and the extent of the interphase between them determine magnitude of the HIV infection in any country or community; these factors account for most of the observed differences between countries in the prevalence of HIV infection. Global epidemiological data on HIV infection indicate that soon after the

Figure 6.7 – Spread of HIV infection in population

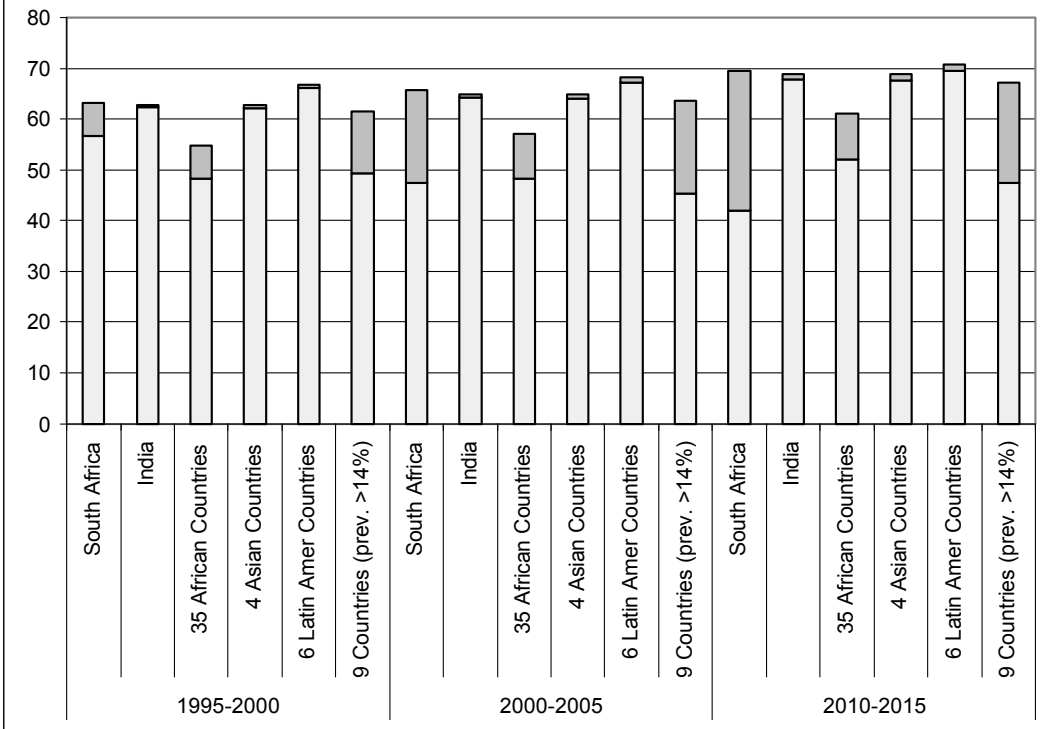


introduction of the infection in the community seropositivity rates are low. In the next phase the infection spreads to susceptible persons ion vulnerable groups resulting in steep rise in seropositivity rates. Finally in the third phase the seropositivity rates plateau when the number of persons who get infecrtted is similar to the numbers who die of HIV infection. The steepness of the slope and the rapidity with which plateau is reached are determined by the proportion of susceptible at-risk persons in the community and the effective use of prophylactic measures by the risk groups (Figure 6.7.)

India has the distinction of initiating national sero surveillance in 1986 to define the magnitude and dimension of HIV infection in the silent phase of the HIV epidemic long before AIDS cases were reported. Currently, HIV infection in the general population is seen in all states both in the urban and rural areas. The apparent differences between and within states in the prevalence of HIV infection may, to a large extent, be due to differences in the type and number of persons screened. Available data from sentinel surveillance suggests that over

the last two decades, there has been a slow but progressive rise in the

Figure 6.8 - Life expectancy at Birth in different countries (without and with AIDS epidemic)



Source : UN Population Division

prevalence of infection in all groups in all states. The estimated number of HIV infected person rose from one to two million in 1991, to 3.5 million in 1998 and 3.9 million in 2000. More than 50 per cent of infected persons are women and children. Every year, approximately 30,000 deliveries in India occur among sero-positive women and between 6,000 to 8,000 infants are peri-natally infected with HIV. At present, the number of AIDS patients in the country is small. However, over the next decade, persons who got infected in the 1980s and 1990s will develop AIDS, resulting in a steep increase in the number of AIDS patients.

Capacity building

- Awareness generation among all segments of population through Family Health Awareness campaigns
- Focussed attention and counselling to adolescents, sex workers, drug users , migrant labourers etc
- Improvement in the quality of and access to condoms including social marketing .
- Hospital infection control and waste management to reduce accidental spread of infection in health care settings.
- Clinical trials on chemotherapy to prevent mother to child transmission
- Establishment of behavioural surveillance

In spite of the relatively low investment in and low profile of the National AIDS Control Programme, the prevalence of HIV infection in India is

relatively low. Some of the projections made by the National AIDS Control Organisation (NACO) suggest that HIV infection in India may reach the plateau by 2010. The UN Population Division had computed the impact of HIV infection on longevity in different countries/regions. There has been a steep fall in longevity in sub Saharan Africa In India there has been only a small reduction in expected improvement in longevity (Figure 6.8). The initiation of sero-surveillance during the silent phase, implementation of a multi-pronged strategy for HIV infection containment and control, the cultural ethos, relatively low IV drug use and dedicated work done by committed professionals are some of the factors responsible for this. However, because of the one billion plus population, India is likely to have the largest number of cases of and deaths due to AIDS.

Infrastructure set up by NACO

Modernisation and strengthening of

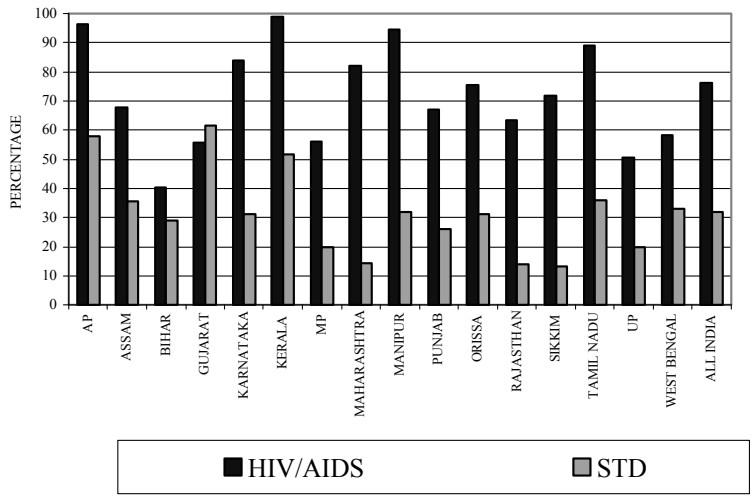
* 815 blood banks
* 504 STD clinics in district hospitals

Establishment of

- 40 blood component separation facilities,
- 142 voluntary blood testing centre;
- 320 sentinel sites for monitoring time trends in the prevalence of HIV infection
- 570 sites for targeted intervention for prevention and management of HIV infection in high risk groups
- low cost community-based care for people living with HIV/AIDS

A National AIDS Control Programme (NACP) Phase I was launched in 1992 with World Bank assistance and was completed in 1999. Phase II of the programme, with funding from World Bank, Department for International Development (DFID) and United States Agency for International Development (USAID) is currently under way AIDS Phase II programme focuses on:

Figure 6.9 - PROPORTION OF RESPONDENT WHO HAD EVER HEARD OF HIV/AIDS AND STD



SOURCE : NACO, Department of Health

- reducing HIV transmission among the poor and marginalised high risk group population by targeted intervention, STD control and condom promotion;
- reducing the spread of HIV among the general population by reducing blood-based transmission;
- promotion of IEC, voluntary testing and counselling;

- developing capacity for community-based low cost care for people living with HIV/AIDs;
- strengthening implementation capacity at the national, state and panchayat level through appropriate arrangements and increasing timely access to reliable information;
- forging inter-sectoral linkages between public, private and voluntary sectors.

All these efforts are being monitored.

The recently concluded behavioural survey and the NFHS have shown that over two-third of the population was known about HIV infection. There are considerable urban-rural and inter-state differences. Awareness about STD was much lower than that about HIV infection (Figure-6.9). The outlay and expenditure on National AIDS Control Programme during the Ninth Plan is given in Table 6.8.

During the Tenth Plan, the programme should be continued with emphasis on:

- prevention of mother-to-child transmission;
- reduction in blood-borne transmission and accidental infection in health care settings;
- care of HIV-infected persons/AIDS cases;
- prevention and management of STD; and
- improved surveillance to obtain epidemiological data on time trends of the infection.

Table 6.8
AIDS Control Programme (Rs lakh)

YEAR	OUTLAY	EXPENDITURE
9TH PLAN	76000.00	
1997-98	10000.00	12100.00
1998-99	11100.00	9936.00
1999-00	14000.00	13525.00
2000-01	14500.00	17330.00
2001-02	21000.00	23500.00*

Source: Department of Health
* Anticipated Expd.

Monitoring of processes and the impact of ongoing intervention programmes and sentinel surveillance (serological, STD/behavioural) to monitor time trends in the HIV epidemic should receive adequate attention.

HIV is a multifaceted problem affecting all segments of society. Until now the Department of Health has been the nodal point of interventions which included not only the traditional activities of the health sector such as prevention, detection, counselling and management, but also areas such as legislation, rehabilitation of infected persons and their families. During the Tenth Plan it is expected that each Department should handle HIV infection related issues in their respective sectors. For instance, the Ministry of Labour should look into the prevention of discrimination at the work place. Voluntary organisations may be best suited for providing hospices for AIDS patients who do not have anyone to look after them and orphanages may have to take care of children who have lost their parents due to AIDS. If each sector plays its role, the country should be able to look after the needs of HIV infected persons and their families without any adverse effect on other programmes.

Tenth Plan Goals:

HIV/AIDS is one of the most serious public health problems in the country. The Tenth Plan should focus on:

- 80 per cent coverage of high risk groups through targeted interventions;
- 90 per cent coverage of schools and colleges through education programmes;
- 80 per cent awareness among the general population in rural areas;
- reducing transmission through blood to less than 1 per cent;
- establishing of at least one voluntary testing and counselling centre in every district;
- scaling up of prevention of mother-to-child transmission activities up to the district level in high prevalence states; and
- achieving zero-level growth of HIV/AIDS by 2007.

Water Borne Diseases

In the pre-independent era and in the first decade after independence water supply and sanitation were two important schemes funded by the Public Health Department. In view of the importance of both these components in preventing water borne and vector borne diseases, allocation for the two components was nearly 50:50. Subsequently water supply and sanitation programmes become the responsibility of rural and urban development departments. While water supply received most of the funds, sanitation and sewage were under-funded and neglected. This resulted in environmental deterioration and increase in both water and vector borne diseases.

The contamination of drinking water with human or animal faeces leads to the spread of water-borne diseases. The risk of infection is higher in areas with poor sanitation, poor sewage handling, inadequate water supply and poor quality of water. Water borne diseases occur throughout the year with a seasonal increase in summer, monsoon and post-monsoon period. Common water-borne diseases that are of public health importance include diarrhoeal diseases, cholera, bacillary dysentery, typhoid fever and viral hepatitis. In children the prevalence of diarrhoeal disease is higher; severity and tonicity is also more in children. Over the last few decades there has been no decline in the prevalence of water borne diseases though there has been some decline in mortality associated with them.

During the Tenth Plan, efforts should be made to:

- improve coverage under rational case management for diarrhoea/dysentery;
- explore the feasibility of monitoring the quality of water through public health engineering department and the PRIs;
- strengthen the diarrhoeal disease surveillance programme at the district level to detect and contain outbreaks;

- coordinate the efforts of the departments dealing with urban and rural water supply and sanitation, municipal corporations and PRIs for the prevention of water-borne diseases.

Disease surveillance

Surveillance is the continuing scrutiny of all aspects of occurrence and spread of diseases that are pertinent to effective control. So far in India disease surveillance has been predominantly focused on communicable diseases. There has been some small scale research efforts for establishment of comprehensive communicable and non communicable disease surveillance but these have not been opertationalised even on a pilot basis.

Given the poor environmental sanitation and the problems in the public health system, it will not be possible to completely prevent outbreaks of communicable diseases in the near future. Delays in recognition and reporting of focal outbreaks and absence of a functioning HMIS and disease surveillance system has been responsible for delayed recognition and responses resulting in high morbidity and even mortality in communicable disease out breaks. In order to prevent these the Ninth Plan envisaged the establishment of a district-based system for early detection of disease outbreaks and prompt response for rapid containment and control through the existing infrastructure. The necessary back-up laboratory and epidemiological support was to be provided by strengthening and optimally utilising the facilities and expertise available in the national institutions/medical colleges.

The Department of Health initiated a pilot project on disease surveillance coordinated by the National Institute of Communicable Diseases in 1997. Initially the project involved strengthening laboratories and setting up a disease surveillance system in 20 districts, and was expanded to cover 100 districts by 2002. Many states have not been able to utilise the funds released or carry out the programme as envisaged. The major disease control programmes continue to have their own vertical surveillance system; of these, only the polio surveillance has a good track record. There is as yet no organised effort to integrate all the ongoing surveillance under various disease control programmes into a single programme for disease surveillance. Common epidemic-prone diseases are still not being monitored locally and reported to district officers for analysis and response.

Private sector provides over 75 per cent of curative care for common illnesses, however, data from private health providers is not yet included in any disease surveillance system. In the eighties ICMR funded a research project in Tamil Nadu North Arcot District (NADHI), in which private and government sector practitioners participated. The Kerala government has replicated this model in three districts. Kerala has reported that the system has enabled early detection and containment of outbreaks of communicable diseases; the state government proposes to expand this programme to other districts in the Tenth Plan.

During the Tenth Plan, a comprehensive review of:

- disease surveillance and critical analysis of data generated at the district level, so that outbreaks are recognized early and investigated by the district health officers, and appropriate and timely response is initiated;
- use modern IT tools to communicate data on disease incidence on a real time basis, complete programmes currently being implemented in the different states, under different disease control programmes and under the CSS project on disease surveillance;
- laboratory facilities available for investigation of epidemic prone diseases; and
- reporting systems currently in use

should be carried out. Efforts should be made to integrate ongoing programmes for disease surveillance and develop a comprehensive disease surveillance programme at the district level. The programme should:

- strengthen routine data collection at the village level for selected diseases; monthly reports should be prepared so that deviation from the normal pattern could be recognised early;
- information pertaining to epidemic prone diseases which are prevalent throughout the country e.g. diarrhoea, tetanus, diphtheria should be reported by all; region specific problem such as malaria, filaria, leptospirosis should be reported from the endemic areas;
- ensure regular compilation and critical analysis of data generated at the district level so that outbreaks are recognised early and investigated by district health officers and appropriate timely response is initiated ;

Infection control and waste management in health care settings

There has been increasing concern over the incidence of hospital-acquired infections and accidental infection in health care providers and waste disposers. One of the major new initiatives during the Ninth Plan was improvement of infection control and waste management through appropriate, affordable technology at all levels of health care. In November 1998, the Department of Health has constituted National Hospital Waste Management Committee under the chairmanship of the Secretary, Health, to coordinate and guide policy and programme initiatives in the field. A pilot project was initiated in 11 institutions with assistance from the department. Hospital infection control and waste management is also being taken up as a component of all World Bank-assisted secondary health system projects. Guidelines on hospital waste management were prepared and circulated to states and union territories in November 2000 for their comments. Some states are providiing funds under the PMGY for infection control and waste management in primary health care institutions. During the Tenth Plan, hospital infection control and waste management should be incorporated as an essential routine activity in all health care institutions at all levels of care.

Horizontal Integration of Vertical Programmes

Initially, when sufficient infrastructure and manpower were not available for the management of major health problems, several vertical programmes like the NMEP and NLEP were initiated. Over the years,the three-tier health care infrastructure has been established. The Ninth Plan envisaged that efforts should be made to integrate the existing vertical programmes at the district level and ensure that primary health care institutions provide comprehensive health and family welfare services. The pace of horizontal integration has been very slow and uneven. During the Ninth Plan, attempts were made to:

- integrate the activities related to training and IEC under different vertical programmes;
- coordinate the activities for prevention and management of STD/reproductive tract infections (RTI) under the RCH and AIDS control programmes;
- improve coordination between ongoing HIV and TB control programmes; and
- provide leprosy services through the primary health care infrastructure.

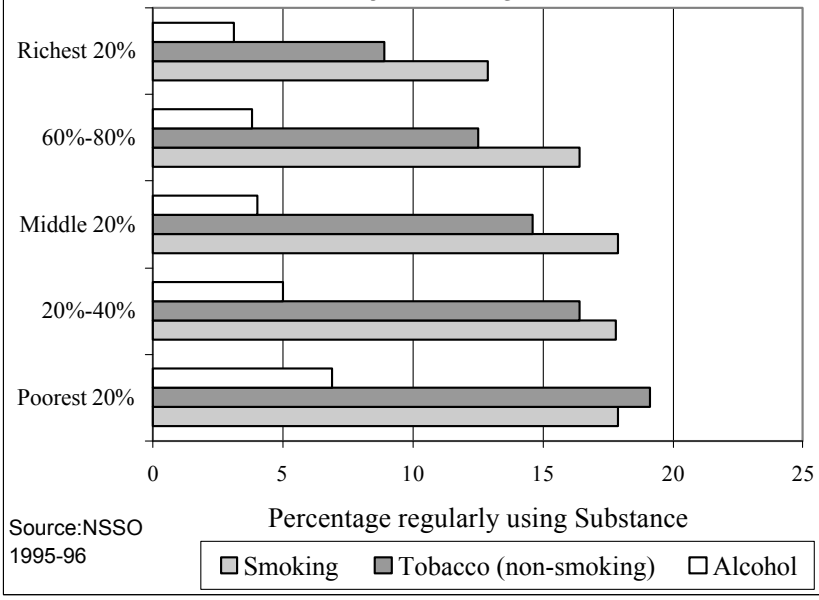
Some states like Orissa and Himachal Pradesh have formed a single health and family welfare society at the state and district level for implementing all health and family welfare programmes. In some states, middle-level public health programme managers, who are currently heading the vertical programmes at the district-level, are being given the additional task of ensuring coordination and implementation of the integrated health and family welfare programme at primary health care institutions in defined blocks. Their involvement is also expected to improve data collection, reporting, strengthen HMIS, improve the supply of essential drugs and devices at PHCs/CHCs and enable the operationalisation of disease surveillance and response mechanism at the district level. The National Health Policy 2002 (NHP2002) envisages a progressive convergence of all health and family welfare programmes under a single field of administration beginning at the district and below-district levels for funding, implementation and monitoring. During the Tenth Plan, efforts should be mainly directed to improving the pace and coverage of this convergence. The NHP 2002 envisages manpower in rural /urban health system should be available for the entire gamut of public health activities at the decentralised level, irrespective of whether these activities relate to national programmes or public health activities initiated by state /PRI.

CHAPTER-VII
PREVENTION & MANAGEMENT OF NON-COMMUNICABLE DISEASES

Non-communicable diseases cover a wide range of heterogeneous conditions affecting different organs and systems in different age and socio-economic groups. Over the last two decades, morbidity and mortality due to cardio-vascular diseases, mental disorders, cancers and trauma have been rising due to an increase in:

- the number of senior citizens with higher prevalence of non-communicable diseases;
- prevalence of non-communicable diseases in younger people due to life-style changes, obesity and stress; and
- exposure to environmental risk factors and use of tobacco.

Figure 7.1 Prevalence of Alcohol and Tobacco Use in India by Income Quintile



Data from the 52nd round of NSSO showed that tobacco intake (smoking and non-smoking) and alcohol use are higher in the poorest 20 per cent of the income quintile (Figure 7.1) and hence the prevalence of tobacco-related non-communicable diseases is likely to be high in this group. In view of the chronic morbidity and high cost involved in the management of non-communicable diseases, attention need be focused on prevention, early detection and appropriate management. It is estimated that currently there are 2.5 million cases of cancer in the country and this should double over the next two decades. Data on the prevalence of cardiovascular disease are insufficient for national level projections. The reported prevalence of Coronary Heart Disease (CHD) in urban Kerala is 14 per cent (17 per cent in men and 10 peer cent in women), 7 per cent in rural Thiruvananthapuram and 3 per cent in rural parts of north India. Ten per cent of the urban and 5 per cent of the rural adult population suffer from hypertension. The estimated prevalence of rheumatic heart disease (which constitutes 20 to 30 per cent of hospital admissions due to all cardio vascular disease (CVD) in India) is five to seven in 1,000 in the 5-15 year age group. A recent study carried out in six cities in India showed an age standardized prevalence's of diabetes and impaired glucose tolerance in 12.1 per cent and 14.0 per cent respectively, with no gender difference.

During the Ninth Plan, ongoing programmes for control of non-communicable diseases included two centrally sponsored schemes (National Iodine Deficiency Disorders Control Programme, discussed in the chapter on nutrition, and the National Programme for the Control of Blindness discussed in this section) and one central sector scheme (the National Cancer Control Programme). During the 1990s, several pilot projects such as the national mental health programme, the diabetes control programme, cardiovascular disease control programme, prevention of deafness and hearing impairment, oral health programme and medical rehabilitation were initiated as central sector pilot projects. After completion of the pilot phase, these programmes have been merged with the Central Institutes dealing with these problems.

The Ninth Plan envisaged the provision of integrated non-communicable diseases prevention and control services through the existing infrastructure. However, the progress on this front has been very slow. In some states like Kerala efforts are being made to implement an integrated non-communicable disease control program at the primary and secondary care level with emphasis on prevention, early diagnosis, management and building up of a suitable referral system. Tertiary care centres are being strengthened to provide treatment facilities for the management of complications.

During the Tenth Plan, efforts should be made to improve preventive, promotive, curative and rehabilitative services for non-communicable diseases throughout the country at all levels of care so as to reduce morbidity and mortality. The major thrust should be on:

- a well-structured IEC&M for primary and secondary prevention of non-communicable diseases;
- re-orientation and skill upgradation of health care providers in diagnosis and management of non-communicable diseases at different levels of care;
- establishment of referral linkages between primary, secondary and tertiary institutions;
- production and provision of drugs for treatment of non-communicable diseases at affordable costs;
- development of institutions for rehabilitation of disabled persons, teaching persons to live with their disability;
- development of hospices for care of terminally ill people who cannot have home-based care; and
- creation of an epidemiological database on non-communicable diseases especially CVDs, stroke and diabetes.

National Cancer Control Programme (NCCP)

India has one of the lowest rates of cancer in the world. It is estimated that there are two to 2.5 million cases of cancer in India, with 700,000 new cases being detected every year. About two-thirds of the cases are in an advanced stage at the time of detection and 300,000 to 350,000 cancer patients die each year. Current projections suggest that the total cancer burden in India for all sites will double by 2026 because of increasing longevity, greater exposure to environmental carcinogens due to industrialisation, use of fossil fuels, the use of a wide variety of chemical agents in industry and agriculture, and the continued use of tobacco.

The objectives of the National Cancer Control Programme are:

- primary prevention of cancers by health education through the government and NGOs;
- early detection and diagnosis of cancers especially cancer cervix, breast and oropharyngeal cancers;
- developing and strengthening of existing cancer treatment facilities;
- increasing access to palliative care in the terminal stage of cancer.

The most frequent cancers among Indian males are those of the mouth/oropharynx, oesophagus, stomach and the lower respiratory tract. In women, cancers of the cervix, breast, mouth/oropharynx and oesophagus are common. About one-third of cancers are easy to detect and can readily be cured. Tobacco-related cancers (especially cancer of oral cavity, lung and cancer cervix) form more than 50 per cent of the overall cancer burden in the country. An increase in tobacco smoking instead of chewing might lead to a rise in the incidence of lung cancer, which is more difficult to detect and treat. Changing dietary patterns (high calorie, high fat intake) and lower parity may result in increasing incidence of breast cancer.

The Cancer Control Programme was initiated in 1975-76 as a central sector project. It was renamed as the National Cancer Control Programme (NCCP) in 1985. The programme provides funds to 17 Regional Cancer Centres (RCCs). The RCC are regional centres for diagnosis, treatment and follow up of cancer patients; they undertake surveys of mortality and morbidity due to cancer, training of medical and paramedical personnel in cancer care and preventive measures with emphasis on health education and research. NCCP provided funds for the purchase of equipment (cobalt unit, mammography unit) and for development of oncology wings in Government Medical Colleges/voluntary organisations. The District Cancer Control Programme aimed at promoting health education, early detection of cancer and pain relief was initiated in 1990-91. The progress in ongoing efforts for cancer prevention, early detection and management has been very slow.

The ICMR established a National Cancer Registry Programme (NCRP) in 1981–82 with five population-based urban cancer registries in Mumbai,

Bangalore, Chennai, Bhopal, Delhi and a rural registry at Barsi in Maharashtra and six hospital-based registries at Chandigarh, Dibrugarh, Thiruvananthapuram, Bangalore, Mumbai and Chennai. The NCRP provides data on regional difference and time trends in cancer prevalence so that appropriate modifications in the ongoing programmes could be made.

During the Tenth Plan, a major effort should be to made to sensitise and upgrade the skills of health care providers in the primary, secondary and tertiary institutions so that they can take up the responsibility of:

- health education for cancer prevention;
- early diagnosis and management according to standard treatment protocols at appropriate institutions; and
- referral of cancer patients with complications.

National Programme for Control of Blindness (NPCB)

Surveys carried out by the ICMR in the 1970s indicated that the prevalence of blindness is about 1.4 per cent, with cataract accounting for over 80 per cent of the cases. Most of cataract blind individuals are in their 60s. They may not be able to afford surgery and have difficulty in accessing services, unless these are available close to their residence. The National Programme for Control of Blindness was initiated in 1976 with the objective of providing comprehensive eye care services at the primary, secondary and tertiary level and achieving a substantial reduction in the prevalence of eye disease in general, and cataract blindness in particular. The progress of the programme was very slow. A Government of India-WHO survey in 1986-89 showed that prevalence of blindness remained unaltered. Prevalence of blindness was higher than the national average of 1.4 per cent in eight states (Andhra Pradesh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and Jammu and Kashmir).

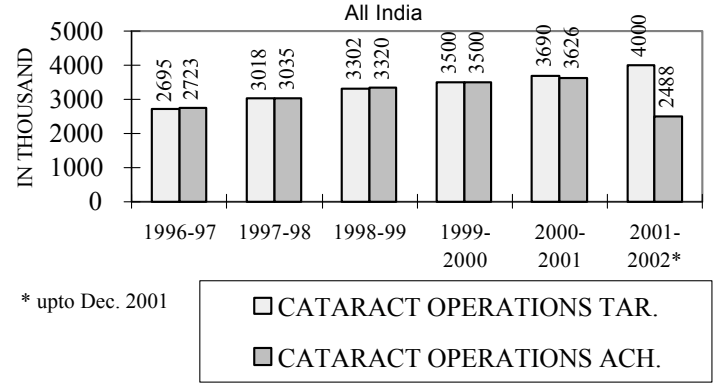
In 1994, World Bank assistance was obtained for NPCB in seven of the eight states. Domestic budgetary support was provided to implement the project in Jammu and Kashmir. The major objectives of the programme were:

- to improve the quality of cataract surgery and clear the backlog of cataract by performing 11 million operations over a seven-year period;
- to strengthen the country's capacity to provide high volume, high-quality, low-cost eye care by upgrading the knowledge and skills of eye care personnel and improving access to service delivery through government, voluntary and private sector collaboration; and
- to increase eye care coverage among the underprivileged section of the population including women, urban slum dwellers and tribals.

During the Ninth Plan, the programme was revised to cover the entire country. The performance during the Ninth Plan is given in Figure 7.2. Outlays and expenditure under the NPCB is shown in Table 7.1.

The review of the World Bank assisted project in 2000 showed that even though infrastructure and manpower has been provided, performance both in fixed facilities and in camps have been far below the norms. Most of the district hospitals did not achieve the goal of 700-cataract surgeries/ surgeon/year; many mobile units did not achieve the goal of 1500 cataract surgery per year. As a result only 8.15 million cataract surgeries (the target was 11 million) could be done and cataract prevalence could not be reduced to 0.3 per cent

Figure 7.2 Blindness Control Programme
All India



Source : Departt of Health

The need to restore vision by operating on one eye in economically blind people has not been given conscious priority over operating on the cataract in the second eye. A comparative assessment of extra capsular cataract extract vs. intra ocular lens insertion in terms of logistics of implementation cost of care and complication rate, when surgery was done at tertiary hospital/at district hospital/ at district hospital vs. those done in camps is yet to be carried out. The quality of care in institutions and more so in camps had been sub-optimal. Infections resulting in permanent blindness have been reported. In view of this NPCB has revised its strategy, emphasis is now on surgery in fixed facilities; mobile units should be taking up only screening of cases and provide follow up care.

Table 7.1 NPCB- Outlays and Expenditures (Rs. In Lakhs)

YEAR	OUTLAY	EXPENDITURE
9TH PLAN	44800.00	
1997-98	7000.00	5806.00
1998-99	7500.00	7285.00
1999-00	8500.00	8373.00
2000-01	11000.00	10941.00
2001-02	14000.00	14000.00*

Source: Department of Health
* Anticipated Expd.

A pilot survey carried out in 1999 in two districts showed that there has been a shift in the causes of blindness (Table 7.2) The NPCB should be geared up to tackle the backlog of cataract surgery, glaucoma, corneal blindness as well as other emerging problems including diabetic retinopathy (estimated prevalence 20 per cent among diabetic).

Table 7. 2 Pilot Survey on causes of blindness(1999)

	Percent
Cataract	55.0
Refractive errors	9.8
Corneal blindness	8.0
Glaucoma	3.5
Surgical complication	3.0
Other causes	10.7

During the Tenth Plan attempts should be made to:

- clear the backlog of blindness due to cataract by performing 4.5 million cataract operations per year. A majority of these should be done in fixed institutions; and wherever adequate facilities are available, Intra-Ocular Lens **(**IOL) should be used;
- improve the utilisation of facilities created in the government, private and voluntary sector to cope with the broader spectrum of eye care, including screening of children for refractive errors, diabetics for retinopathy and all persons beyond 35 years for glaucoma;
- develop a system for accreditation of centres providing eye care;
- improve the quality of care before, during and after surgery through operationalisation of standard protocols for management;
- monitor quality of care;
- modify the ophthalmology curriculum in both the undergraduate and postgraduate stages so that the students have the necessary skills to deal with common ocular problems at all levels of health care;
- develop an appropriate continuing medical education programme to enable practitioners to deal with emerging ophthalmic problems effectively.

Mental Health

Mental health care has three aspects - restoration of health in mentally ill persons, early identification of persons who are at risk and appropriate protection and promotion of mental health in normal persons. It is estimated that 10 to 15 per cent of the population suffers from mental health problem and the stress of modern life is resulting in an increasing prevalence of mental illness. Till about three decades ago, mental health services consisted mainly of large, centralised mental hospitals. At the time of independence, there were 17 mental hospitals accommodating over 8,000 patients. Most of these hospitals had poor infrastructure and manpower and did not provide good quality mental health care. A majority of mentally ill patients did not have access to good quality psychiatric care and there was no home-based care available for them.

Magnitude of Mental Health Problems

It is estimated that :

- ten million people are affected by serious mental disorders.
- 20-30 million people have neurosis or psychosomatic disorders.
- 0.5 and 1 per cent of all children have mental retardation.

Soon after Independence, efforts were made to improve the access to mental health services by increasing the number of mental hospitals and opening psychiatric units in general hospitals. Providing psychiatric care through general hospitals and bringing mental health care out of the confines of mental hospitals reduced the stigma associated with treatment of mental illness, removed legal restrictions on admission and treatment and facilitated the early detection of associated physical problems. Most importantly, it ensured that the family was involved in the care and that on being discharged

the patient went back to the family. Encouraged by the success in this effort, many states embarked on the development of district psychiatric units. Some states like Kerala and Tamil Nadu have a district psychiatric unit in all districts. Though others lag behind in this respect, the concept of mental health care provided as an integral part of health care system has been accepted and implemented by all states. Ambulatory treatment for psychiatric illnesses became accepted as a norm and effective, relatively inexpensive drugs for common mental disorders were made available in tertiary and secondary care institutions.

Currently, 50 per cent of the medical colleges have a psychiatry department. It is estimated that there is one psychiatry bed per 30,000 population. There are 20,000 beds in mental hospitals and 2,000 to3, 000 psychiatric beds in general and teaching hospitals. Fifty per cent of the psychiatric beds are occupied by patients undergoing long-term treatment. However, in spite of all these facilities, even now less than 10 per cent of the mentally ill persons have access to appropriate care; prevention of mental illness and promotion of mental health remain of distant dreams.

The national mental health programme was initiated in 1982 with the objective of improving mental health services at all levels of health care through early recognition, adequate treatment and rehabilitation of patients. The programme also envisaged improvement in the conditions in existing mental hospitals, effective implementation of the Mental Health Act, 1987 and adequate manpower development to meet the growing needs for mental health care. The Programme did not make much headway in the Seventh Plan.

During the Eighth Plan, the National Institute of Mental Health and Neuro Sciences (NIMHANS) developed and implemented a district mental health care model in the Bellary district of Karnataka with the objective of:

- providing sustainable basic mental health services to the community and to integrate these services with health services;
- early detection and prompt treatment of patients with mental illness;
- providing domiciliary mental health care and reducing patient load in mental hospitals;
- community education to reduce the stigma attached to mental illness; and
- treatment and rehabilitation of patients with mental illnesses within their family setting.

Following encouraging results, the programme was expanded during the Ninth Plan to 22 districts in 20 states. It was envisaged that decentralised district-based training in essential mental health care would be provided to all health professionals so that psychiatric care should be provided in all health care facilities. Attempts were made to improve early detection of mental illness in the community, provide ambulatory care at home and follow up discharged cases. A district mental health team was to provide referral support and supervision of the mental health programme. Simple, accurate records of work done maintained by the health care providers was to be

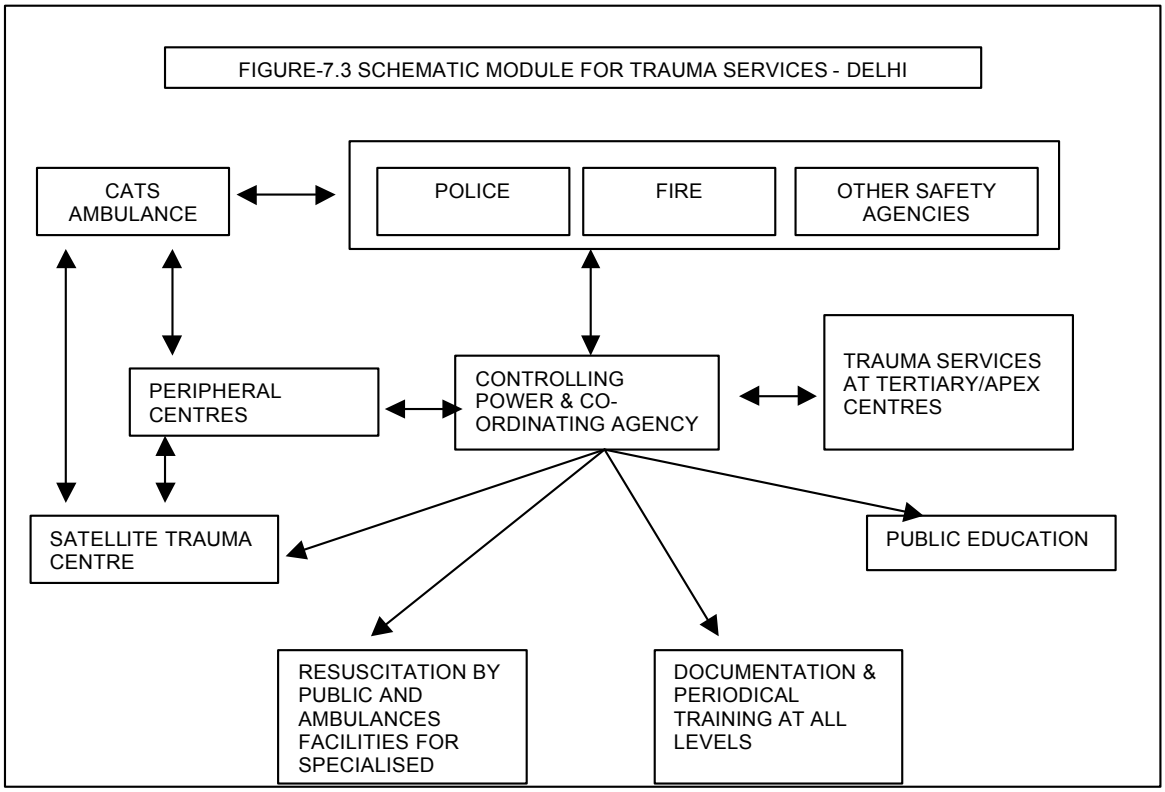
monitored by the district team. The progress in these districts has not yet been evaluated.

During the Tenth Plan, it is expected that states would progressively improve access to mental health care services at the primary and secondary care levels to cover all the districts in a phased manner. Psychiatry departments in medical colleges should play a pivotal role in the operationalisation and monitoring of the programme in the district in which they are located and synergistic links should be formed with other ongoing related programmes.

Accident and Trauma Services

Increasing mechanisation in agriculture and industry, induction of semi-skilled and unskilled workers in various operations, and rapid increase in vehicular traffic have resulted in an increase in morbidity, mortality and disability due to accident and trauma. Overcrowding, lack of awareness and poor implementation of essential safety precautions result in an increasing number of accidents. The consumption of poisonous substances accidentally or intentionally is also on the rise. Technological advances in the last two decades have made it possible to substantially reduce mortality, morbidity and disability due to accidents, trauma and poisoning. At present there is no

FIGURE-7.3 SCHEMATIC MODULE FOR TRAUMA SERVICES - DELHI



organized comprehensive trauma care service either at the centre or in the state. People are unable to benefit from these advances because of limited access to these services. During the Ninth Plan facilities for the management of accident and trauma care have been strengthened in several hospitals but these have not been linked into an effective multidisciplinary trauma care system. A conceptual model of such a system for Delhi has been prepared

which optimises utilisation of available facilities and prevents wastage of scarce resources due to duplication of efforts (Figure 7.3)

The model includes arrangements for:

- for on-site resuscitation of trauma victims;
- first aid and transport to the nearest tertiary care hospital by ambulances with essential equipment and trained paramedical staff;
- networking among and within institutions for manpower, materials, communication, training and research; and
- other allied trauma care activities.

Apart from communication networking, the apex centre would be utilized for human resource development and creation of a comprehensive computerized information database on trauma cases.

During the Tenth Plan efforts should be made to strengthen primary, secondary and tertiary care institutions for trauma care through:

- adequate training to medical and paramedical personnel;
- provision of facilities for transport of patients;
- suitable strengthening of existing emergency and casualty services; and
- improving referral linkages.

Environment and Health

Environment can affect human health in many ways. Deficiency of iodine in soil and food items is the cause of iodine deficiency disorder. Excessive fluoride in water causes fluorosis. Environmental degradation may affect air, land and water. Pollutants may enter the food chain and, hence, the human body. Rapidly growing population, urbanization, changing agricultural, industrial and water resource management, increasing use of pesticides and fossil fuels have all resulted in a perceptible deterioration in the quality of environment and all these have adverse health consequences. Environmental health would have to address

- the prevention, detection and management of the existing deficiencies or excess of certain elements in the environment;
- macro environmental contamination of air, land, water, and food; and
- disaster management.

Solid waste management is an obligatory function of urban local bodies. These services are still very poor in India due to lack of financial resources ,institutional weakness ,improper choice of technology and lack of public support. Rapid pace of urbanization is making the situation more critical.

The larger the city, the higher is the per capita waste generation rate. The total waste generation in urban areas in the country is estimated to exceed 39 million tones a year by year 2001, and estimated at 62 million tonnes a year by year 2025. It is estimated that about 80,000 metric tonnes of solid waste is generated everyday in the urban centers of India(Table 7.2). At present about 60% of the general solid wastes is collected and unscientifically disposed off. The uncollected solid wastes remains in and around the locality or find its way to open drain, water bodies etc. Improper solid waste management poses health hazards due to increased vector insect and rodent infestation which transmit pathogenic agents, increased health risk to workers involved in waste management and to rag pickers environmental pollution due to leaching of heavy metals and air pollution due to improper and inefficient burning of waste.

Table 7.2 **Waste Generation per capita**

Population Ranges (in lakhs)	Average per capita Waste generation Gms/Capita/day
1 – 5	210
5 – 10	250
10 – 20	270
20 – 50	350
50 – above	500

Source: NEERI strategy paper on SWW in India (Feb.1996)

So far, the major focus of environmental health has been on the communicable disease burden due to poor environmental sanitation in urban and rural areas and methods to tackle these. These efforts should be intensified during the Tenth Plan. Emphasis should be laid on

- establishing cost-effective and environment friendly technologies for safe , sanitary disposal of solid waste and waste water;
- improvement in access to potable drinking water, especially in urban slums and remote rural areas.
- prevention and management of health consequences of environmental deterioration.

Major developmental activities in any field such as agriculture, industries, urban and rural development can result in environment changes which could have adverse health implications. In the Tenth Plan period, efforts should be made to fully operationalise the Ninth Plan recommendations that:

- health impact assessment should become a part of environmental impact assessment of all large developmental projects.
- health care of people involved in these projects; and the prevention and management of health consequences of the population living in the vicinity of the project should be met from the project budget.

The rapid growth of industry especially in the small-scale and unorganised sectors is central to economic development but in the absence of appropriate technology and environmental safeguards, these become a major source of air, water ground and noise pollution. The Central Pollution Control Board (CPCB) under the Ministry of Environment and Forests regularly monitors pollution levels in all major cities and initiates appropriate remedial measures. In India, the problem of indoor air pollution due to the combustion of unprocessed biomass fuels by the urban and rural poor has to be reduced by providiing for appropriate fuel for cooking. Noise pollution is another area of increasing concern. During the Ninth Plan, the Biomedical Waste Management and Handling Rules (1998) and the Municipal waste Management and Handling Rules (2000) were notified. A manual on Municipal Solid Waste Management was published in May 2000 by the Ministry of Urban Development. The CPCB has evolved a code of practice for controlling noise pollution in public places. Efforts to reduce air pollution, ground water as well as river water pollution have been taken up.

The Working Group on Environmental health has made the following recommendations for improving environmental health in during the Tenth Plan

- Environmental health requires collaboration between various Departments/Agencies such as health , energy , environment and rural and urban development. Each Dept. should assume the role they are responsible for.
- IEC to educate the community on health hazards related to environmental pollution and degradation.
- Better implementation of urban solid waste management
- Impose regulations discouraging discharge of untreated sewage/industrial waste directly into water bodies.
- Creation of national data base with reference to environmental related health problems, research on development of new bio-markers for long term bio-monitoring designed to detect changes in the aquatic eco-systems and water pollution, long term health effects of exposure to high noise levels, research on production of cleaner fuels from traditional materials and epidemiological studies of correlation between use of biomass fuels and occurrence of various diseases.
- New industries must prove that processes used by them are the most energy saving and environmentally safe technologies while seeking consent for their establishment.
- Promotion of hearing protectors to workers exposed to high noise levels, and pre-placements and periodic audiometry for such workers.
- Area wise mapping of air pollution.

The Steering Committee recommended that during the Tenth Plan priority should be accorded to :

- Monitoring, detection and alleviation of the macro environmental pollution;

- creation of national data base on environmental pollution and related health problems by linking the existing area specific environmental monitoring data with data on health status of the population living in these areas;
- epidemiological studies on the impact of the biomass fuel on the health status;
- health consequences of noise pollution;
- R&D efforts for producing cleaner fuels form traditional material;
- development of biomarkers for long term bio-monitoring designed to detect changes in aquatic eco systems due to water pollution.

Occupational Health

A healthy workforce is an essential pre-requisite for agricultural and industrial development. Over the last five decades, efforts have been made to provide health care to workers through schemes such as ESIS , creation of health care facilities in industrial towns and arrangement for health care for workers and their families through existing public and private health care services. During the Ninth plan the ESI corporation has started four special occupational disease centers at Delhi, Calcutta, Mumbai and Chennai. The Ministry of Health and Family Welfare has introduced several schemes for the unorganized sector with National Institute of Occupational Health (NIOH) as the executing agency for the health problems of tobacco harvestors, cycle rickshaw pullers, agate industry workers, child labour, salt workers and workers in cottage industries with high risk of silicosis. NIOH and FASLI organized training and awareness programmes with WHO support for medical officers, industrial hygienists, safety officers, factory inspectors, mine inspectors and workers. However, both coverage and quality of occupational health care have not been adequate. There is no attempt to link existing data from ongoing environmental monitoring at the work place with the health status of workers and initiate appropriate interventions. Workers in the agricultural and unorganised sectors have not been covered under specific health care programmes. The increasing use of mechanisation, induction of poorly trained workers who operate machines with which they are not familiar, use of insecticides, pesticides and chemicals by persons who are ignorant of the precautions to be taken are resulting in increasing health hazards to workers in these sectors. The Ninth Plan had recommended

- continuous monitoring of the safety of the work environment and workers' health status in industry and agriculture;
- special attention to the health problems of vulnerable groups such as women and children with a focus on the prevention, early detection and prompt treatment.

Not much progress was achieved during the Ninth Plan.

During the Tenth Plan the focus should be on:

- establishment of norms for work environment in organized, unorganized and agricultural sectors;

- monitoring the work environment for detection and correction of micro environmental pollution;
- monitoring of health status of workers;
- interventions aimed at prevention, early detection and effective management of health problems of workers, including occupational health problems; with special attention to health problems in women and children.

CHAPTER-VIII
OTHER PROGRAMMES

Health Management Information System (HMIS)

HMIS is an essential management tool for effective functioning of the health system. During the Eighth Plan the Central Bureau of Health Intelligence and the state Bureaus of Health Intelligence developed a HMIS system for sending district-level information on morbidity reported by the government primary health care institutions through National Informatics district computer net work. Though some states responded initially the system was never fully operationalised in any state during the Eighth or Ninth plan periods . As a result there is no system through which reliable data on morbidity in different districts/ states could be collected and analysed and used for decentralized district based planning. So far there has not been any effort to use the currently available IT tools to build up a comprehensive HMIS and use it to improve efficiency and functional status of the health system. During the Tenth Plan efforts should be made to ensure that effective two way management information system is built up through out the country; all the data pertaining to health and family welfare programmes are collected, collated and reported from all districts and utilised to improve functional status and efficiency of the health system. Efforts should also be made to build up a fully functional, accurate HMIS utilizing currently available IT tools; this real time communication link should send data on births, deaths, diseases, request for drugs, diagnostics and equipment and status of ongoing programmes through service channels within existing infrastructure and manpower and funding. It should also facilitate decentralized district based planning, implementation and monitoring.

Disease Burden Estimates

Traditionally policy makers have used mortality statistics for identifying major public health problems. In India, reliable age specific mortality data is available through SRS ; though there are lacunae in the system for ascertainment of causes of death, fairly reliable data is available on major causes of death. In addition to these data country has under taken surveys for estimating the prevalence of major public health problems such morbidity in women and children, nutritional deficiencies and major communicable diseases. Estimated share of the India in some of the global health problems is shown in the text box . In India reliable information on overall morbidity is not available. In the absence of reliable morbidity data, mortality statistics and available survey data have formed the basis on which health

India's share in global health problems

- 17 per cent of the population
- 17 per cent of the total deaths
- 23 per cent of child deaths
- 26 per cent of the childhood vaccine preventable deaths
- 20 per cent of maternal deaths
- 68% of leprosy cases
- 30% of tuberculosis cases
- 10% of HIV infected persons

policy makers and programme managers evolved public health programmes and allocated funds. While this might have been the appropriate option in a situation where communicable diseases and maternal and child health problems predominate, appropriate modification will be required as the country undergoes demographic and epidemiological transition and non communicable disease emerge as major public health problems. In view of this there is a need to obtain data on not only mortality but morbidity due to chronic illnesses and disabilities into account while formulating public health programmes. For instance, morbidity due to mental illnesses is estimated to account for about 15 per cent of the total morbidity but deaths due to psychiatric illnesses are usually less than 1 per cent of total deaths even in developed countries

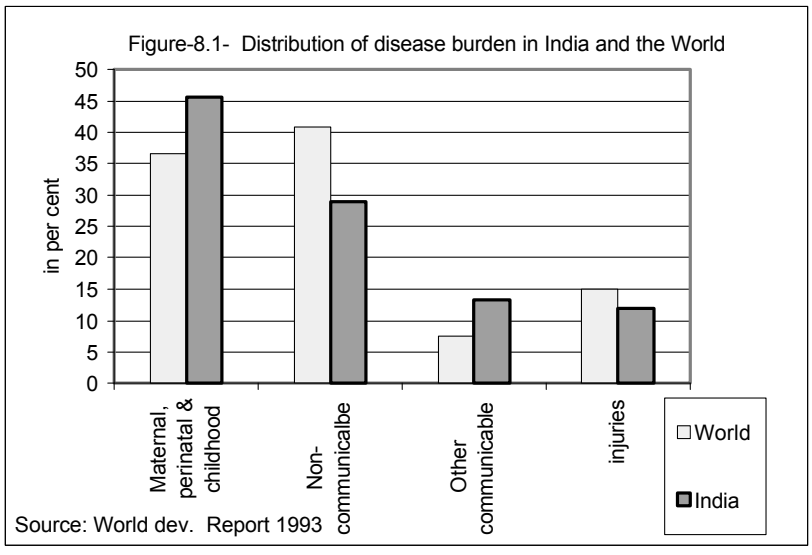
Table 8.1 - Burden for five major diseases (millions of DALYs)

Disease and sex	Age (years) 0-4	5-14	15-44	45-59	60+	Total
Diarrhea						
Male	42.1	4.6	2.8	0.4	0.2	50.2
Female	40.7	4.8	2.8	0.4	0.3	48.9
Worm infection						
Male	0.2	10.6	1.6	0.5	0.1	13.1
Female	0.1	9.2	0.9	0.5	0.1	10.9
Tuberculosis						
Male	1.2	3.1	13.4	6.2	2.6	26.5
Female	1.3	3.8	10.9	2.8	1.2	20
Ischemic heart disease						
Male	0.1	0.1	3.6	8.1	13.1	25
Female	**	**	1.2	3.2	13	17.5

** Less than 0.05 million

Note: DALY, disability-adjusted life year.

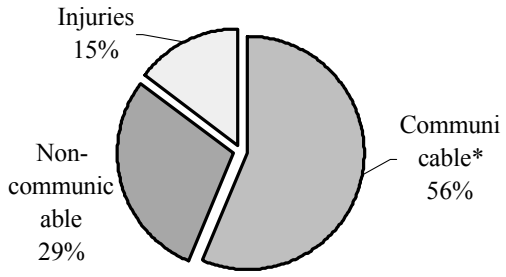
Source: World Development Report 1993



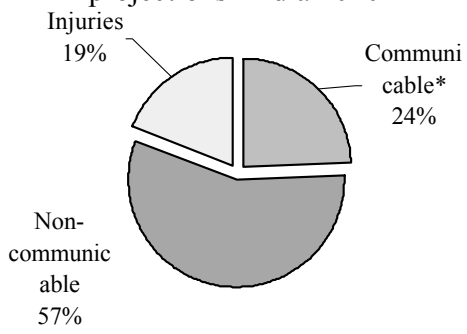
The disease burden estimates measured in terms of Disability Adjusted Life Years (DALY) which takes into account both morbidity and mortality as well as the age at which the problem occurred has been used by World Health Organisation in making global comparisons with respect to public health problems and investment in health care. The estimated disease burden in 1990 due to major categories of public health problems in the world and India is shown in Figure 8.1 . Disease burden due to five major disease in different age and sex population computed by WHO is in Table 8.1.The fact that while estimates regarding mortality are reasonably

adequate , the estimates of morbidity is based on the available data from the developing countries is often inadequate has to be kept in mind while interpreting these global data . Using the 1990 database (Figure 8.2) and assuming that the trends in epidemiological transition achieved by

Figure 8.2 Disease burden estimates - India 1990

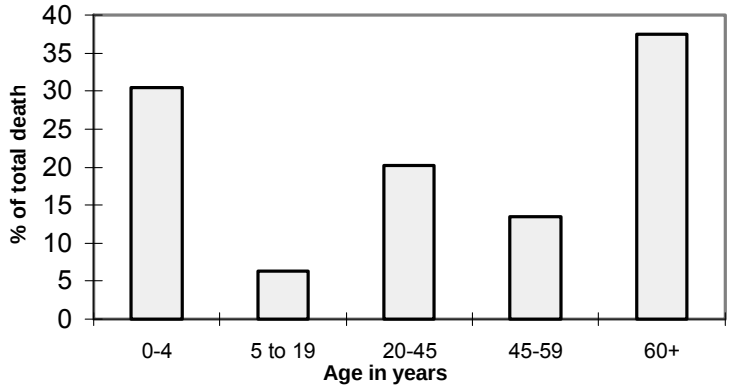


Fgure 8.3 Disease burden projections -India 2020



countries during the previous two decades will occur in India, the changing pattern of disease burden for 2020 was also computed by WHO (Figures 8.3) . However, data from National Family Health Survey (NFHS) suggest that during the 1990s, there has not been any significant decline in the infant mortality rate and the maternal mortality rate. Data from SRS does not show any major change in the age specific mortality rate (Figure 8.4). It would appear that the epidemiological transition is occurring at the slower pace than projected for the country. This is perhaps due to persistence maternal and child health problems and advent of HIV infection. However, there has been some increase in the mortality and morbidity due to non-communicable diseases, accidents and trauma. There are wide inter-state differences health indices, morbidity rates, magnitude and rate of demographic and epidemiological transition. Under these conditions, it is important to

Figure 8.4 Distribution of deaths (%)



Source: SRS1997

- ascertain and document morbidity and mortality due to major health problems in different states/ districts,
- evolve appropriate interventions programmes
- invest adequately in well targeted interventions
- implement them effectively by modifying the health care system and
- monitor the impact on the morbidity and mortality.

Such an effort would require a reliable sustainable database for mortality and morbidity. While mortality data can be obtained through strengthening of CRS/SRS and ascertainment of the cause of death, the data base for morbidity can come only through a strengthened HMIS supplemented by the data from disease surveillance. When sustained, these three systems will, over the next two decades, provide valuable insights regarding time trends in morbidity and mortality in different states/ districts. Development of this data base is critical for evolving appropriate health policies and strategies, identifying priority areas for investment of available funds and bring about modifications in the existing health system to ensure equitable, efficient and effective implementation of the programmes to tackle dual disease burden.

Drugs – production, quality and supply

Nearly one-third of the health budget at the centre and in the states is spent on providing drugs free of cost in all public health facilities. However, adequate stock of good quality drugs is not available in many of these institutions, and health benefits from treatment are sub optimal. Some of the factors responsible for this include:

- lack of a uniform essential drug list;
- poor quality control;
- problems in the procurement and supply of drugs; and
- the absence of treatment protocols for common diseases leading to unnecessary and irrational drug prescriptions.
- poor compliance with the prescribed regimen due to lack of awareness and counselling.

During the Ninth Plan, several state governments (e.g. Tamil Nadu, Delhi and Orissa) have introduced an essential drug programme with the following components:

- development of a drug policy;
- preparation of an essential drug list;
- establishing a quality control and assurance system;
- pooled procurement system and improvement in logistics of drug supply;
- improvement in the availability of safe and effective drugs;
- preparation of standard treatment guidelines and dissemination of information; and
- providing information about treatment to patients to improve compliance.

During the Tenth Plan efforts should be made to:

- cover all states with expanded and strengthened essential drug programme
- adopt an online computer inventory control programme for the procurement and supply of drugs;
- establish a system to monitor cost, quality, availability and use of drugs;
- monitoring of all aspects of drug use including adverse drug reaction.

India has a large pool of technically skilled manpower and research infrastructure in both government and private sector laboratories. The Indian pharmaceutical industry has the ability to develop and commercialise chemical processes for a variety of drugs at low cost. However, financial problems and fragmentation of capacities makes production of some bulk drugs uneconomical; this has prevented Indian industry from achieving its full potential, both in the domestic and international market. The existence of nearly 20,000 manufacturing units and poor quality control have led to spurious and poor quality drugs reaching the market. The revised National Drug Policy 2001 had reviewed and suggested remedial measures. The limit for foreign direct investment in the pharmaceutical sector was increased from 51 per cent to 74 per cent. Several products reserved for production in the public sector were de-reserved. Industrial licensing for all bulk drugs has been abolished except in the case of those produced by the use of recombinant DNA technology and bulk drugs requiring *in-vivo* use of nucleic acids as the active principles.

The Central Drugs Standard Control Organisation (CDSCO) under the Drug Controller General of India is responsible for ensuring the safety, efficacy and quality of drugs. The provisions under the Drugs and Cosmetics Act (1940) provide for good manufacturing practices. During the Tenth Plan, the regulatory requirements pertaining to safety, efficacy and quality have to be effectively implemented by:

- strengthening the drug control machinery at the centre and in the states;
- strengthening quality assurance systems;
- making good manufacturing practices (GMP) mandatory for pharmaceutical houses; and
- enforcing stringent quality regulatory processes for the import of drugs.

Post-marketing surveillance, development of a self-sustaining and viable adverse drug reaction (ADR) monitoring and response at the national level will receive due attention.

Currently, Indian industry is investing about 5 per cent of turnover on research and development. These investments may have to be augmented so that the Indian pharmaceutical industry achieves its full potential. Parallel efforts to improve public sector-funded research are also essential for the development of drugs for the treatment of public health problems such as emerging drug resistance, development of newer contraceptives and vaccines. The private sector may not be willing to make requisite investments in these areas because of very low profit margins.

Information, Education, Communication and Motivation (IEC&M)

An aware and informed population, actively participating in programmes aimed at promoting health, preventing illness, accessing health care at appropriate level is an essential prerequisite for improvement in health status of the country. Health education, which is the major tool for achieving this objective, had received a lot of attention in the 1950s and 1960s. During

the development of various centrally sponsored vertical programmes for disease control, family welfare proggramme and state's efforts to build up state specific programme, health education efforts got fragmented. Currently, health education efforts are mostly limited to information being provided through mass media and health functionaries regarding Family Welfare services and disease control programmes. These efforts have resulted in improved awareness of the population who accessed these programmes. However, active participating health education aimed at motivating the population on life style changes and preventive and promotive health care programmes have not received due attention. Lack of readily available information at household and community level on where to go and whom to access for various health problems continue to remain a major barrier for seeking appropriate care.

During the Tenth Plan, attempts should be made to:

- review existing training programmes on health promotion/health education and make them more relevant;
- integrate the various health education programmes under different vertical programmes so that health personnel at each level of care provide comprehensive IEC to the population;
- involve PRIs and NGOs in health promotion/education and IEC&M;
- ensure the involvement of non-formal leaders in the community in order to make health promotion/ education/ IEC&M a people's movement; and involve PRIs in IEC&M

Public Health

In the pre-Independence era, India's health services had two distinct components:

- public health services manned mostly by non-health professionals implementing interventions aimed at preventing health hazards, improving environmental sanitation, monitoring water quality, and prevention of adulteration in food and drugs;
- medical care services manned by health professionals and paraprofessionals providing promotive, preventive, curative and rehabilitative care to individuals.

In the post-independence period, tasks relating to civic services infrastructure and the environment got transferred to other departments dealing with urban and rural development, environment and forests. Medical care also underwent changes. Specialists in community medicine and public health focused on providing promotive and preventive care for major public health problems through outreach services. The clinicians provided institution-based preventive, promotive, curative and rehabilitative health care to individuals who came to the health care institutions.

With increasing knowledge and experience the earlier concept that prevention and curative care are two sides of the same coin, which mutually

reinforce each other gained wider acceptance. This led to the re-emergence of the concept of public health providing comprehensive health care. This concept was initially developed and implemented in maternal and child health but soon all other disciplines including clinical specialities dealing with non-communicable diseases such as cardiology adopted this. As a result, public health is today defined as a discipline aimed at developing a health system to deliver equitable, appropriate and holistic care to improve the health status of the individual and health indices of the country at an affordable cost.

The newer concepts of public health were discussed in 1999 and the 'Calcutta Declaration 1999' redefined the role of public health. The declaration stated that as the countries in the Southeast Asian region are stepping into the new century with an unfinished agenda of existing health concerns, amidst new and complex emerging challenges, there is a need for innovative solutions. Public health should meet the health needs of the community and preserve, protect and promote the health of the people. The declaration emphasized the need for capacity building in public health as a multi-disciplinary endeavour to design, develop and provide health care to meet health needs of the population.

Taken in this broader perspective, public health deals with the formulation, implementation and monitoring of evidence-based health policies, strategies and programmes. It also attempts to create a supportive environment for the effective implementation of such programmes by addressing critical issues that affect health care including quality, equity, ethics, environment and globalisation. Every effort has to be made to ensure that policy makers, programme managers, health care providers and people themselves internalise and support this broad concept of public health and contribute towards attaining the public health goals.

Health Systems Research and Bio-Medical Research

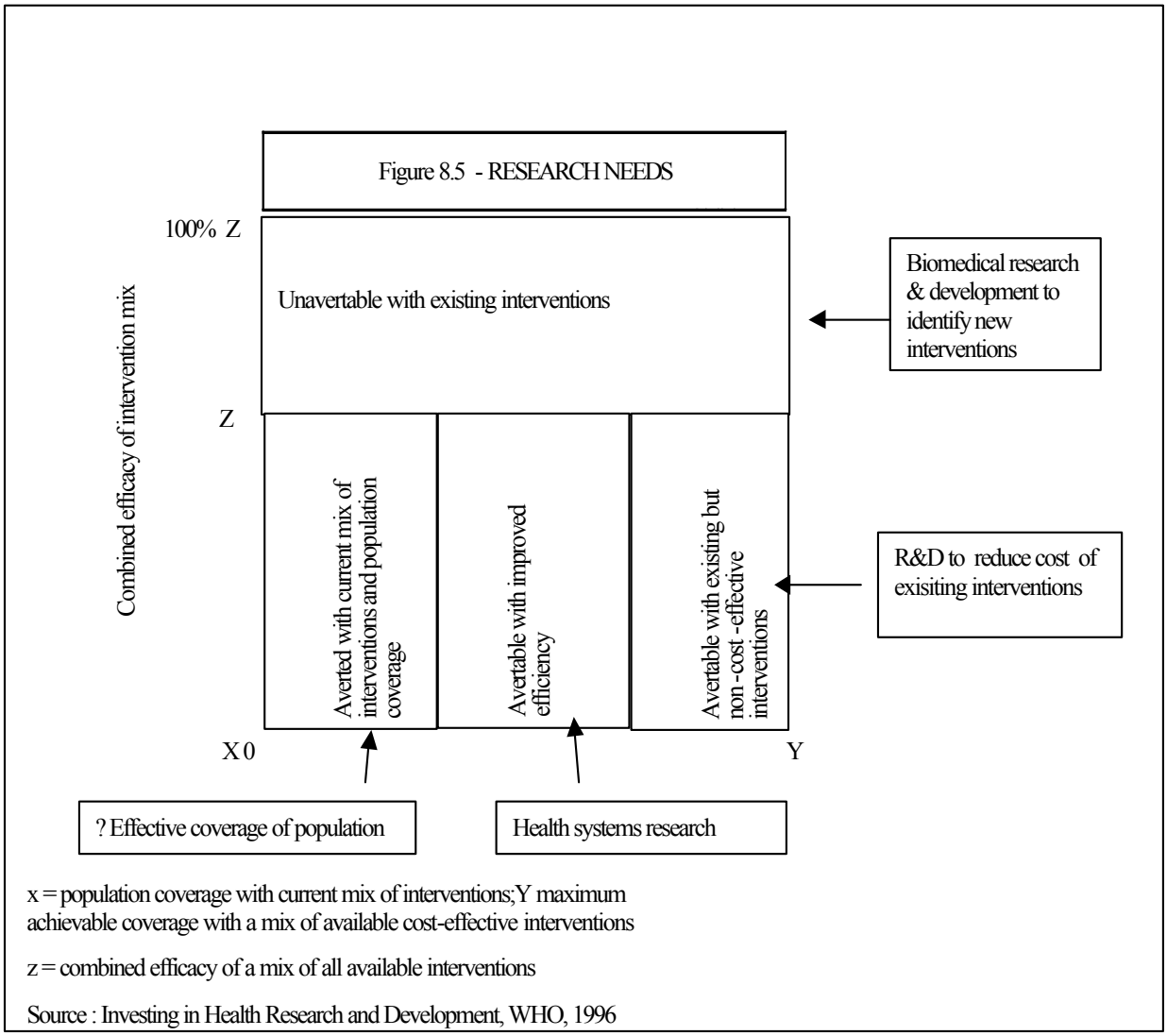
India had invested in health system and biomedical research from as early as 1911 so that appropriate policies, strategies and programmes to improve the health status of the population can be evolved on the basis of data from research studies. Bio-medical and health systems research is being carried out by research institutions, universities, medical colleges and health service providers. Biomedical research is currently funded by several agencies including the ICMR, the Deparments of Biotechnology, Department of Science and Technology, the Council of Scientific and Industrial Research (CSIR) and the concerned ministries. Basic, clinical and operational research studies relevant to major health problems have

National Programmes formulated on the basis of ICMR's R&D efforts

- Domiciliary treatment for tuberculosis,
- Short course chemotherapy for TB,
- Multi drug therapy for leprosy
- ORT for treatment of diarroheal disease,
- Programme for prevention of blindness due to Vitamin A deficiency
- Programmes for antenatal care
- management of anaemia in pregnancy

been the focus of research programmes. In addition, the private sector has been investing in research, mainly in the pharmaceutical sector. The National research efforts have laid the foundation of various health care programmes in the country and have gained global recognition. ICMR research studies have also led to the development of appropriate guidelines for the implementation of major programmes such as tubal sterilisation, medical termination of pregnancy and assisted reproduction. Data from ICMR surveys on HIV infection, cancer, under-nutrition and blindness have provided the database for the formulation of national programmes on these diseases and for monitoring their impact.

In India, most of the morbidity and mortality is due to illnesses for which simple, inexpensive and effective preventive measures and time-tested cost-effective curative interventions are available. Therefore, priority has been



given to health systems research for improving service delivery and coverage as well as operational research aimed at improving access to technological advances. Basic and clinical research leading to development of products, drugs, vaccines for prevention, diagnosis and management of illnesses especially major health problems for which currently there is no effective cure are encouraged (Figure 8.5).

During the Ninth Plan, the major focus of research efforts was on basic, applied and operational research for improving the quality, coverage, and efficiency of health services. The thrust areas of research included communicable diseases, improvement of the health and nutritional status of women and children and improving contraceptive acceptance and continuation rates. In communicable diseases, research has focussed on development of indigenous immuno-diagnostics, improved drug regimens to combat emerging drug resistance among microbes, alternative strategies for vector control to combat increasing insecticide resistance and testing innovative disease control strategies through increased community participation. Studies on the health consequences of the Bhopal gas disaster (1984) and providing a database for planning the infrastructure needed to meet the health care requirements of the affected population continue. The major research areas relating to non-communicable diseases include early detection of cervical cancer in women and oral cancer in both sexes, anti-tobacco education, lifestyle modification to reduce the rising morbidity due to hypertension and cardiovascular diseases, documenting the health problems associated with lifestyle changes and increased longevity. Evaluation of the ongoing mid-day meal programmes in schools, assessment of changes in the dietary intake and nutritional status of urban and rural population over the last two decades, investigating the health effects of food contaminants and adulterants are some of the major areas of nutrition research.

During the Tenth Plan, efforts to generate data on the health impact of the socio-economic, demographic and epidemiological transition on the health and nutritional status of the population should continue. Health system research which should enable the existing systems to provide appropriate health care using effective, inexpensive technology for detection and management of health problems and ensure equitable, economical, and efficient service delivery should receive priority. Clinical, and operational research in both the modern system of medicine and ISM&H should continue. The major thrust areas of research in communicable, non-communicable diseases; nutrition and family welfare have been indicated in the respective sections. Other important areas include new drug development, improved drug delivery system, harnessing emerging technologies in genomics for diagnosis and management of diseases. Appropriate bio-safety containment facilities have to be set up in selected laboratories in order to facilitate basic research on pathogenic microbes, storage, handling, cultivation of virulent pathogen strains and *in-vitro* and *in-vivo* screening of anti-microbials. Inter-agency collaboration should ensure optimal utilisation of available resources and avoid unnecessary duplication of efforts.

The recommendations made by the Working Group on Health Systems and Biomedical Research during the Tenth Plan period include:

Communicable Diseases
Tuberculosis

- New generation of TB vaccines: inactivation or removal of selected genes from slow growing mycobacteria, targeted manipulation of immune responses by novel vaccine delivery system
- Drug development: using proteomic studies to identify several targets crucial for bacterial survival in-vivo
- Identify newer HLA polymorphisms using genomic and immunological techniques
- Transmission dynamics: through molecular epidemiological studies using computational graphics and micro-array studies
- Identify promoters and regulators of metabolism of mycobacteria for expansion of antigens and molecules that can be utilized as candidates vaccines and drug targets
- Validate newer diagnostic methods
- Develop rapid and reliable diagnostics for early diagnosis and reliable diagnostics for early diagnosis and monitoring of treatment
- Develop and test more effective and shorter duration regimens for pulmonary and extra-pulmonary tuberculosis
- Distribution of types of drug resistance using modern biological techniques

Leprosy

- Develop serological techniques and DNA probes for diagnosis of leprosy at a very early stage
- Study drug resistance in animal model
- Design new drug regimen to shorten treatment and prevent relapse
- Prevention of deformities
- Follow up patients released from treatment to assess relapse rate

Diarrhoeal Diseases

- Molecular epidemiology of enteric pathogen
- Understanding of molecular mechanisms of pathogenesis in diarrhea caused by different organisms
- Develop candidate vaccines for vibrio cholera Shigella and rotavirus
- DNA based diagnostic kits:
- Genome mapping of E.histolytica
- Molecular analysis of circulating strains of diarrhaeal pathogens
- Elucidate nature of untypeable strains of rotavirus
- Effect of micronutrients and vitamins in pathogenesis and management of diarrhea
- Active community and hospital based surveillance of diarrhaeal diseases
- Risk factors in acquiring diarrhea among malnourished and low birth weight babies

Malaria

- Mapping and updating information on distribution of mosquitoes and malaria vectors
- Develop a comprehensive molecular system for characterization of anophelines
- Develop markers for genetic maps and population genetic analysis of vectors
- Molecular parasitological studies to develop markers for population genetic analysis, differentiation of primary infection from relapses and recrudescence, detection of drug resistance and to understand mechanisms of drug action and drug resistance.
- Screen and develop new anti-malarials especially herbal-based products
- Malariogenic stratification for planning effective control strategies using remote sensing and geographic information system(GIS mapping)
- Monitor drug and insecticide resistance
- Develop and evaluate new drugs and insecticide
- Health impact assessment of developmental project
- Develop and evaluate diagnostics for malaria
- Maintain parasites bank, insectoria, and reference specimens

Filariasis

- Vector surveillance, Biology, Biodiversity, Bionomics & Transmission dynamics - Molecular taxonomy and Phylogeny.
- Host parasite interaction, Disease predisposing factors
- Identification of novel targets towards development of insecticide for vector control.
- New vaccines for protecting human hosts from vector-borne diseases
- Development of diagnostic/monitoring tools.
- Development of intervention strategies - Cost effectiveness of various interventions - Socio- Economic Research .
- Determinants of vector-borne diseases.
- Management of insecticide resistance.
- Application of Geographical Information System and Remote Sensing for mosquitogenic conditions and control of vector-borne diseases
- Drug development - Macro-filaricidal drug - Field and hospital based trials
- Development of operational modules and testing them for management of the infection and morbidity associated with it .
- Development of early/advance-warning system - Rapid response/preparedness combating the of epidemic - Health Information Management System - Establishment of linkages - partnerships

Leishmaniasis

- Development and evaluation of highly effective, less toxic and economical treatment regimens
- Develop and evaluate diagnostic tool for detection of early visceral leishmaniasis and post kala- azar dermal leishmaniasis (PKDL)
- Transmission dynamics through molecular epidemiology studies

- Role of CD-2 antigen in modulation of signal transduction of T-cell activation in kala-azar
- Biomedical and molecular characterization of SAG responsive and unresponsive isolates
- Develop epidemic prediction tool through use of GIS and satellite images
- Efficacy of impregnated bed-nets
- Social and behavioural studies
- Clone and characterize stage specific genes in clinical isolates of leishmania donovani and after their expression using molecular genetic techniques to develop phenotypes with attenuated virulence to develop a vaccine
- Genomic micro-assays for identification of specific genes of L.donovani,
- Drug screening of kala-azar and PKDL
- Set up assays with axonic amastigotes grown in a defined medium to facilitate screening of newer drugs
- Imunohistological studies on skin lesions in PKDL

HIV/AIDS

- Immunological studies to define immunotypes
- Mucosal immune response
- Clinico-pathological progression of HIV in various sub-populations
- Develop cost-effective treatment algorithms
- Natural history of TB in HIV infected persons
- Evaluate efficacy of vaginal microbicides and female condoms
- Prevention of HIV transmission in HIV discordant couples
- Behavioural surveillance
- Epidemiology of mother to child transmission and assess feasibility of interventions to reduce transmission
- Prevalence and incidence studies using innovative methods
- STD profile in different regions of the country and drug resistance pattern

Poliomyelitis

- Containment of wild poliovirus in laboratories, establishment of BSL-3 facility
- Characterization of OPV derived poliovirus isolates and other enteroviruses
- AFP surveillance and environmental monitoring for wild polio virus

Japanese Encephalitis

- Develop DNA and peptide based vaccines
- Ultra structure aspects of JE virus morphology and intracellular morphogenesis
- Nucleotide sequencing to understand genetic variability
- Molecular approaches to identify subspecies of vectors in relation to their vector dynamics
- Use of novel softwares for predictive models

Dengue virus

- Pathogenesis of dengue to develop therapeutic modalities
- Factors involved in growth of dengue virus in peripheral blood cells
- Develop bed-side diagnostic test

Viral Hepatitis
Hepatitis -B

-
- Molecular epidemiology study to detect escape mutants
- Nucleotide sequencing studies for studying intra familial clustering of wild/mutant viruses
- Improved vaccine

Hepatitis -C

- Genotype distribution
- Sensitive diagnostic assays

Hepatitis -E

- Identify non-human hosts responsible for maintenance in natural environment
- Development of HAV plus HEV dual vaccine

Measles

- Multi-site serologic and virologic studies
- Create measles strain bank
- Efficacy of measles vaccine against atypical strains
- Evaluate measles vaccine efficacy given to children under 9 months of age

Epidemiology

- Training programmes: develop epidemiology as a discipline
- Epidemic preparedness and response
- Assist in establishing surveillance programme in various states
- Molecular and genetic epidemiology studies

Biostatistics

- Statistical techniques in epidemiology
- Develop mathematical models in communicable disease
- Establish statistically risk factors and preventive measures associated with non-communicable diseases
- Develop analytical information system related to health and allied fields
- Improve survey methodologies
- Analysis of health and demographic transitions
- Economic impact studies

Tribal Health

- Study of risk factors for life style diseases among tribal and non-tribal population
- Health and nutritional status of tribes with special focus on micronutrients
- Prevalence and clinical profile, management of haemoglobinopathies including genetic studies
- Studies related to communicable diseases using tools of molecular biology
- Socio-demographic and socio-economic studies

Non- Communicable Diseases
Cancer

- Studies on association between oral cancer and gutka/pan masala and risk factors thereof
- Identification of markers and factors responsible for transformation of pre-cancerous lesions to invasive disease
- Role of viruses in etiology of cancers
- Gall bladder and breast cancer: role of various factors
- Tumor biology: better understanding of basic cellular process in cancer, elucidation of genetic basis for cancer breast and to attempt to design a model for in vitro cyto- toxicity of haematopoietic lymphoid malignancies
- Expansion of National Cancer Registries
- Operational research to supplement National Cancer Control Programme

Cardiovascular Diseases

- Control of rheumatic fever and rheumatic heart diseases
- Congenital heart diseases: burden and possible etiology
- Childhood and adolescent CVD : magnitude, risk factors
- Atherosclerosis: morbidity and mortality data, pathogenesis
- Use of molecular biology techniques to understand patho-physiology of CVD, identify new targets for drug delivery, cell cycle regulation and apoptosis

Mental Health

- Suicide behaviors: descriptive epidemiology, identify contributing factors and process
- Mental stress associated with urban life
- Depressive disorders: early detection and interventions
- Acute undifferentiated psychiatric disorders and schizophrenia: etiology, prevalence, factors associated with outcome

Neurosciences

- Neuroepidemiological studies: prevalence of neurological disorders, clinical and sub-clinical forms, community based services

- Epilepsy: especially among women
- Stroke: risk factors and rehabilitation
- Dementia and Alzheimer's disease: cysticercosis, multiple sclerosis, Gullian Barre syndrome, Parkinson's disease

Ophthalmic disorders

- Glaucoma: prevalence, epidemiology and management
- Cataract: identify risk factors at genetic and molecular level; role of antioxidants; evaluate results of cataract surgery
- Diabetic retinopathy: population based studies, management
- Age-related macular degeneration: risk factors, development of low cost vision aids
- Corneal diseases: etiology, risk factors

Gastro-enterology

- Crohn's disease and ulcerative colitis: association with colo-rectal cancers, burden, risk factors
- Interferon therapy in chronic hepatitis C: causes of non-response
- Pancreatic diseases

Asthma

- Genomic studies to understand correlation between disease phenotypes and gene polymorphism
- Potentiation of allergic asthma by air pollution: role of anti-oxidants, alpha-tocopherol and ascorbic acid in management
- Relationship between various sensitizing factors of allergies and bronchial asthma

Geriatrics

- Assessment of nutritional status and requirements among elderly
- Restriction of activities of daily living and effect on quality of life
- Management of chronic diseases
- Rational usage of common drugs in elderly

Disability/rehabilitation

- Health consequences of disasters
- Disability prevention and Rehabilitation
- Epidemiology of disabilities
- Strengthen disability prevention among children
- Develop interventions to prevent specific disabilities
- Formulate integrated approach to rehabilitation

Nutrition

Clinical Research

- Experimental studies on effects of peri-conceptional maternal nutrition and nutrition during pregnancy on growth of foetus
- Screening/Diagnostic tools for reproductive tract infections and development of algorithms for their management
- Micronutrient status in pregnancy and its effects on foetal growth
- Relationship between low birth weight babies and adult chronic diseases
- Role of dietary n-6 and n-3 PUFA in prevention of maternal mortality, morbidity and low birth weight babies
- Innovative approaches for nutritional management of LBW and sick new born
- Understand cellular basis of nutrition-infection interaction
- Determine effects of malnutrition on immuno-competence and response to newer vaccines
- Nutritional needs of adolescent girls, sports personnel

Basic Research

- Expand scope of food fortification and micronutrients
- Functional significance of phytochemicals and role of antioxidants in prevention of diet related chronic diseases
- Role of PUFA on gene expression
- Nutritional and health significance of quality and quantity of dietary fibre
- Pre-clinical toxicological studies of drugs, vaccines and foods
- Effect of malnutrition on genetic susceptibility to diseases
- Effects of nutritionally stressed environment on host genomic structure and that of pathogens

Food Toxicity and Safety

- Develop simple methods to detect toxins and contaminants in food
- Toxicological evaluation of routine foods, tribal foods, genetically modified foods, herbal products, dietary supplements and neutraceuticals
- Promote Hazard Analysis Critical Control Point approaches for preventing food hazards in preparation of foods

Applied Research

- Community models to achieve reduction in malnutrition
- Simple techniques to assess micronutrient status
- Over nutrition and chronic diet related disorders vis-a-vis life styles and food habits

Laboratory Animal Sciences

- DNA finger printing of mutant models using micro satellite and AFLP markers

- Explore utility of mutant models for understanding molecular and biochemical mechanism of aging, cataract development, infertility, carcinogenesis etc
- Obtain and propagate genetically and microbiologically defined stocks of animals
- Establish Regional Breeding and Research centres for Primates and Dogs
- Centers for production and propagation of transgenic animal models
- Establish centres for developing, validating techniques and in-vitro models as alternatives to animal experiments

Reproductive Health

-
- Fertility regulation: develop improved and new technologies for fertility regulation including emergency contraception
- Identify causes of unmet need for fertility regulation and develop appropriate strategies
- Infertility and reproduction disorders: detect causes of infertility and develop better diagnostic methods and management techniques including operationalisation of providing graded infertility services through health care delivery system
- Reproductive tract infections: understand relations of RTI and other disorders
- Screening/diagnostic tools for reproductive tract infections and development of algorithms for their early detection, management and prevention
- Maternal and child health: ensure that babies are free from consequences of various metabolic and genetic disorders in adulthood
- Development and implementation of strategies for preventing avoidable maternal deaths at peripheral level
- Unsafe abortions: assess prevalence and associated morbidity and mortality
- Improve methods of MTP in 1st and 2nd trimester
- Menopause: Prevalence of Osteoporosis especially in women, criteria for its diagnosis in Indian context and understand mechanism. Prevention and management of post menopausal osteoporosis and genito-urinary dysfunction
- Functional genomic: Facilitate identification, characterization and elucidation of functional role of various gene/gene products in reproductive processes
- Child Health: Simple criteria for diagnosis of neonatal sepsis; molecular tools for diagnosis of microbial etiology, home management of neonatal sepsis, testing available interventions for asphyxia and its long term impact on neurodevelopment etc.

Basic Medical Sciences

- Research in basic biochemistry and molecular biology of pathogenic organisms with special reference to cloning the genes having presenting for vaccine developments e.g. falciparum, M. tuberculosis, M. Leprae

- Development of nucleic acid probes for early diagnosis and molecular epidemiology of hereditary, acquired and infectious diseases
- Development of molecular therapeutics
- Studies on transgenic animals, vectors and knock out animals for understanding mechanisms of host resistance
- Molecular hematology
- Production of recombinant proteins
- Drug Development
- Development of animal facilities
- Traditional Medicine Programme: validation of traditional knowledge, finger printing of selected herbal preparations, agrotechnology, development of new molecules from plant sources
- Development of new generation of vaccines
- Development of DNA based kits for diagnosis of various diseases
- Diseases susceptibility genes
- Strengthen the IPR-related services

Human Genetics

- Identification of Indian mutations
- New disease genes
- Analysis of genotype-phenotype correlation
- Study gene-gene, gene environment interaction to understand heterogeneity of genetic disease
- Patho-physiology of genetic disease

Haemoglobinopathies

- Establishment DNA bank for hereditary haematological disorders
- Development of umbilical cord haempoietic stem cell bank
- Set up stem cell transplant unit
- Gene therapy
- Establishment of Experimental haematology Unit
- Clinical trial unit to undertake drug trials to be used in haematological disorders
- Regulation of â-globin gene expression
- Non-deletional alpha -thalassemia in India

Publication, Information and Communication

-
- Human Resources Development in communication and project writing, nutrition etc. to be strengthened
- Set up IEC Centre at the NIN to evolve strategies for improving health/nutrition status of population
- Expand scope of scientometric and R&D evaluation studies
- Establish video conferencing facilities
- Set up a National Health Research System
- Strengthen Bio-informatics Centre

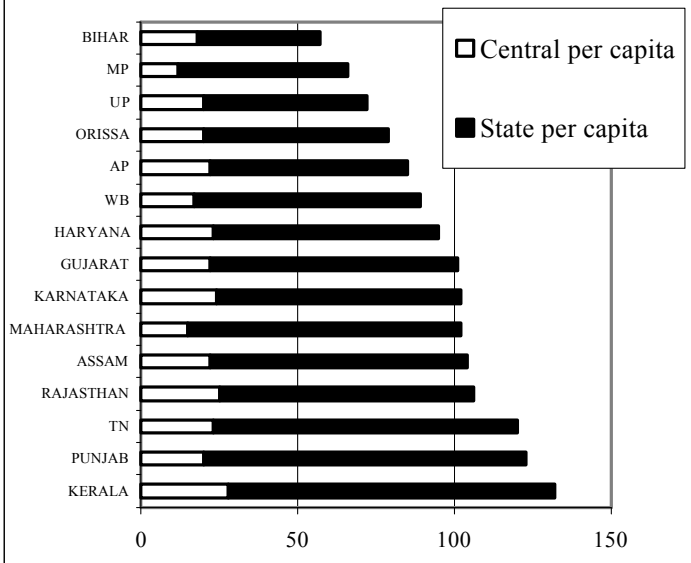
CHAPTER-IX
HEALTH CARE FINANCING

Since independence, health care has been recognized as an essential social sector investment. It was, therefore, initially envisaged that health services in government institutions will be provided free of cost to all. During the 1990s, it was recognized that, given the increasing awareness and expectations of the people, and the escalating costs of health care, this policy could not continue. The Ninth Plan envisaged that major public health priorities such as essential primary health care, emergency life saving services, services under the disease control and family welfare programmes will be provided free of cost for all. The Ninth Plan advocated that the Centre and the state governments should work out appropriate norms for levying user charges on people above the poverty line for other services and hospitalisation and evolve mechanisms for collection and utilisation of funds. The Planning Commission provided additional central assistance to the Kerala government for an experimental model in a district hospital where different segments of the APL population pay for health care and the hospital meets the costs of care of BPL (lowest 20 per cent) population through a system of cross-subsidization.

The issue of how much the government sector, private individuals and the country as a whole is spending on health care and which segments of the population are benefiting has been debated widely during the last decade. As there is no National Health Accounting system, there is no information on total government expenditure on health and categories of people who benefit from this expenditure. The WHO has estimated that India, at present, is spending 4.5 per cent of gross domestic product (GDP) on health, of which 0.9 per cent is public expenditure. India ranks thirteenth from the bottom in terms of public spending on health (World Health Report 2000). The Central Statistical Organisation (CSO) reported that final government consumption expenditure on health (which does not include expenditure on family welfare) for 1998-99 is Rs. 10,588 crore, accounting for 0.6 per cent of GDP. For the same year the plan and non-plan expenditure of 26 states and the Central Ministry of Health and Family Welfare alone comes to Rs. 16,771 crore or 0.95 per cent of the GDP. The Railways, Defence and the Department of Post and Telegraph have created health care infrastructure and spend substantial sums on the health care of their employees and their families. ESIS and PSUs spend large amounts of government funds on health care. The expenditure of PRIs and other local bodies on health is never accounted for as health expenditure nor is the reimbursement of health care costs by different departments at the Centre, in the State and PSUs taken into account while computing public expenditure on health. It is imperative that a system of National Health Accounting, reflecting total government expenditure on health is established. This will enable periodic review and appropriate policy decisions regarding modalities for ensuring optimal utilisation of the current government investment in the health sector and also future investments to meet public health needs.

Given India's size and the fact that health is a state subject, it is important to examine inter-state differences in spending patterns. While the central government provides funds to the states under centrally sponsored schemes based on uniform norms, per capita expenditure in states vary depending upon the prevalence of diseases and pattern of utilisation of funds. If these are taken into account, the central government expenditure does not show much variation between states (Figure 9.1).

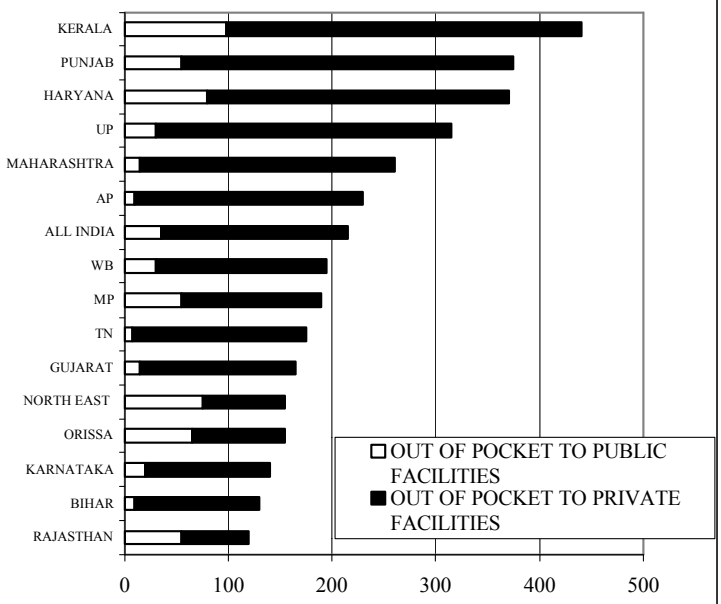
Figure 9.1 State level per capita public spending on health (Rs.)



Source: NCAER 2000,

There are substantial variations in per capita expenditure on health by the states. At one end of the spectrum are states like Bihar, Madhya Pradesh, Uttar Pradesh and Orissa with low per capita expenditure, poor access to health care and poor health indices. At other end are Kerala, Punjab and Tamil Nadu with high expenditure and good health indices. However, Rajasthan and Assam continue to have poor health indices in spite of relatively higher expenditure (Figure 9.2). While funds are, no doubt, needed to improve health care and health indices, awareness, equitable distribution and utilisation of services is equally critical for the improvement of health indices. Kerala ranks high in two important dimensions- equitable spending between income groups and efficiency of the use of resources.

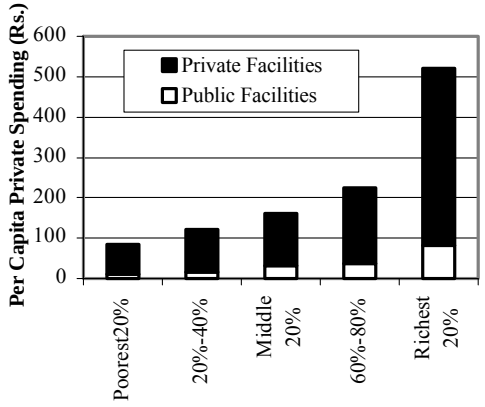
Figure 9.2 Private spending on health services at Private and public facilities (Rs.) 1995-96



Source: Mahal A, et al 2001 ,NSSO, 1995-96

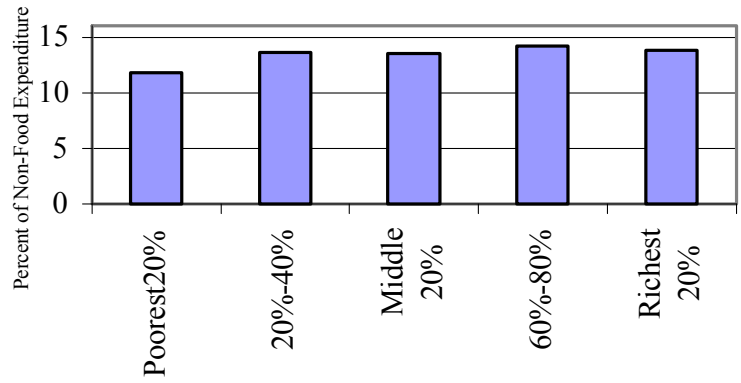
In all states, patients incur out-of–pocket expenses to meet the health care cost in public and privately-funded hospitals. There are massive differences in private spending on health care services in public and private facilities between states. Patients from Kerala and Punjab spend about four times more on health as compared to patients from Bihar. The high and low spending in private and public sector do not always go hand in hand with each other. In Rajasthan out of pocket expenditure in private and government hospitals is almost equal, because the state has been levying user charges and providing drugs at cost price to persons admitted in government hospitals. It is important that each state undertakes a detailed analysis of the current situation, identify critical points where appropriate interventions would enable the BPL population to utilise subsidised government health services while providing affordable health care to other segments of the population.

Figure 9.3 Out - of Pocket Payments and Household Income-1995-96



Source: NCAER-2000 , NSSO, 1995-96

Figure 9.4 Distribution of total out of pocket Health Expenditures as a proportion Non-Food Expenditures, All India, 1995-96



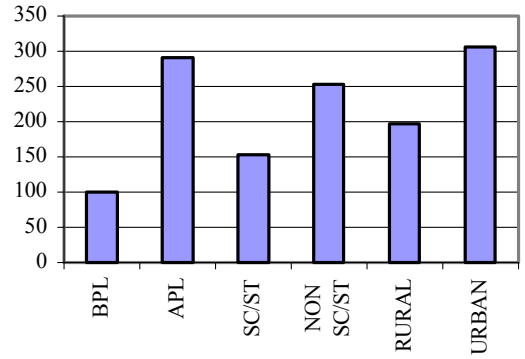
Source: NCAER-2000 ,NSSO, 1995-96

he poorer segments of population had less access to both public and private sector curative services than the better off sections. The out-of-pocket expense on both public and private facilities for the lowest income quintile is about one-fifth that of the highest quantile population (Figure 9.3) suggesting thereby that the richest quintile utilise both private and public facilities more than the poorest quintile. The question whether the amount spent by different segments of the population results in their receiving the appropriate care remains unanswered as the country is yet to evolve and monitor appropriate treatment protocols and cost of care for specific illnesses in different settings. Out-of-pocket expenditure is the most common method of payment for private health care services. The poorest 20 per cent spent 12

per cent of the non-food expenditure on health care and the richest about 14 per cent (Figure- 9.4).

The out-of-pocket expenses of the SC/ST population is higher than the BPL families perhaps because they have greater problem in access to health care services (Figure 9.5). The urban population spent larger amount on health care as compared to their rural counterparts perhaps because they have ready access to high cost or hi-tech care.

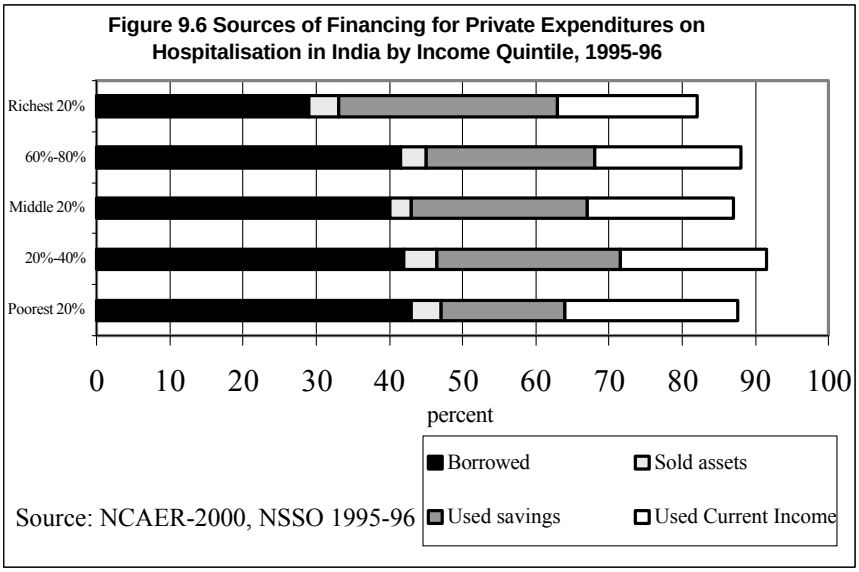
Figure 9.5 Out-of Pocket Payments by Socioeconomic Group.1995-96



Source: NCAER-2000 ,NSSO, 1995-96

Mechanisms by which different income groups meet the out-of-pocket expenses for hospitalisation is shown in Figure 9.6. Hospitalisation for major illness is a cause of indebtedness in all income groups. With increasing awareness, people are willing to spend on health care. However, there is, at present, no mechanisms by which they can pay a part of their income, throughout their working life, so that the cost of health care or hospitalisation can be met without severe financial crisis. Health insurance in the government and private sector covers less than 10 per cent of the population, mostly from upper income group, government or industrial employees. There is need to explore mechanisms for providing near-universal coverage of the population for meeting the cost of hospitalisation and continuous care for chronic disease.

Figure 9.6 Sources of Financing for Private Expenditures on Hospitalisation in India by Income Quintile, 1995-96

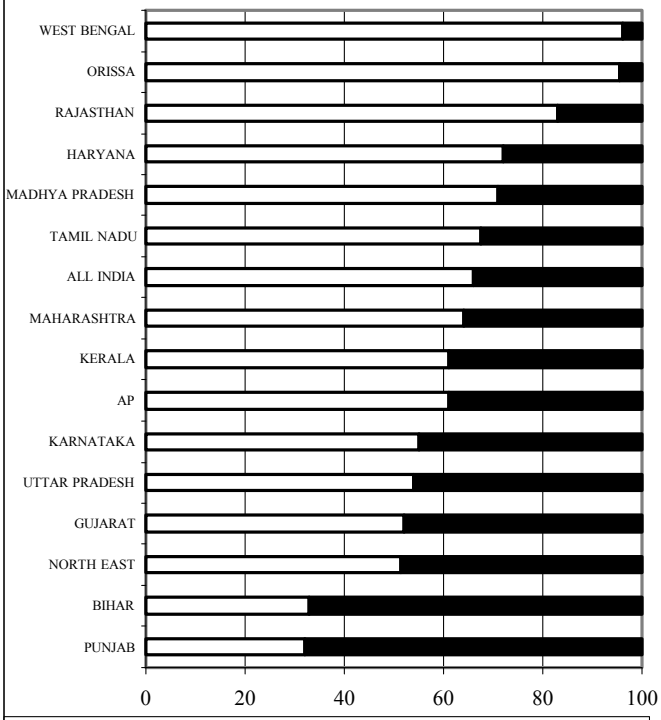


Source: NCAER-2000, NSSO 1995-96

There are substantial inter-state differences in the utilisation of public and private facilities by people below the poverty line. In Himachal Pradesh, West Bengal and Orissa the poor predominantly use public facilities. In contrast, the poor in Bihar and Punjab make very limited use of public sector in-patient facilities (Figure 9.7). The lack of functional government-funded hospitals in Bihar may be the reason for the poor going to private hospitals. In

Punjab, the perception regarding convenience, comfort and quality of care may be the reason why private sector hospitals are preferred to functional public sector hospitals. In Orissa, the absence of private sector facilities in the remote rural and tribal areas might be the reason for the poor using public sector hospitals.

Figure 9.7 Public And Private sector Of Inpatient Bed Days By People Below The Pverty line



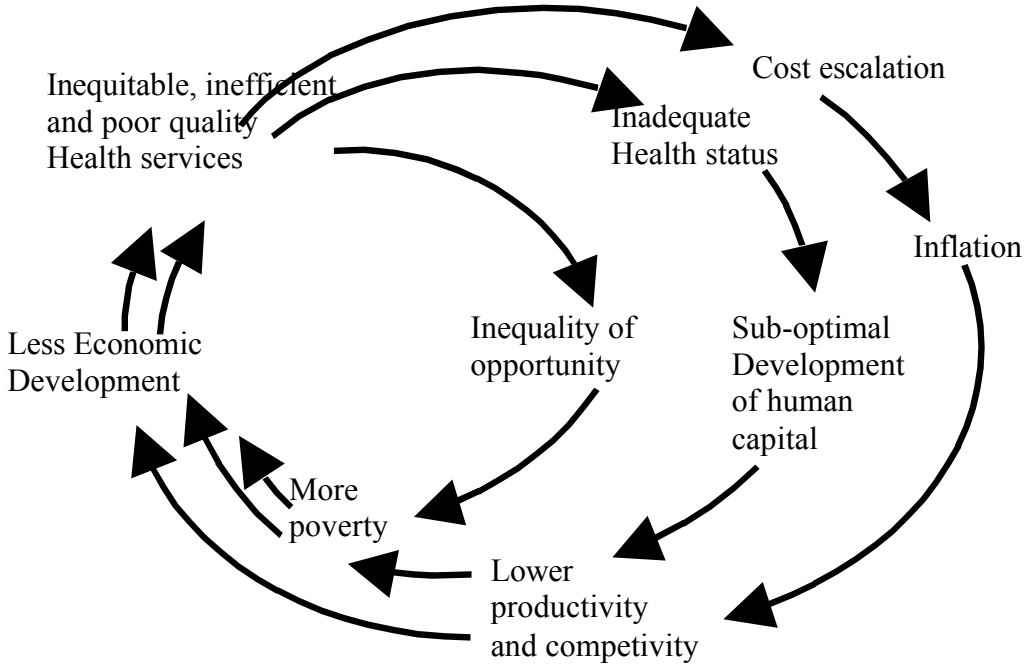
Source: NCAER-2000 , NSSO, 1995-96

Health sector reforms during the Tenth Plan should focus on:

- addressing the issues of need and equity in access to health care;
- devising a targeting mechanism by which people below poverty line have ready access to subsidised health services to meet essential health care needs; while those from above the poverty line pay for the services both in government and private care facilities.

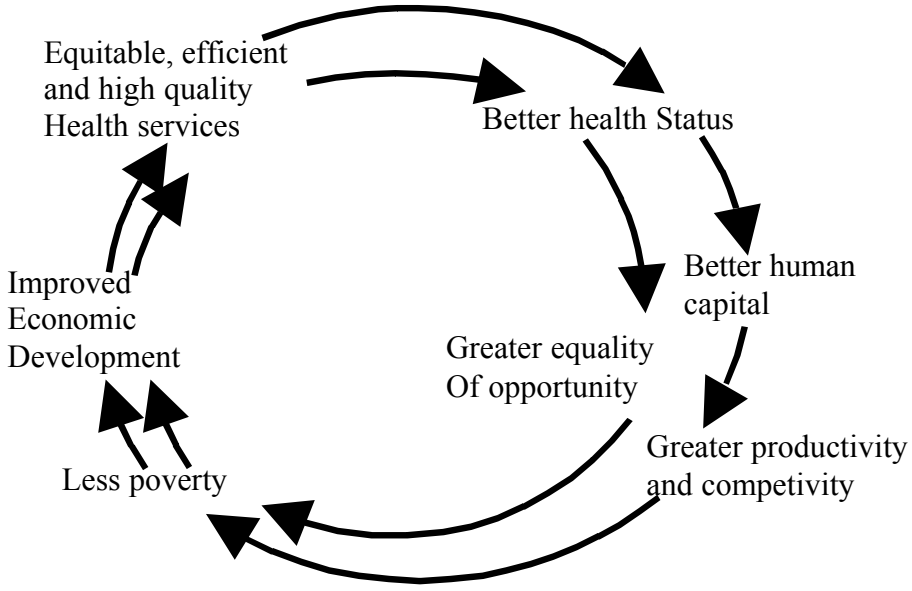
There is an urgent need to evolve, implement and evaluate an appropriate scheme for health financing for different income groups. Health finance options may include health insurance for individuals, institutions, industries and social insurance for BPL families. Health insurance has been suggested as a mechanism for reducing the adverse economic consequences of hospitalisation and for chronic ailments requiring expensive and continuous care. However, the experience in developed countries shows that health insurance runs the risk of market failure and cost escalation because:

Figure 9.8 Unproductive Investment in Health: a vicious cycle



Source:Fundacion MaxicanaPara La Salud, 1995

Figure 9.9 Productive Investment in Health: a virtuous cycle



Source: Fundacion MaxicanaPara La Salud, 1995

- disproportionately large number of individuals who get insured are those who expect significant health expenditure in the future;
- there are reduced incentives for individuals to take precautions against poor health;
- health care providers tend to give more care than medically appropriate;
- insurance companies have low capital reserves and incomplete epidemiological information.

Attempts by insurance companies to prevent market failure may have serious health implications if it is achieved either by exclusion of high risk individuals or by escalation of cost of insurance.

Health insurance can improve access to good quality health care only if it is able to provide for health care in institutions with adequate facilities and skilled personnel at affordable cost. Some states like Kerala and Delhi are taking up pilot projects where the government pays the social insurance premium to meet the hospitalization cost for the poor admitted in government institutions. During the Tenth Plan global and Indian experience with health insurance/health maintenance organisations should be reviewed and suitable models replicated. In order to encourage healthy lifestyles, a yearly `no claim bonus'/adjustment of the premium could be made on the basis of previous year's hospitalisation cost reimbursed by the insurance scheme.

Financing health care in India

The importance of health as a determinant of human development is well accepted. Health is high on the agenda of the government and the people, both of whom are willing to invest for improving health status. Spiraling costs and rising demand are putting a severe strain on the health system, whether government-funded or private. Health care can absorb a very large quantity of investments from the government and individuals and yet leave millions of people, especially the poor who suffer from a high disease burden, inadequately covered (Figure 9.8) It is also being increasingly realized that merely investing more in health is unlikely to improve the health status of the population. It is essential that policies and strategies are developed to promote equitable access to preventive and curative services so that there is an improvement in health indices (Figure 9.9).

It is essential to quantify the interactions between the health of the population and economy, gauge essential potential benefits of various interventions and ensure adequate investment in chosen priority sectors. Concurrently, every effort should be made to organise and deliver health services equitably and efficiently. It is important to get adequate data on disease burden and current modalities of funding health care in different states. These data should then be used for

- making an enabling policy framework
- selecting appropriate strategy,
- implementing and evaluating packages of health interventions
- assessing quality of care and its cost effectiveness.

Health policy research and health system research at the national level is essential and a reliable information base is a pre-condition for effective investment in health care and performance assessment of the health system.

Health sector outlay

The health sector is funded by the centre , states and externally assisted projects (in both the Centre and the states).

Externally Assisted Projects

Externally-assisted projects can be classified under the following:

- assistance to different components of the family welfare programme;
- assistance to centrally sponsored schemes of the disease control programmes;
- assistance to state governments to strengthen infrastructure and manpower through bilateral direct assistance to the states and from funding agencies like the World Bank routed through the central government.

Externally assisted projects initially focused on rural primary health care e.g. India Population Project (IPP) (I to IV, VI & VII) and later also covered urban primary health care (IPP V, VIII). During the 1990s, externally assisted projects for strengthening secondary care institutions were taken up in seven states. The tertiary care institutions have not received much funding from externally-assisted projects, except for individual institutions like Sanjay Gandhi Institute of Medical Education and Research (from Japan).

Investment from externally assisted projects was used for strengthening infrastructure, purchase/replacement of equipment, meeting the cost of drugs and consumables and for operationalising health sector reform. However, it has been reported that externally assisted projects introduce a project framework, management structures, parameters of expenditure, unit costs and institutional arrangements for monitoring which are very different from the ones already in place under national and state level programmes. This creates distortions and the performance in other programmes deteriorates. Also, service providers who have worked in the externally assisted projects become de-motivated after the project is completed because similar parameters of expenditure may not be sustainable. It has also been reported that improvement in facilities and equipment through externally assisted projects have not resulted in improved performance. For example, despite the construction of a large number of health sub-centres and staff quarters occupancy remained low and deliveries in these institutions did not go up. States have not been able to provide adequate funds for maintenance of these infrastructure and equipment procured under the EAPs so that there has been a progressive deterioration of these. These aspects and the issue of sustainability of the projects after they are completed need be looked into at the time of deciding areas/schemes for external

assistance in the health sector. The mechanisms for repayment of loans when the EAP is in the form of loans is another aspect that has to be considered before EAPs in health sector are initiated.

State Government

The state governments provide funds for primary, secondary, tertiary care institutions (including medical colleges and their associated hospitals). State governments also receive funds from centrally sponsored disease control programmes and family welfare programme. Health was one of the priority sectors for which funds were provided during the Ninth Plan as additional central assistance under PMGY. These funds were to be utilised for meeting the essential requirements for operationalising rural primary health care. The ongoing and proposed externally assisted projects provide additional resources. The major activities that received funds during the Ninth Plan were:

- restructuring of the health care infrastructure;
- re-deployment and skill up gradation of personnel;
- development of referral network;
- improvement in the HMIS;
- disease control programmes; and
- development of a disease surveillance and response system at the district level.

Funds provided during the Tenth Plan should be utilised to improve the existing health care infrastructure and manpower in the states so that quality and coverage improves. The state-wise outlay and expenditure in the Ninth Plan is shown in Annexure 9.1.

Central Sector

Funds from the central sector are being utilised for supporting:

- medical education institutions of excellence;
- training institution for nurses;
- vaccine production institutes and special centres for specific diseases;
- Central Government Health Schemes;
- emergency relief measures and
- pilot central sector projects either to demonstrate the feasibility of disease control or for working out strategies for health care.

In addition to the domestic budgetary support, external funds have also been obtained for several centrally sponsored disease control programmes. The outlay and expenditure in the Ninth Plan is shown in Annexure 9.2.

Zero Based Budgeting-2001

In November-December 2001 the Planning Commission and the Department of Health had reviewed all the ongoing Ninth Plan schemes/

programmes and undertaken a zero-based budgeting exercise. In the Ninth Plan, there were a total of 91 schemes (22 centrally sponsored schemes and 69 central sector schemes). Of these 45 are being retained, one is being transferred to the states, 38 are being merged into 14 schemes and seven are being weeded out. A total of 59 schemes, with a Ninth Plan outlay of Rs. 5,088.19 crore are continuing during the Tenth Plan. The summary of the zero-based budgeting exercise is given in (Table 9.1).

Table 9.1 Zero Based Budgeting Exercise 2001
Centrally Sponsored Schemes & Central Sector Schemes

	Rs. Crores					
	Central sector			Centrally Sponsored		
Category	No. Of Schemes	Ninth Plan Outlay	Ninth Plan Anticipated Expenditure.	No. Of Schemes	Ninth Plan Outlay	Ninth Plan Anticipated Expenditure.
Schemes to be retained	39	995.24	968.39	6	1,984.00	2,055.94
Schemes to be merged	8/24	766.45	850.73	6/14	1,342.50	1,202.59
Schemes to be transferred to the states	1	4.00	1.88	NIL	NIL	NIL
Schemes to be weeded out/dropped	5	22.00	5.69	2	4.00	2.98
Total ninth plan schemes	69	1,787.69	1826.69	22	3,330.50	3,261.51
No. Of ongoing schemes that will continue in tenth plan	47	1,761.69	1819.12	12.00	3,326.50	3,258.53

OUTLAY FOR HEALTH IN THE STATES & UNION TERRITORIES

Annexure 9.1

	9th Plan	1997-98				1998-99 (Rs. Lakhs)		1999-2000 (Rs. Lakhs)		2000-01 (Rs. Lakhs)				2001-02	
	OUTLAY	OUTLAY		Act. Expd.		OUTLAY		OUTLAY		OUTLAY		RE		OUTLAY	
STATES	HEALTH	HEALTH	MNP/BMS	HEALTH	MNP/BMS	HEALTH	MNP/BMS	HEALTH	MNP/BMS	HEALTH	MNP/BMS	HEALTH	MNP/BMS	HEALTH	MNP/BM
1	6	7	8	9	10	11	12	15	16	19	20	21	22	23	24
ANDHRA PRADESH	63052.00	13937.00	2923.60	12366.00	2923.60	20046.00	3923.60	28033.00	1197.00	27749.95	2841.20	33223.02	2841.20	33223.02	2841.20
ARUNACHAL	33502.00	3149.00	1021.00	1782.00	1021.00	3520.00	1072.00	2947.00	998.00	2068.93	998.00	2486.01	1201.00	2476.01	1231.00
ASSAM	38410.00	6561.00	3120.00	6223.00	3120.00	7191.00	4334.00	7741.00	4534.00	7439.00	3243.00			12580.00	4011.00
BIHAR	83200.00	7245.00	5059.00	4950.00	3726.00	12177.00	7518.00	12768.00	10800.00	9891.01	4309.00			10078.21	2457.90
GOA	8122.00	1082.00	187.80	1032.00	187.80	772.00	101.95	1646.00	106.55	1423.00	11.70			1649.00	11.70
GUJARAT	83225.00	22093.00	12177.00	17180.00	10424.01	23550.00	12132.31	25100.00	11342.82	26000.00	11905.53	18781.00	6000.00	21000.00	7904.44
HARYANA	35134.00	3882.00	1425.00	4493.00	1425.00	5946.00	2700.00	5327.00	2700.00	5648.00	351.70	5845.00	398.45	6595.00	398.45
HIMACHAL	31765.00	5544.00	2659.10	6535.00	2369.31	8965.70	3341.54	10555.00	3319.83	9685.09	1334.00	12050.09	1596.40	12014.86	1596.40
J & K	110029.00	7450.00	6460.00	6989.00	6460.00	11385.51	6334.86	11974.00	6312.79	10595.17	7277.00			11628.32	3718.68
KARNATAKA	110000.00	18359.00	12713.00	21914.00	12713.00	19544.30	11785.00	22774.00	17200.25	22558.11	1126.95	25638.00	1300.00	26879.60	1300.00
KERALA	30940.00	6096.00	855.00	5828.00	855.00	6200.00	775.00	6400.00	607.00	6335.00	627.00	4200.00	640.00	5553.00	640.00
MADHYA PRADESH	56787.00	9331.00	5604.00	7031.00	5604.00	17351.47	4357.78	13524.00	4056.69	11217.62	7006.32			13462.62	1460.62
MAHARASHTRA	91823.00	17391.00	9882.00	13811.00	9882.00	22993.00	7142.00	27798.00	6856.93	30485.85	1860.00			39128.91	1344.42
MANIPUR	3600.00	630.00	271.65	540.00	271.65	809.35	600.00	1080.00	550.00	1250.00	728.40	1416.00	900.00	1486.00	900.00
MEGHALAYA	14000.00	2430.00	1306.50	1790.00	1306.50	2430.00	2000.00	3079.00	2329.00	3300.00	2600.00			3200.00	2600.00
MIZORAM	11201.00	1651.00	795.00	1651.00	795.00	1816.00	794.41	2286.00	1830.00	2562.00	942.00			2542.00	1054.15
NAGALAND	10631.00	2506.00	1017.00	2480.00	1017.00	2128.00	950.00	2128.00	1139.00	1577.00	940.00	1181.60	565.60	1283.00	667.00
ORISSA	41606.00	4104.00	1907.89	5198.00	2737.09	7526.21	3465.19	13208.00	4127.72	8405.05	1478.25			14915.16	1000.00
PUNJAB	51159.00	9938.00	3432.00	3187.00	3432.00	16352.00	2579.60	18319.00	2458.00	19187.00	606.00			17465.57	452.50
RAJASTHAN	77060.00	13919.00	7005.05	12339.00	7005.05	15289.00	8830.00	17262.00	9656.00	9914.94	1446.00			12366.30	1646.00
SIKKIM	8000.00	857.00	267.15	757.00	267.15	814.00	275.05	1559.00	540.05	1200.00	590.00			1373.50	650.00
TAMILNADU	78052.00	8909.00	2440.86	11005.00	2440.86	11650.93	3388.14	12426.00	2442.99	12724.42	1571.85	9857.00	2173.60	18084.16	2173.60
TRIPURA	8559.00	1371.00	619.00	1091.00	619.00	1407.92	659.00	1355.00	630.00	1442.46	851.00			1879.18	800.00
UTTAR PRADESH	118500.00	17312.00	12836.00	15609.00	13037.00	40551.00	27813.00	42816.00	15413.57	30200.00	8723.00	17780.37		37278.00	5651.00
WEST BENGAL	97864.00	20633.00	1500.00	3322.00	1030.62	19286.00	3103.00	23502.00	3246.00	32176.00	2518.00	33352.22	2518.00	42931.24	2518.00
TOTAL STATES	**1296221.00**	**206380.00**	**97484.60**	**169103.00**	**94669.64**	**279702.39**	**119975.43**	**315607.00**	**114394.19**	**295035.60**	**65885.90**	**165810.31**	**20134.25**	**351072.66**	**49028.06**
U T s															
A & N ISLANDS	7741.00	1559.00	671.00	1831.59	671.00	1895.00	786.00	2000.00	956.00	1900.00	219.00			1900.00	237.50
CHANDIGARH	17065.00	3617.00	353.00	3748.90	353.00	3548.30	222.50	3483.00	250.50	3717.00	100.00			3947.25	128.25
D & N HAVELI	514.00	219.00	207.50	148.87	207.50	252.70	91.45	280.00	121.45	217.80	19.80			234.80	14.80
DAMAN & DIU	887.00	133.00	97.00	165.96	97.00	173.00	153.80	136.00	128.00	150.10	17.10			165.00	12.00
DELHI	110140.00	15240.50	1800.00	12684.15	1800.00	19700.00	3619.00	27345.00	5525.00	26642.00	180.00			34121.00	180.00
LAKSHADWEEP	817.46	233.85	151.77	267.78	151.77	333.00	71.00	229.03	141.09	281.45	52.42			211.46	19.80
PONDICHERRY	10000.00	1630.00	240.52	1546.97	240.52	2370.00	303.87	2720.00	453.00	2720.00	71.55	2959.69	72.09	3160.54	72.09
TOTAL UTs	**147164.46**	**22632.35**	**3520.79**	**20394.22**	**3520.79**	**28272.00**	**5247.62**	**36193.03**	**7575.04**	**35628.35**	**659.87**	**2959.69**	**72.09**	**43740.05**	**664.44**
GRAND TOTAL (STATES & UTs)	**1443385.46**	**229012.35**	**101005.39**	**189497.22**	**98190.43**	**307974.39**	**125223.05**	**351800.03**	**121969.23**	**330663.95**	**66545.77**	**168770.00**	**20206.34**	**394812.71**	**49692.50**
CHHATISGARH														**6024.66**	**586.00**
JHARKHAND														**NA**	**NA**
UTTARANCHAL														**5972.00**	**390.70**
GRAND TOTAL (STATES & UTs) Incl 3 states														**406809.37**	**50669.20**

Annexure 9.2

	TENTH PLAN OUTLAYS FOR DEPARTMENT OF HEALTH			Rs. Crores	
Sl. No.		Name of the Schemes / Institution	9th Plan Allocation	9th Plan Anticipated Expenditure	2002-03
9th Plan	10th Plan				Outlay
		CENTRALLY SPONSORED SCHEMES			
		Control of communicable Diseases:			
1 & 2	1	National Vector Borne Diseases Control Programme (Malaria, Kala-Azar, Filaria, Dengue and J.E.)	1000.00	954.95	235.00
3	2	National Leprosy Eradication Programme.	301.00	388.48	75.00
4	3	National Tuberculosis Control Programme.	450.00	462.73	115.00
5	4	National AIDS Control Programme including Blood Safety Measures and National S.T.D. Control Programme	760.00	745.26	225.00
6		National Guinea Worm Eradication Prog.	2.00	1.29	
7	5	Disease Surveillance Programme	25.00	20.32	10.00
8	6	Hospital Waste Management	2.00	1.79	5.00
		Strengthening of Drug & Food Administration & Control			
		Capacity Building			
9	7	Assistance to States for Capacity Building (drug Quality)	20.00	29.00	20.00
10	8	Capacity Building for drug & PFA	20.00	1.00	1.30
11		Strengthening of State Drug Analytical Laboratories	5.00	5.10	
12		Strengthening of State Drug Control organisations including improvement of their information system and strengthening of enforcement and supporting staff	5.00		
13		Financial Assistance to the States for Strenghening their food testing laboratories	5.00	0.80	
14		Setting up of District Food Inspection Units in the States/UTs including Management Information System		3.16	
		Control/Containment of Non-communicable Diseases:			
15	9	National Programme for Control of Blindness	448.00	464.79	86.00
16 & 17	10	National Cancer Control Programme	190.00	198.14	61.00
18 & 19	11	National Iodine Deficiency Disorders Control Programme. And pilot project on micro-nutrient	18.00	14.75	7.00
20	12	National Mental Health Programme	28.00	20.39	30.00
21	13	Drug De-addiction Programme including assistance to States	20.00	26.51	7.00
		Other Programmes			
22	14	UNDP Pilot Initiatives for Community Health		2.50	4.80
					882.10

		Central Sector Schemes:			
		Control of Communicable Diseases:			
1	1	i) National Institute of Communicable Diseases, Delhi (ongoing activities including Guineaworm & Yaws Eradication)	23.00	22.40	12.00
2		ii) Strengthening of Institute	3.70	3.69	
3	2	National Institute of Tuberculosis, Bangalore	1.50	3.78	2.00
4	3	Lala Ram Sarup Institute of T.B. and allied diseases, Mehrauli, Delhi	30.00	27.60	10.00
5	4	Central Leprosy Training & Research Institute Chengalpattu (Tamil Nadu)	5.00	3.57	1.00
		Regional Institute of Training, Research & Treatment under Leprosy Control Programme:			
6	5	(a) R.L.T.R.I., Aska (Orissa)	2.00	0.56	0.40
7	6	(b) R.L.T.R.I., Raipur (M.P.)	2.50	0.71	0.20
8	7	(c) R.L.T.R.I., Gauripur (W.B.)	5.00	4.65	1.50
9	8	B.C.G. Vaccine Laboratory, Guindy, Chennai	5.00	5.80	5.00
10	9	Pasteur Institute of India, Coonoor	5.00	13.10	7.00
11	10	Central Research Institute, Kasauli	20.00	21.83	5.00
					44.10
		Hospitals and Dispansaries:			
12	11	Central Government Health Scheme	40.00	47.66	20.00
13	12	Central Institute of Psychiatry, Ranchi	16.00	17.00	8.00
14 & 15	13	All India Institute of Speech & Hearing Mysore, Mysore and pilot project	8.00	15.21	7.00
16 & 17	14	All India Institute of Physical Medicine & Rehabilitation, Mumbai and pilot project	15.00	6.71	2.70
18	15	Health Sector Disaster preparedness and Management	3.00	3.00	6.00
19	16	Safdarjung Hospital, New Delhi	103.00	96.36	65.00
20	17	Dr. R.M.L. Hospital, New Delhi	45.00	70.07	25.00
21	18	Institute for Human Behaviour & Allied Sciences, Shahdara, Delhi	10.00	3.00	1.00
					134.70
		Medical Education, Training & Research:			
		(a) Medical Education:			
22 to 25	19	All India Institute of Medical Sciences & Its Allied Departments, New Delhi and 3 pilot projects	340.00	382.47	105.00
26	20	P.G.I.M.E.R., Chandigarh	175.00	162.00	25.00
27	21	J.I.P.M.E.R., Pondicherry	70.00	52.05	15.00
28	22	Lady Harding Medical College & Smt. S.K. Hospital, New Delhi	65.00	30.59	10.00
29	23	Kalawati Saran Childrens Hospital, New Delhi	56.00	49.92	6.00
30	24	Indira Gandhi Institute of Health & Medical Sciences for North East Region at Shilong.	85.00	59.50	60.00

31	25	Kasturba Health Society, Wardha	25.00	38.28	10.00
32	26	V.P. Chest Institute, Delhi	5.00	11.28	8.00
33 & 34	27	i) All India Institute of Hygiene & Public Health, Calcutta and pilot project	15.00	6.82	3.00
35	28	ii) Serologist & Chemical Examiner to the Government of India, Calcutta	1.25	1.23	0.50
36	29	National Medical Library, New Delhi	15.00	25.12	8.00
37	30	National Academy of Medical Sciences, New Delhi	1.60	1.55	0.50
38	31	National Board of Examinations, New Delhi	0.50	0.77	0.20
39	32	Medical Council of India, New Delhi	3.90	2.78	1.00
40	33	Education Commission of Health Sciences	2.00	0.00	5.00
41	34	N.I.M.H.A.N.S., Bangalore	60.00	80.40	24.00
		(b) Nursing Education:			
42	35	Indian Nursing Councils		0.50	0.40
43 to 47	36	Strengthening/adding seats to existing schools of Nursing	4.50	8.05	20.00
48	37	R.A.K. College of Nursing, New Delhi	3.50	1.53	3.00
49	38	Lady Reading Health School New Delhi		0.25	0.30
		(c) Research:			
50 to 55	39	Indian Council of Medical Research, New Delhi and 5 pilot projects	263.00	333.37	110.00
		Other Programmes:			
56	40	National Institute of Biological, NOIDA (U.P.)	70.00	63.54	20.00
57	41	Health Education	6.00	3.97	2.20
58	42	Health Intelligence (& Health Accounts)	1.25	1.44	1.90
59	43	international airport)	2.00	2.12	1.60
60	44	Strengthening of D.G.H.S.	3.99	7.87	2.00
61	45	Strengthening of (Deptt. under) Ministry			3.00
62	46	Prevention of Food Adulteration	20.00	12.63	8.00
63 & 64	47	Central Drug Standard & Control Orgn. And medical stores Orgn.	40.00	23.68	15.00
					53.70
		NEW INITIATIVES DURING 2002-03			
	48	**CENTRALLY SPONSORED SCHEMES**			20.00
	49	**CENTRAL SECTOR SCHEMES:**			0.50
					20.50
					1550.00
SCHEMES THAT ARE EITHER TRANSFERRED OR DROPPED					
65		Rural Health Training Centre, Najafgarh	4.00	1.78	
66		Tejpur Mental Hospital			
67		Assistance to Voluntary Organisations			
		(a) Improvement of Medical Services	10.00	1.08	
		(b) Special Health Scheme for rural areas			
68		Continuing Education of Model Teachers	1.00	0.93	
69		Training of Medical Officers of C.H.S. Cadre	0.50	0.42	
		Total	**5118.19**	**5280.49**	

CHAPTER-X
RECOMMENDATIONS

In view of the importance of health as a critical input for human development there will be continued commitment to provide essential primary health care, emergency life-saving services, services under the National Disease Control Programmes and the National Family Welfare Programme totally free of cost to all individuals. The access to other health care service to people below the poverty line should also be subsidized so that inability to pay for the service does not act as a barrier to appropriate health care.

Appropriate interventions to ease the existing funding constraints at all levels of health system and to promote the complete and timely utilization of allocated funds should be taken up. Different models of health care financing at the individual, family, institution and state level should be evolved, implemented and evaluated. Models found most suitable for providing essential health care to all should be replicated.

Path Ahead and Goals

Major focus in the Tenth Plan should be to fully operationalise the structural and functional health sector reforms initiated in the Ninth Plan and

- improve efficiency of the existing health care system – in government, private and voluntary Sectors;
- improve quality of care at all levels;
- mainstream ISM&H practitioners so that in addition to practicing their system of care, they can help in improving coverage and utilization of national disease control programme and family welfare programme;
- develop efficient logistics of supplies of drugs and diagnostics and promote rational use of drugs;
- explore alternative systems of health care financing so that essential health care based on needs is available to all at affordable cost.

It is expected that with effective implementation of the policies and strategies indicated in the Tenth Plan and NHP 2002, the country should achieve goals set and complete the health and demographic transition with in the set time frame. The Steering Committee recommended that focus of health sector during the Tenth Plan should be on:

- reorganisation and restructuring the existing government health care system including the ISM&H infrastructure at the primary, secondary and tertiary care levels with appropriate referral linkages. These institutions should have the responsibility of taking care of all the health problems (communicable, non-communicable diseases) and deliver reproductive and child health (RCH) services for people residing in a well-defined geographic urban and rural area;

- development of appropriate two-way referral systems utilising information technology (IT) tools to improve communication, consultation and referral right from primary care to tertiary care level;
- building up an efficient and effective logistics system for the supply of drugs, vaccines and consumables based on need and utilisation;
- horizontal integration of all aspects of the current vertical programmes including supplies, monitoring, information education communication and motivation (IECM), training, administrative arrangements and implementation so that they are integral components of health care; there should be progressive convergence of funding, implementation and monitoring of all health and family welfare programmes under a single field of administration beginning at and below district level;
- improvement in the quality of care at all levels and settings by evolving and implementing a whole range of comprehensive norms for service delivery, prescribing minimum requirements of qualified staff, conditions for carrying out specialised interventions and a set of established procedures for quality assurance;
- evolving treatment protocols for the management of common illnesses and diseases; promotion of the rational use of diagnostics and drugs;
- evolving, implementing and monitoring transparent norms for quality and cost of care in different health care settings;
- exploring alternative systems of health care financing including health insurance so that essential, need based and affordable health care is available to all;
- improving content and quality of education of health professionals and para professionals so all health personnel have the necessary knowledge, attitude, skills, programme and people orientation to effectively take care of the health problems, and improve the health status of the people;
- skill upgradation of all health care providers through CME and reorientation and if necessary redeployment of the existing health manpower, so that they can take care of the existing and emerging health problems at primary, secondary and tertiary care levels;
- research and development to solve major health problems confronting the country including basic and clinical research on drugs needed for the management of emerging diseases and operational research to improve efficiency of service delivery;
- building up a fully functional, accurate Health Management Information System (HMIS) utilising currently available IT tools; this real time communication link should send data on births, deaths, diseases, request for drugs, diagnostics and equipment and status of ongoing programmes through service channels within existing infrastructure and manpower and funding; it will also facilitate decentralized district based planning, implementation and monitoring;
- building up an effective system of disease surveillance and response at the district, state and national level as a part of existing health services;
- strengthening and sustaining Civil Registration, Sample Registration System; improving medical certification of death so that information on specific causes of death throughout the country are available; use these data in district based planning and monitoring; when sustained over the next two decades, this system will provide valuable insights into inter-

district, inter-state, regional variations and time trends so that district health system could be modified to cope with the changing disease burden;

- improving the efficiency of the existing health care system in the government, private and voluntary sectors and building up appropriate linkages between them;
- mainstreaming ISM&H practitioners, so that in addition to practising their system of care, they can help in improving the coverage of the National Disease Control Programmes and Family Welfare Programme;
- increasing the involvement of voluntary and private organisations, self-help groups and social marketing organisation in improving access to health care;
- improving inter sectoral coordination;
- devolution of responsibilities and funds to panchayati raj institutions (PRIs); besides participating in area-specific planning and monitoring, PRIs can help in improving the accountability of the public health care providers, sort out problems such as absenteeism, improve inter-sectoral co-ordination and convergence of services;
- strengthening programmes for the prevention, detection and management of health consequences of the continuing deterioration of the ecosystems; improving the linkage between data from ongoing environmental monitoring and that on health status of the people residing in the area; making health impact assessment a part of environmental impact assessment in developmental projects;
- improving the safety of the work environment in organized and unorganised industrial and agricultural sectors especially among vulnerable groups of the population;
- developing capabilities at all levels, for emergency and disaster prevention and management; evolving appropriate management systems for emergency, disaster, accident and trauma care at all levels of health care;

Health Care System

Primary health care

During the Tenth Plan every effort should be made to implement the recommendations of the previous plans that all hospitals and dispensaries (both in modern medicine and ISM & H) below district level should be mainstreamed, reorganised, restructured and integrated into the three tier rural primary health care system so that these institutions serve the population in a well defined area and have appropriate referral linkages with each other. The village under each sub-centre, sub-centres under each PHC, PHCs under each CHC/FRU should be defined using Geographical information System (GIS) mapping, taking into account distances, road linkages and other factors that will improve access. All sub-district institutions with specialists should be recategorised as CHC/FRU and all hospitals and dispensaries without specialists should be merged or recategorised as PHCs.

Ninth Plan recommendations regarding re-organisation of urban primary health care institutions making them responsible for the health care of

a population living in a defined geographic area and linking them to existing secondary and tertiary care institutions should be fully implemented during the Tenth Plan.

In order to cope with the growing/changing needs for health care the staffing pattern of both urban and rural primary health care institutions may be suitably modified taking into account:

- the population;
- their health care needs;
- the work load;
- difficulties in delivery of services; and
- distances to be covered.

Most of the gaps in critical manpower should be met by re-orientation, skill up gradation and redeployment of the existing manpower. The vacancies in the posts of specialists in FRUs should be filled by integrating the staff of the post partum centres with FRU staff. Release of grants under the centrally sponsored schemes should be conditional on filling the vacancies in staff who are critical for improving performance under the national programmes. Mismatch between the equipment and personnel and ld be corrected by shifting equipment to centres which have the personnel to operate it or vice versa.

Available funds should be utilized to make all the existing institutions fully functional by providing needed equipment, consumables, diagnostics and drugs. In addition to funds from the centre, state, externally aided projects, funds should be generated locally from user charges for diagnostic and therapeutic services from people above poverty line should be used for maintenance and repair of equipments and provision of consumables to ensure optimal functional status and improve quality of services.

Secondary Health Care

During the Tenth Plan priority should be accorded to the evaluation of the ongoing World Bank funded secondary health care systems projects in the seven states regarding:

- progress in strengthening of physical infrastructure;
- functional improvement in terms of patient care, organization of referral linkages between CHCs, district hospitals and tertiary care institutions;
- improvement in different components of care - hospital waste management, disease surveillance and response, HMIS etc;
- operationlisation of cost recovery through user charges from people above poverty line while ensuring that people below the poverty line do have access to health services free of cost;
- efforts currently underway to make the programme sustainable so that it remains fully functional after project period.

Strengthening of the secondary health system and building up referral services should be taken up in other states using the lessons learnt from these seven states.

Tertiary Health Care

A review of the existing cost recovery system in states has shown that:

- appropriate institutional framework for reviewing user charges has not yet been established.
- the level of cost recovery is minimal due to the low structure of fees and inadequate collection mechanisms.
- mechanisms for identifying and exempting the poor from user charges are ill defined and
- funds collected are not retained at the point of collection in many states

During the Tenth Plan, the ongoing efforts at cost recovery from people above the poverty line should be encouraged and evaluated; models which improve the access of all segments of the population to appropriate care at an affordable cost should be replicated. One of the major recommendations of the Ninth Plan was that a Technical Appraisal Committee should be constituted in all major government institutions to assess and prioritise the essential requirements for strengthening and up grading of facilities keeping in mind the funds available. In the Tenth Plan every effort should be made to implement this recommendation, improve autonomy and encourage decentralised planning.

PUBIC-PRIVATE COLLABORATION

Since private practitioners provide most of the curative care in the country, it is important that they are given ready access to updated protocols for the management of common illnesses and current regimens used in the national disease control programmes and family welfare programme. They must be allowed to have easy access to drugs, devices, and vaccines provided through the national programmes.

One essential pre-requisite for improving the quality of care should be the development of standard treatment protocols appropriate for each level of care. The medical colleges and research institutions should play a key role in preparing these documents quickly. The existing government institutions at each level should be given the responsibility of testing these management protocols and suggest necessary modifications. These protocols should be made available to all practitioners through CME programme for skill upgradation and training. Available IT tools have to be fully utilised by CME programmes to ensure easy access to the materials for updating skills and knowledge. Online consultation services between paraprofessionals and doctors and among doctors may improve the quality of services and reduce the problem of transporting patients to hospitals for diagnosis and advice regarding management. Government institutions in the states should evolve appropriate norms for the cost of care at different levels and should be 'model

institutions' for both the cost and the quality of care in private sector, The district health officials should monitor the performance of both public and the private sector institutions in the district and assist them in improving the quality of care and containing cost of care.

During the Tenth Plan appropriate policy initiatives should be taken to define the role of government, private and voluntary sectors in meeting the growing health care needs of the population at an affordable cost. The public sector should develop institutional capability at the central, state and local levels to:

- evolve policies and strategies for providing healthcare and monitor their implementation;
- increase public-private-voluntary sector collaborations to meet the health care needs of the poor and vulnerable segments of population;
- draw up standards for appropriate quality and cost of care and establish accreditation systems for individuals/institutions;
- monitor and enforce regulations and contractual obligations;
- promote excellence and ethics among professionals, identify and punish professional misconduct;
- set up an appropriate and speedy grievance redressal mechanism.

Quality and accountability in health care

During the Tenth Plan quality control concepts and tools should be introduced into every aspect of health care in order to ensure that:

- the population and the system benefit from defined and institutionalised norms, accountability and responsibility;
- the Tenth Plan goals are achieved and health indices of the population improve; and
- health care is made affordable for individuals and the country as a whole.

INDIAN SYSTEM OF MEDICINE AND HOMOEOPATHY

The Indian Systems of Medicine and Homoeopathy consist of Ayurveda, Siddha, Unani and Homoeopathy, and therapies such as Yoga and Naturopathy. Some of these systems are indigenous and others such as Homeopathy have over the years become a part of Indian tradition. Prior to the advent of modern medicine these systems had, for centuries, catered to the health care needs of the people; these systems are widely used even today because their practitioners are acceptable both geographically and culturally, are accessible and their services and drugs are affordable. Currently efforts are under way to mainstream the over six lakh registered ISM&H practitioners so that in addition to practicing their system they can help in improving coverage and utilisation of national disease control programmes and Family Welfare programme. In addition efforts are under way to ensure that these systems get due recognition and share in the growing worldwide acceptance as Complementary and Alternate medicine.

Steering Committee recommended that during the Tenth Plan a major thrust should be given to mainstream ISM&H system and utilise ISM&H practitioners by:

- ensuring that ISM&H clinics are located in the primary, secondary and tertiary care institutions providing complimentary system of care in these institutions and ISM& H care is funded as a part and parcel of funds provided for these institutions ;
- specially focusing on use of ISM&H therapeutic modalities for diseases for which effective drugs free of serious side effects are not available in the modern system of medicine and for prevention and management of lifestyle related chronic diseases;
- increasing utilisation of ISM&H practitioners working in Government, voluntary and private sector to improve IEC, counselling so that utilisation and completion of treatment in National disease control and Family Welfare programmes improve; and
- exploring opportunities in public and private sector for health tourism and set up regulations in this regard.

ISM&H manpower development

There are over 400 ISM&H Colleges and seventy seven ISM&H post graduate colleges. Most of them are functioning poorly. During the Tenth Plan efforts should be made to:

- develop one centre in each system as National Institute with adequate financial assistance so that it functions as a model centre.;
- strengthen at least one of the Govt medical colleges in each of the states so that they act as model institutions;
- ensure that the colleges do have essential infrastructure manpower and facilities before they are given accreditation and initiate enrolment; ensure mandatory periodic review for continued recognition;
- ensure that students have access to hospitals with requisite number of patient, so that they get clinical training and develop clinical skills;
- ensure uniformity in entry standards, and uniformity in the curricula;
- introduce necessary curricular changes in graduate and CME courses; and
- explore opportunities for training persons from abroad who want to get trained in ISM&H.

During the Tenth Plan every effort should be made to promote healthy lifestyle and ISM&H &H systems including yoga for prevention and managemntof life style related diseases . Completion of the pharmacopoeia for ISM drugs and implementation of stringent drug quality control and good manufacturing practices for ISM&H drugs and formulations should receive due attention so that ISM&H drugs and therapies attain their full potential with in the country and abroad.

R&D efforts should be focused on:

- documenting the efficacy of formulations which have stood the test of time;
- research to determine the safety and efficacy of ISM drugs and therapies especially in diseases for which there are no effective safe drugs in modern system of medicine;
- retrieval , review and preservation of rare classical manuscripts on ISM&H not only as a part of medico-historical research but also document them so that the country protects the intellectual property rights for these ancient remedies;
- establishment of a traditional knowledge digital library; and
- establishment of a patent cell in the Dept of ISM&H .

Medicinal Plant Board

India is rich in medicinal and aromatic plants occurring in diverse eco-systems. Enormous opportunity exists for growth of medicinal plant sector to provide essential plant based products not only for remedies under ISM&H but also meeting the needs for medicinal plant in other sectors. The Task Force on Medicinal Plants set up by Planning Commission had made several important recommendations regarding conservation, preservation, cultivation and processing of medicinal plants. In order to ensure coordinated efforts in this direction a Medicinal Plant Board has been constituted with the Dept of ISM&H as the nodal Dept; experience and expertise of scientific institutions of CSIR, Department of Biotechnology and ICAR should be fully utilized in the effort to provide adequate quantity of good quality of medicinal plants and herbs in a sustainable manner both to meet the needs of the country and the demand for export opportunity.

HUMAN RESOURCE DEVELOPMENT

During the Tenth Plan period medical education should be facing newer opportunities and challenges. The country has to train an adequate number of health professionals with appropriate knowledge, skill and attitude to meet the health care needs of the growing population and dual disease burden. In this era of globalization, India with its excellent teachers and abundant clinical material can become a key player in medical education. The health care institutions can transform India into a major medical tourism destination. Appropriate investment in research and development and quality control can result in a massive expansion of the pharmaceutical sector. During the next two decades the country should use these opportunities to train and provide gainful employment to the highly skilled medical manpower.

The Ninth Plan envisaged that health manpower planning will be based on the district-specific assessment of available manpower and facilities, the needs and demands of health services. Fine tuning will be done taking into account the manpower needed for implementing national programmes and the manpower requirements in the voluntary and private sector. In order to

realistically assess the health manpower availability, the CBHI initiated efforts to obtain reliable and accurate district-wise data on the number of medical, dental, ISM&H professionals, nursing and para professionals and institutions (centre, state, defence services, railways, private sector or voluntary sector). There has been very little progress in this effort; attempts to match the supply of health manpower with the requirement have not even begun. During the Tenth Plan, this database should be created so that decentralised district-based health manpower planning to meet the needs would become possible.

During the Tenth Plan under graduate and post graduate training should be reoriented to enable students to become competent professionals who can effectively implement programmes aimed at improving the health status of the population. The curriculum should be periodically reviewed and revised keeping with changing health care needs. Several states have established University of Health Sciences (UHS) to which all medical colleges, dental colleges, para professional and nursing colleges are affiliated. The University ensures uniformity in admission criteria, curriculum and evaluation system co-ordinates activities aimed at improving the quality of education. During the Tenth Plan

- all states should be encouraged to establish a UHS;
- Ninth Plan recommendation regarding setting up a commission on the pattern of University Grants Commission (UGC) to provide financial assistance to medical colleges to improve quality of education should be implemented

Implementation of the Ninth Plan recommendation that inspections by MCI would be necessary not only for initial recognition but also for continued recognition as medical colleges and admission of students, may go a long way in improving the quality of medical education.

During the Tenth Plan the changing requirements for para-professionals should be assessed at the district level and necessary steps be taken to meet the requirement through all available training channels. Preference should be given to the 10+2 vocational training courses because

- it would improve career prospects of the persons trained; and
- the problem of trained para professionals not staying in the place of posting will be reduced if training of students from the same district is done in the districts where there is a need for para professionals.

The UHS should ensure that appropriate curricula are evolved and followed. The state governments should amend the recruitment rules for these posts so that those who qualify through vocational courses and open university system become eligible for the jobs in the government, voluntary and private sectors. Efforts to set up paraprofessional councils and utilise the UHS to improve the standard of education and training of paraprofessionals should continue during the Tenth Plan period.

Continuing Medical Education (CME) to periodically update knowledge and skill should be mandatory to all health care providers. CME should focus on the ongoing and new national programmes, rational use of drugs, protocol for management of common ailments, quality control in clinical practice, infection control and waste management in health care settings. The proposal made by the National Academy of Medical Sciences to involve eminent professionals in intramural CME in these topics and making the proceedings accessible to all on website should continue to receive support during the Tenth Plan. Open Universities should also be involved and given a role of periodically updating the knowledge of various categories of health personnel in a cost effective and efficient manner.

PREVENTION AND MANAGEMENT OF COMMUNICABLE DISEASES

The following Ninth Plan strategies for improving communicable disease control programmes should be continued during the Tenth Plan:

- rectification of identified defects in design and delivery of diseases control programme;
- filling critical gaps in infrastructure and manpower;
- making service delivery responsive to user needs;
- ensuring that health care providers have the necessary skills and support, including referral facilities and supplies;
- improving community awareness, participation and effective utilisation of available services;
- use of PRIs in improving community participation and monitoring implementation of programmes.

During the Tenth Plan modalities to improve the delivery of services pertaining to malaria, tuberculosis and HIV infection through the existing health services should be worked out. Efforts should be made to improve states ownership of the programmes, participation of the community, private sector and NGOs. Local accountability and intersectoral co-ordination should be improved through the involvement of PRIs. Evaluation and operational research to rectify problems in implementation and improving efficiency should receive attention.

National Vector Borne Disease Control Programme

During the Tenth Plan the National Anti Malaria Programme currently dealing with malaria, filaria, kala-azar, japanese encephalitis and dengue should be implemented as National Vector Borne Disease Control Programme through the existing health care infrastructure.

The programme should focus on:

- training of health personnel in the diagnosis of vector-borne diseases and appropriate treatment including referral;

- improving reporting, recording and monitoring of vector-borne diseases, including cases treated in the private sector, so that reliable estimates of the prevalence of vector borne disease is available;
- monitoring drug and insecticide resistance;
- using standardised protocol for the diagnosis and management of these diseases;
- involvement of PRIs to:
    - chalk out the malaria worker's schedule;
    - inform the community and the gram sabha of the spraying operations and seek their cooperation;
    - ensure that insecticide spraying is started well in advance;
    - identify villages, which are at the risk of epidemic outbreak;
    - ensure the availability of staff as well as consumables for diagnosis and drugs for treatment;
    - ensure that the malaria worker/male multi-purpose worker identify fever cases, take blood smears and ensure that the community follows treatment advice.
    - ensure that smear positive cases are given radical treatment and monitor implementation of the programme;
- improvement in IEC at patient, family and community levels;
- involvement of NGOs and the private sector in diagnosis and treatment of malaria cases;
- encourage the pharmaceutical industry, manufacturers of insecticides and bednets to produce low cost products for local use; back up these efforts through IEC and social marketing.
- evaluate community acceptance of insecticide-treated bed nets/curtains for personal protection;
- research studies on
    - vector bionomics and behaviour
    - bio-environmental methods of vector control;
    - screening and development of new anti-malarial drugs especially herbal products;
    - evaluation of new drugs and insecticides;
- include malariagenic potential as a parameter for health impact assessment of developmental projects.
- exploring the cost effectiveness of the use of remote sensing for mapping the breeding habitats of mosquitoes and prediction of densities of vector species, especially in remote hilly and tribal areas.

In the Tenth Plan the programme should achieve the goals:

Malaria:

- ABER over 10 per cent
- API 1.3 or less
- 25 per cent reduction in morbidity and mortality due to malaria by 2007 and 50 per cent by 2010 (NHP 2002)

Kala azar

- Prevention of deaths due to kala azar by 2004 with annual reduction of at least 25 per cent

- Zero level incidence by 2007 with annual reduction of at least 20 per cent using 2001 as the base year
- Elimination of kala azar by 2010 (NHP 2002)

Revised National Tuberculosis Control Programme (RNTCP)

The Steering Committee recommended that during the Tenth Plan, the focus should be on:

- expansion of the RNTCP to cover population of over 800 million by 2004 and the entire country by the end of the Tenth Plan;
- involvement of medical colleges, TB hospitals, hospitals run by the armed forces, railways, corporate sector, NGOs and private practitioners in the programme;
- involvement of PRIs to ensure the availability of requisite staff;
- quality assurance of sputum microscopy and quality control of drugs;
- provision of sufficient stock of drugs and consumables in the PHCs/CHCs;
- facilitate referral;
- inform the community of time schedule for availing treatment;
- evaluation of RNTCP and operational research to improve performance; and
- research and development efforts to develop newer drugs to tackle drug resistance, testing of new generation of TB vaccines;

The NHP envisages a more than 85 per cent cure rate in new smear positive cases and 50 per cent reduction in mortality due to tuberculosis by 2010.

National Leprosy Eradication Programme

The Steering Committee recommended that during the Tenth Plan the prevalence of leprosy should be brought to less than 1/10,000 as a public health problem. The strategy to achieve this should focus on:

- completing horizontal integration of the programme into the general health care system by 2007. The personnel employed under the NLEP will be transferred to the states during the Tenth Plan;
- skill upgradation and redeployment of the over 30,000 leprosy workers and laboratory technicians so that existing gaps in male multi-purpose workers and laboratory technicians in PHC/CHS are filled and these workers get integrated into the primary health care system. This will result in improvement in all health programmes, including the leprosy programme;
- training of the existing personnel in primary health care institutions in the early detection and management of leprosy patient; identification and referral of those with complications;
- re-constructive surgery to improve functional status of individuals;
- inter-sectoral collaboration for rehabilitation of leprosy patients;

- increased involvement of PRIs/NGOs in the detection and management of leprosy patients; gram sabhas can facilitate house-to-house surveys by leprosy workers; and
- the panchayats can inform the community about institutions where facilities for treatment are available and facilitate referral.

National AIDS Control Programme

Phase II of the National AIDS control programme with funding from World Bank, DFID and USAID is currently should continue during the Tenth Plan with focus on:

- Reducing HIV transmission among poor and marginalized high risk group population by targeted intervention, STD control and condom promotion.
- Reducing the spread of HIV among the general population by reducing blood based transmission
- promotion of IEC, voluntary testing and counseling.
- Developing capacity for community based low cost care for people living with HIV/ AID
- Strengthening implementation capacity at the National, State and PRI level through appropriate arrangements and increasing timely access to reliable information
- Forging intersectoral linkages between public, private and voluntary sectors. The progress in all these efforts are being monitored.

During the Tenth Plan, the programme should be continued with emphasis on:

- prevention of mother-to-child transmission;
- reduction in blood-borne transmission and accidental infection in health care settings;
- care of HIV-infected persons/AIDS cases;
- prevention and management of STD; and
- improved surveillance to obtain epidemiological data on time trends in HIV infection.

Tenth Plan goals are to achieve:

- 80 per cent coverage of high risk groups through targeted interventions;
- 90 per cent coverage of schools and colleges through education programmes;
- 80 per cent awareness among the general population in rural areas;
- reducing transmission through blood to less than 1 per cent;
- establishing of at least one voluntary testing and counselling centre in every district;
- scaling up of prevention of mother-to-child transmission activities up to the district level; and
- achieving zero level growth of HIV /AIDS by 2007

Monitoring of processes and impact of ongoing intervention programmes and sentinel surveillance (serological, STD/behavioural) to monitor time trends in HIV epidemic should receive adequate attention.

Water Borne Diseases

During the Tenth Plan efforts should be made to:

- improve coverage under rational case management for diarrhoea/dysentery;
- explore the feasibility of monitoring the quality of water through public health engineering department and the PRIs;
- strengthen the diarrhoeal disease surveillance programme at the district level to detect and contain outbreaks;
- coordinate the efforts of the departments dealing with urban and rural water supply and sanitation, municipal corporations and PRIs for the prevention of water-borne diseases.

Disease surveillance

During the Tenth Plan, a comprehensive review of:

- disease surveillance programmes currently being implemented in the different states, under different disease control programmes and under the CSS project on disease surveillance;
- laboratory facilities available for investigation of epidemic prone diseases;
- reporting systems currently in use.

should be carried out. Efforts should be made to integrate ongoing programmes for disease surveillance and develop a comprehensive disease surveillance programme at the district level. The programme should:

- strengthen routine data collection at the village level for selected diseases; monthly reports should be prepared so that deviation from the normal pattern could be recognised early;
- information pertaining to epidemic prone diseases which are prevalent throughout the country e.g. diarrhoea, tetanus, diphtheria should be reported by all; region specific problem such as malaria, filaria, leptospirosis should be reported from the endemic areas;
- ensure regular compilation and critical analysis of data generated at the district level so that outbreaks are recognised early and investigated by district health officers and appropriate timely response is initiated ;
- use modern IT tools to communicate data on disease incidence on a real time basis, complete analysis at the state, regional and national levels and build up a mechanism for rapid and appropriate response.

Health Management Information System (HMIS)

During the Tenth Plan efforts should be made to ensure that effective two way management information system is built up through out the country; all the data pertaining to health and family welfare programmes are collected, collated and reported from all districts and utilised to improve functional status and efficiency of the health system. Efforts should also be made to build up a fully functional, accurate HMIS utilizing currently available IT tools; this real time communication link should send data on births, deaths, diseases, request for drugs, diagnostics and equipment and status of ongoing programmes through service channels within existing infrastructure and manpower and funding. It will also facilitate decentralized district based planning, implementation and monitoring.

Infection control and waste management in health care settings

The Steering Committee also recommended that during the Tenth Plan, hospital infection control and waste management should be incorporated as an essential routine activity in all health care institutions at all levels of care.

Horizontal Integration of Vertical Programmes

The National Health Policy 2002 envisages that progressive convergence of all health and family welfare programmes under a single field of administration beginning at district and below district levels for funding, implementation and monitoring. During the Tenth Plan, efforts should be mainly directed to improving the pace and coverage of this convergence. The recommendation of NHP 2002 that manpower in rural /urban health sytsem should be available for the entire gamut of public health activities at the decentralised level, irrespective of whether these activities relate to national programmes or public health activities initiated by state /PRI should be implemented.

PREVENTION AND MANAGEMENT OF NON-COMMUNICABLE DISEASES (NCD)

During the Tenth Plan, efforts should be made to improve preventive, promotive, curative and rehabilitative services for non-communicable diseases throughout the country at all levels of care so as to reduce morbidity and mortality. The major thrust should be on:

- a well-structured IEC&M for primary and secondary prevention of non-communicable diseases;
- re-orientation and skill upgradation of health care providers in diagnosis and management of non-communicable diseases at different levels of care;

- establishment of referral linkages between primary, secondary and tertiary institutions;
- production and provision of drugs for treatment of non-communicable diseases at affordable costs;
- development of institutions for rehabilitation of disabled persons, teaching persons to live with their disability;
- development of hospices for care of terminally ill people who cannot have home-based care; and
- creation of an epidemiological database on non-communicable diseases especially CVDs, stroke and diabetes.

National Cancer Control Programme (NCCP)

During the Tenth Plan, a major effort should be to made to sensitise and upgrade the skills of health care providers in the primary, secondary and tertiary institutions so that they can take up the responsibility of:

- health education for cancer prevention;
- early diagnosis and management according to standard treatment protocols at appropriate institutions; and
- referral of cancer patients with complications.

National Programme for Control of Blindness (NPCB)

During the Tenth Plan attempts should be made to:

- clear the backlog of blindness due to cataract by performing 4.5 million cataract operations per year. A majority of these should be done in fixed institutions; and wherever adequate facilities are available, Intra-Ocular Lens (IOL) should be used;
- improve the utilisation of facilities created in the government, private and voluntary sector to cope with the broader spectrum of eye care, including screening of children for refractive errors, diabetics for retinopathy and all persons beyond 35 years for glaucoma;
- develop a system for accreditation of centres providing eye care;
- improve the quality of care before, during and after surgery through operationalisation of standard protocols for management;
- monitor quality of care;
- modify the ophthalmology curriculum in both the undergraduate and postgraduate stages so that the students have the necessary skills to deal with common ocular problems at all levels of health care;
- develop an appropriate continuing medical education programme to enable practitioners to deal with emerging ophthalmic problems effectively.

Mental Health

The Steering Committee recommended that during the Tenth Plan the states should progressively improve access to mental health care services at the primary and secondary care levels to cover all the districts in a phased manner. Psychiatry departments in medical colleges should play a pivotal

role in the operationalisation and monitoring of the programme in the district in which they are located and synergistic links should be formed with other ongoing related programmes.

Accident and Trauma Services

During the Tenth Plan efforts should be made to strengthen primary, secondary and tertiary care institutions for trauma care through:

- adequate training to medical and paramedical personnel;
- provision of facilities for transport of patients;
- suitable strengthening of existing emergency and casualty services; and
- improving referral linkages.

Environment and Health

So far, the major focus of environmental health has been on the communicable disease burden due to poor environmental sanitation in urban and rural areas and methods to tackle these. These efforts should be intensified during the Tenth Plan. Emphasis should be laid on

- establishing cost-effective and environment friendly technologies for safe , sanitary disposal of solid waste and waste water;
- improvement in access to potable drinking water, especially in urban slums and remote rural areas.
- prevention and management of health consequences of environmental deterioration.

In the Tenth Plan period, efforts should also be made to fully operationalise the Ninth Plan recommendations that:

- health impact assessment should become a part of environmental impact assessment of all large developmental projects.
- health care of people involved in these projects; and the prevention and management of health consequences of the population living in the vicinity of the project should be met from the project budget.

During the Tenth Plan priority should be accorded to:

- monitoring, detection and alleviation of the macro environmental pollution;
- creation of national data base on environmental pollution and related health problems by linking the existing area specific environmental monitoring data with data on health status of the population living in these areas;
- epidemiological studies on the impact of the biomass fuel on the health status;
- health consequences of noise pollution;
- R&D efforts for produciing cleaner fuels form traditional material;

- development of biomarkers for long term bio-monitoring designed to detect changes in aquatic eco systems due to water pollution

Occupational Health

During the Tenth Plan the focus should be on:

- establishment of norms for work environment in organized, unorganized and agricultural sectors;
- monitoring the work environment for detection and correction of micro environmental pollution;
- monitoring of health status of workers;
- interventions aimed at prevention, early detection and effective management of health problems of workers, including occupational health problems; with special attention to health problems in women and children.

Drugs – production, quality and supply

During the Tenth Plan efforts should be made to:

- cover all states with expanded and strengthened essential drug programme
- adopt an online computer inventory control programme for the procurement and supply of drugs;
- establish a system to monitor cost, quality, availability and use of drugs;
- monitoring of all aspects of drug use including adverse drug reaction

During the Tenth Plan, the regulatory requirements pertaining to safety, efficacy and quality have to be effectively implemented by:

- strengthening the drug control machinery at the centre and in the states;
- strengthening quality assurance systems;
- making good manufacturing practices (GMP) mandatory for pharmaceutical houses; and
- enforcing stringent quality regulatory processes for the import of drugs.

Post-marketing surveillance, development of a self-sustaining and viable adverse drug reaction (ADR) monitoring and response at the national level should receive due attention.

Information, Education, Communication and Motivation (IEC&M)

During the Tenth Plan, attempts should be made to:

- review existing training programmes on health promotion/health education and make them more relevant;
- integrate the various health education programmes under different vertical programmes so that health personnel at each level of care provide comprehensive IEC to the population;
- involve PRIs and NGOs in health promotion/education and IEC&M;

- ensure the involvement of non-formal leaders in the community in order to make health promotion/ education/ IEC&M a people's movement.

Health Systems Research and Bio-medical Research

During the Tenth Plan, efforts to generate data on the health impact of the socio-economic, demographic and epidemiological transition on the health and nutritional status of the population should continue. Health system research which will enable the existing systems to provide appropriate health care using effective, inexpensive technology for detection and management of health problems and ensure equitable, economical, and efficient service delivery should receive priority. Clinical, and operational research in both the modern system of medicine and ISM&H should continue. Other important areas include new drug development, improved drug delivery system, harnessing emerging technologies in genomics for diagnosis and management of diseases. Appropriate bio-safety containment facilities have to be set up in selected laboratories in order to facilitate basic research on pathogenic microbes, storage, handling, cultivation of virulent pathogen strains and *in-vitro* and *in-vivo* screening of anti-microbials. Inter-agency collaboration will ensure optimal utilisation of available resources and avoid unnecessary duplication of efforts.

Health Care Financing

Health sector reforms during the Tenth Plan should focus on:

- addressing the issues of need and equity in access to health care;
- devising a targeting mechanism by which people below poverty line have ready access to subsidised health services to meet essential health care needs; while those from above the poverty line pay for the services both in government and private care facilities.

There is an urgent need to evolve, implement and evaluate an appropriate scheme for health financing for different income groups. Health finance options may include health insurance for individuals, institutions, industries and social insurance for BPL families.