TENTH FIVE YEAR PLAN 2002 – 2007

Content List

CHAPTER 2.8

HEALTH

Introduction

2.8.1 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. These institutions are 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 (Table 2.8.1).

Table 2.8.1: Time Trends (1951-2000) in Health Care

	1951	1981	2000
SC/PHC/CHC	725	57,363	1,63,181(99-RHS)
Dispensaries & Hospitals (all)	9209	23,555	43,322 (95-96-CBHI)
Beds (Pvt. & Public)	117,198	569,495	8,70,161 (95-96-CBHI)
Doctors (Modern System)	61,800	2,68,700	5,03,900 (98-99-MCI)
Nursing Personnel	18,054	1,43,887	7,37,000 (98-99-INC)
Malaria (cases in million)	75	2.7	2.2
Leprosy (cases/ 10,000 population)	38.1	57.3	3.74
Small Pox (no. of cases)	>44,887	Eradicated	
Guineaworm (no. of cases)		>39,792	Eradicated
Polio (no. of cases)		29709	265
Life Expectancy (Years)	36.7	54	64.6 (RGI)
Crude Birth Rate	40.8	33.9 (SRS)	26.1 (99 SRS)
Crude Death Rate	25	12.5 (SRS)	8.7 (99 SRS)
IMR	146	110	70 (99 SRS)

Source : National Health Policy - 2002

2.8.2 The extent of access to and utilization of health care varied substantially between states, districts and different segments of society; this to a large extent, is responsible for substantial differences between states in health indices of the population.

2.8.3 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 every year 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.

2.8.4 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.

2.8.5 As the country undergoes demographic and epidemiological transition, it is likely that larger investments in health will 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.

2.8.6 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.

APPROACH DURING THE TENTH PLAN

2.8.7 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 Progra-mme totally free of cost to all individuals and

- ☒ essential health care service to people below poverty line based on their need and not on their ability to pay for the services.

2.8.8 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 will be taken up. Different models of health care financing at the individual, family, institution and state level will be evolved, implemented and evaluated. Models found most suitable for providing essential health care to all will be replicated.

The focus during the Tenth Plan will 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 appro-priate referral linkages. These institutions will 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 will 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 compre-hensive 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 that 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 will send data on births, deaths, diseases, request for drugs, diagnostics and equipment and status of ongoing programmes through service channels within existing infra-structure 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 assess-ment in developmental projects;

- improving the safety of the work environment in organized and unorgani-sed 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.

HEALTH CARE SYSTEM

2.8.9 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.

2.8.10 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 - 2.8.1). Logistics of supply and HMIS are not operational in most states. During the Tenth Plan period, efforts will be made to reorganise health system, build up essential linkages between different components of the system so that there will be substantial improvement in functional status (Annexure - 2.8.2).

Primary Health Care Services

2.8.11 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.

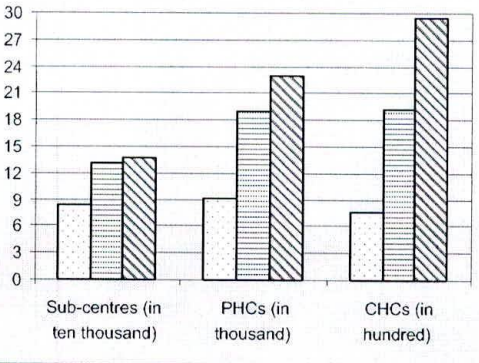
2.8.12 The government funded primary health care institutions include:

- the rural, modern medicine primary health care infrastructure created by the states (Figure 2.8.1) consisting of:

Subcentres	137271	(1/ 4579)
Primary Health centres	22975	(1/27364)
Community Health centers	2935	(1/214000)

- 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;

Figure 2.8.1 - Growth of Sub-centres, Primary Health Centres and Community Health Centres



Source: IAMR,2000.

- 23,028 dispensaries, 2,991 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.

2.8.13 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 post-partum centres is given in Annexure-2.8.3. Health manpower in government primary health care institutions is given in Annexure-2.8.4. 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.

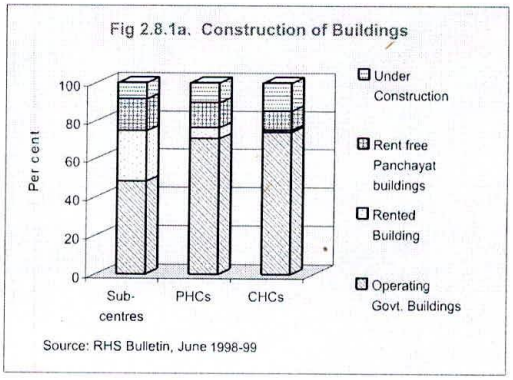
Sub-Centre

2.8.14 The Sub-centre(SC) is the most peripheral health institution available to the rural population. Even though the sub-centre/population norm 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 of 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 will, 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-2.8.4). 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 will be able to perform the task of MMPW in improving the coverage and quality of all health programmes.

Primary Health Centres (PHCs)

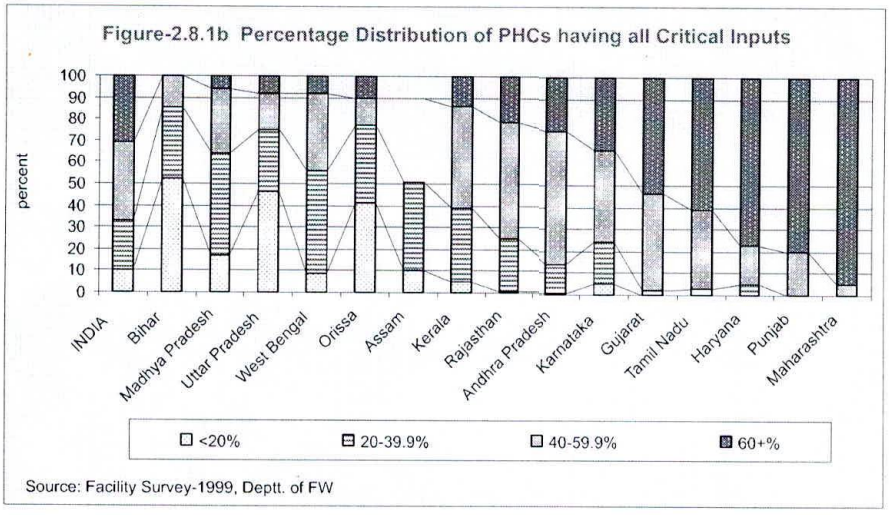
2.8.15 PHC is a referral unit for six sub-centres. All PHCs provide outpatient services; a majority have four to six in-patient beds. According to the norms they have one medical officer, 14 para-medical and other supporting staff. At the national level there are more than an adequate number of PHCs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

2.8.16 The number of SCs, PHCs and CHCs in their own building is shown in Figure 2.8.1a.



2.8.17 Facility Survey undertaken by the Depart-ment of Family Welfare in 1999 showed that a majority of the PHCs lack essential infrastructure and inputs (Figure-2.8.1b). Only 77 per cent had an infant weighing machine, 65 per 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).

2.8.18 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 care; 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

2.8.19 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 should 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.

2.8.20 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 reorganised and brought into the mainstream, given the 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.

2.8.21 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.

Tribal Health

2.8.22 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

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.

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 (Table-2.8.2).

Table:2.8.2
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

Health System Reforms at Primary Health Care Level during Ninth Plan

2.8.23 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 in which 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 will provide the last link. The PRIs will 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.

2.8.24 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 because quality of care may be suboptimal; and
- improving the logistics of supply of drugs and consumables – e.g. Tamil Nadu, Orissa.

2.8.25 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 and coverage are poor; pace of implementation is very slow and uneven across the states.

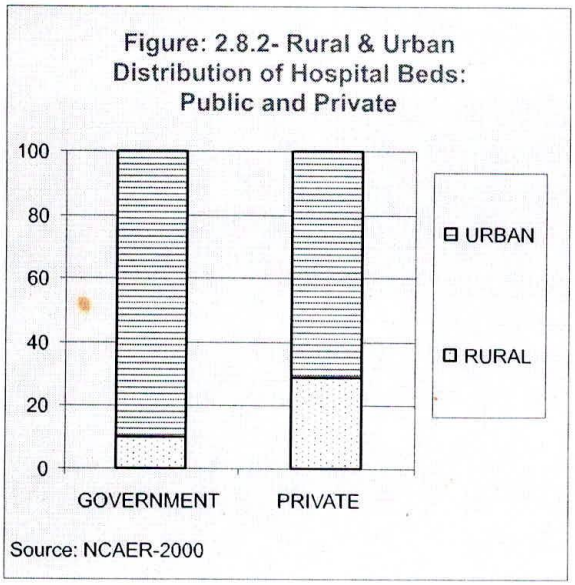
Urban Primary Health Care Services

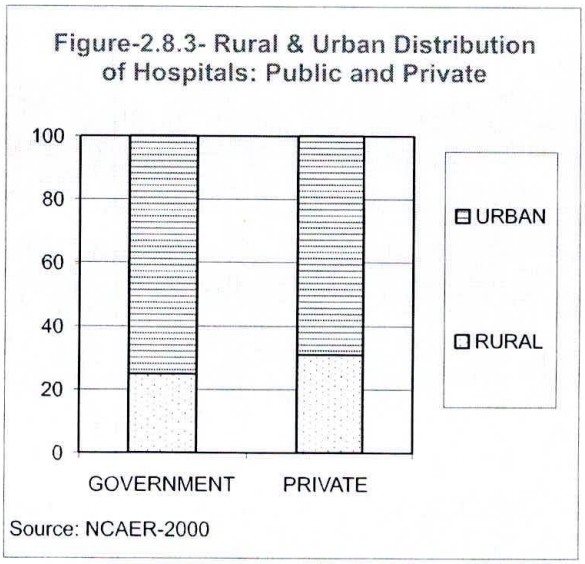
2.8.26 Nearly 30 per cent of India's population lives in the urban areas. Majority of the hospitals (Figure-2.8.2 & 2.8.3), doctors and para-professionals are in urban areas. Urban population is aware and has ready access to health care. Data from SRS, NFHS and other surveys indicate that health indices of the urban population are better than those of the rural population (Table-2.8.3). However, urban migration has resulted in rapid growth of urban slums; The slum population face greater health hazards due to over-crowding, poor sanitation, 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-2.8.3
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





2.8.27 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. As a result, in many areas primary health care facilities are not available; some of the existing institutions 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.

2.8.28 The Ninth Plan envisaged the development of a well structured net work 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 the 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.

Role of Panchayati Raj Institutions

2.8.29 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.

Initiatives during the Tenth Plan

2.8.30 During the Tenth Plan every effort will 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 will 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 will be recategorised as CHC/FRU and all hospitals and dispensaries without specialists will 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 2.8.1). As many of them are located in their own building and cannot be shifted out (Figure 2.8.1a). 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 will be number of the primary health care institutions required to meet the health care needs of the 1991 population as per the norms (Annexure 2.8.3). Opening new centers and construction of new centres will be undertaken only under exceptional circumstances.

2.8.31 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 will be fully implemented during the Tenth Plan.

2.8.32 In order to cope with the growing population/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 will be met by re-orientation, skill up gradation and redeployment of the existing manpower. For instance vacancies in

the posts of specialists in FRUs will 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 will be conditional on filling the vacancies in staff who are critical for improving performance under the national programmes. Mismatch between the equipment and personnel will be corrected by shifting equipment to centres which have the personnel to operate it or vice versa

2.8.33 Available funds will 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 will be used for maintenance and repair to ensure optimal functional status and improve quality of services.

Secondary Health Care

2.8.34 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 over-crowding 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 take care of 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.

2.8.35 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 diagnostic and therapeutic 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.

2.8.36 During the Tenth Plan priority will 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 infra-structure;
- 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.

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

Tertiary Health Care

2.8.38 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.

2.8.39 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.

2.8.40 During the Tenth Plan, the ongoing efforts at cost recovery from people above the poverty line will be encouraged and evaluated; models which improve the access of all segments of the population to appropriate care at an affordable cost will 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 will be made in the Tenth Plan to implement this recommendation, improve autonomy and encourage decentralised planning.

Development and Use of Appropriate Technologies

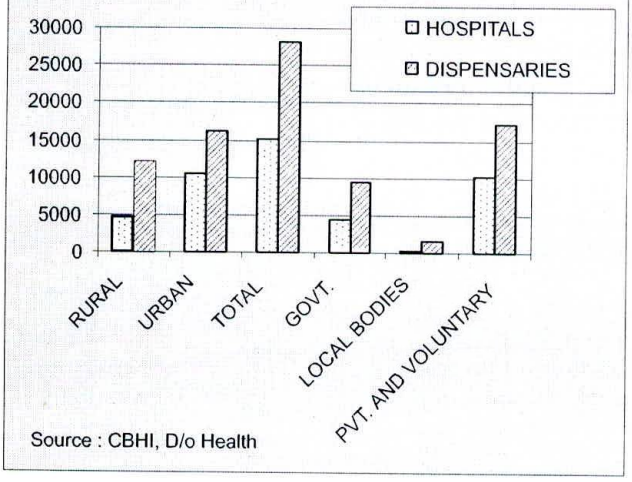
2.8.41 The development and utilisation of appropriate technologies for diagnosis and management of patients is an essential pre-requisite for an improvement in the quality of health services without unnecessary escalation in cost of health care. Realising the need for an in-depth review of the requirement for supportive and diagnostic services at primary, secondary and tertiary care a separate Working Group on this subject was constituted prior to the formulation of the Ninth Plan.

2.8.42 The Working Group's recommendations regarding diagnostic and supportive services appropriate for the primary and secondary levels and their maintenance were, to some extent implemented by some states. Efforts for the development and testing of inexpensive technologies for weighing, measurement of blood pressure, haemoglobin (Hb) estimation, hand held data entry machines to improve HMIS continue to receive support. Efforts to set up a national mechanism for the appraisal of the quality of new technologies will continue.

Public – Private Participation in Health Care

2.8.43 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.

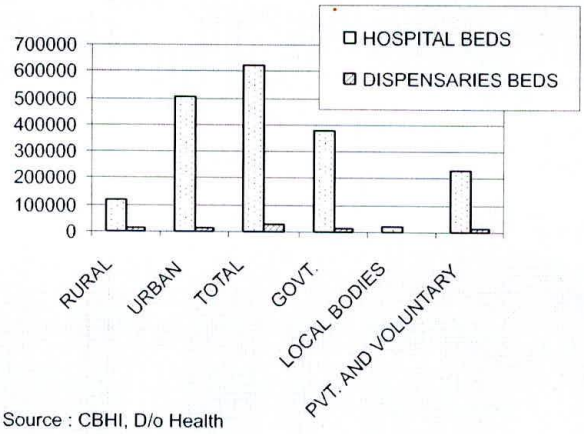
Figure 2.8.4 - Number Of Hospitals And Dispensaries



Source : CBHI, D/o Health

2.8.44 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 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 will be taken up and completed on a priority basis during the Tenth Plan.

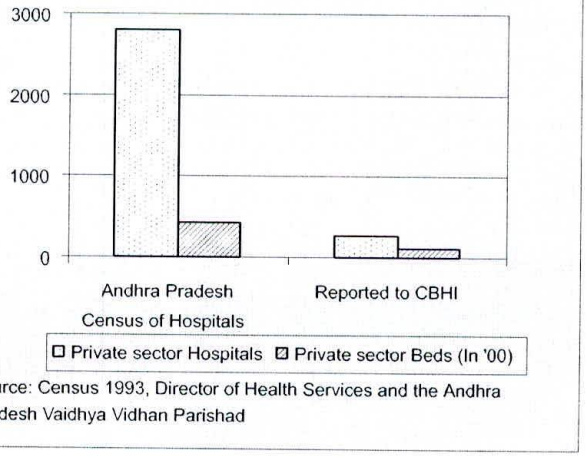
Figure 2.8.5 - Number of Hospital and Dispensary Beds



Source : CBHI, D/o Health

2.8.45 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 2.8.4 & 2.8.5. 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 2.8.6).

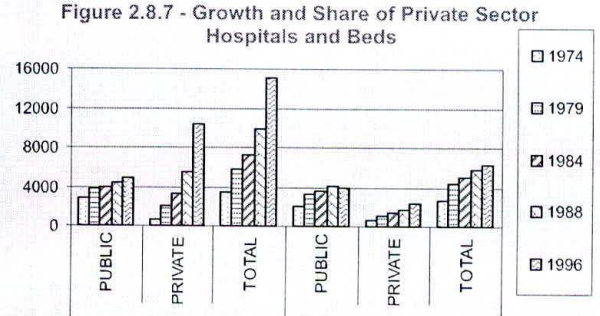
Figure 2.8.6 - Number of Hospitals and Beds in Private Sector



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

2.8.46 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 2.8.7. 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 2.8.7)

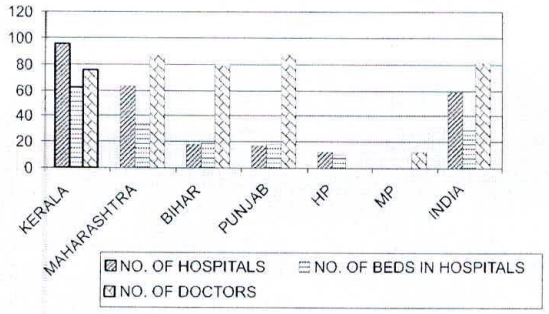
Figure 2.8.7 - Growth and Share of Private Sector Hospitals and Beds



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

2.8.47 Currently private sector health services range from those provided by large corporate hospitals, smaller hospitals/nursing homes to clinics/ dispensaries run by qualified personnel and services provided by unqualified practitioners. A majority of the private sector hospitals are small establishments with 85 per cent of them having less than 25 beds with an average bed strength of 10 beds. Private tertiary care institutions provi-ding 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 (Figure 2.8.8). The private sector accounts for 82 per cent of all

Figure 2.8.8 - Number of Hospitals and Beds in the Pvt. Sector

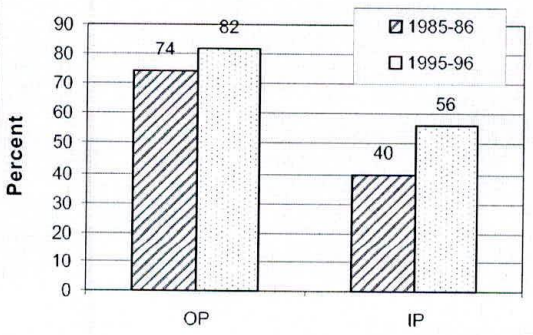


SOURCE : M. Uplekar, A. George, 1995 & 1996

outpatient visits and 52 per cent of hospitalisation at the all-India level (Figure 2.8.9), with no significant variations across income group.

2.8.48 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.

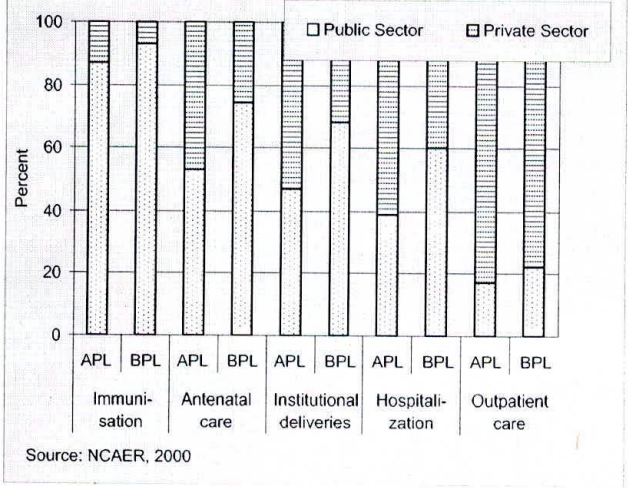
Figure 2.8.9 - Share of Private Sector of Outpatient & Inpatient Care



SOURCE : NATIONAL SAMPLE SURVEY, 42nd & 52nd ROUND

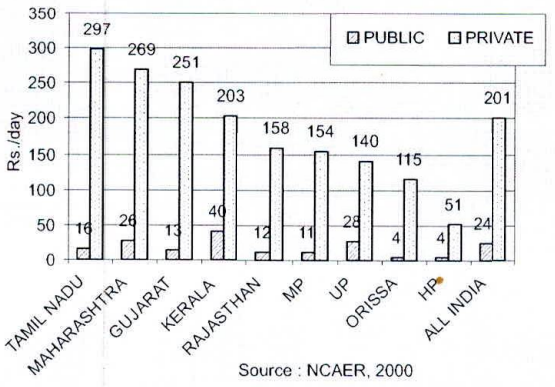
2.8.49 Majority of private sector institutions are single doctor dispensaries with very little infrastructure or paramedical support. They provide symptomatic treatment for common ailments and because they are conveniently located and easily accessible, patients from even below the poverty line utilize 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.

Figure 2.8.10 - Public and Private Sector Shares In Service Delivery For Those Above and Below Poverty Line. All India, 1995-96



Source: NCAER, 2000

Figure 2.8.11 - Average Hospital Charge per Inpatient Day by Public and Private Hospitals

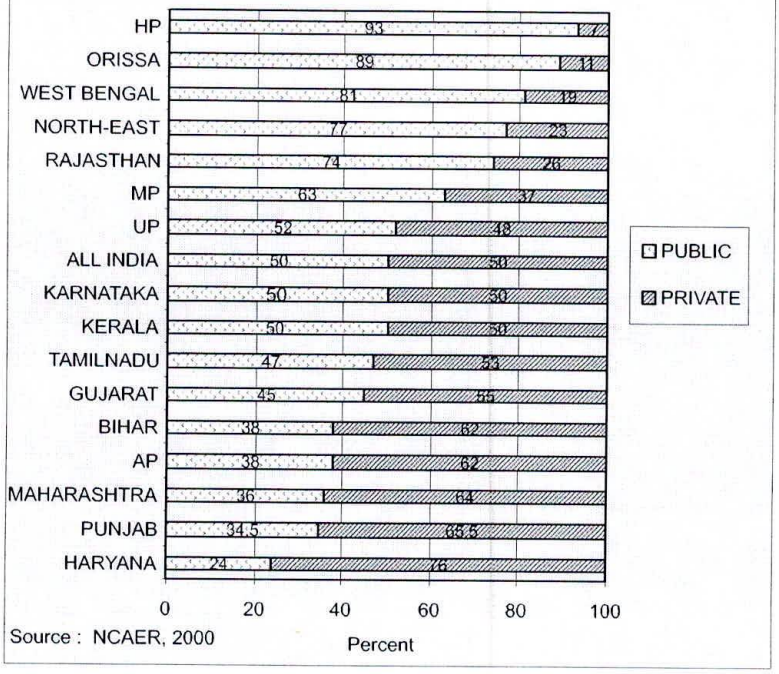


Source : NCAER, 2000

2.8.50 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 2.8.10).

2.8.51 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 2.8.11). 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.

Figure 2.8.12 - Distribution of Inpatients between Public and Private Hospitals



Source : NCAER, 2000

2.8.52 The state-wise distribution of in-patients in public and private hospitals is given in Figure 2.8.12. In spite of good government sector infra-strucure, 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 infra-structure. 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.

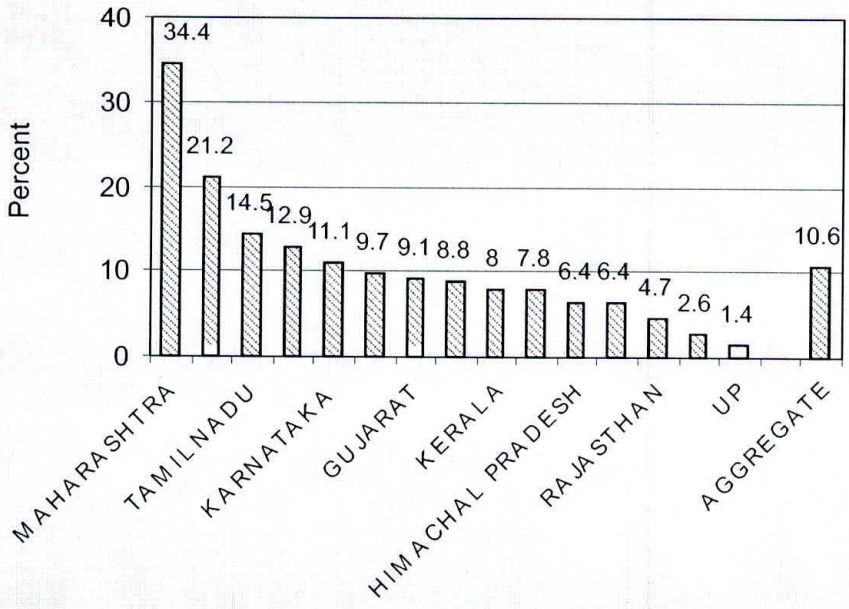
NGO and Voluntary Sector

2.8.53 Apart from purely private providers of health care, the NGOs 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-2.8.13). 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/ 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.

2.8.54 Some of 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.

Figure-2.8.13 - Percentage of Villages with NGOs, 1994



SOURCE : AJAY MAHAL, 1999

Ongoing Efforts in Public - Private Collaboration in Health Care

2.8.55 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 will 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:

- in most of the 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 profit institutions in the leprosy eradication programme,

involvement of private practitioners/institutions in the blindness control programme and the NGOs in 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 will provide in-patient/out-patient services to poor patients free of charge. The experience in this has been varied; several problems being reported;
- ✉ private practitioners provide information for disease surveillance in some districts in Kerala.

2.8.56 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 will 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 up health facilities in such areas will be explored. Monitoring the implementation of these programmes along with the PRIs and local leaders will go a long way in ensuring accountability.

2.8.57 Since private practitioners provide most of the curative care in the country, it is important that they are given ready access to updated proto-cols 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. If this is done, private practi-tioners can play an important role in increasing the coverage as well as containing the cost of care.

2.8.58 One essential pre-requisite for improving the quality of care will 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 will have to take up the responsibility of testing these management protocols and suggest necessary modifications. These protocols will 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 will be 'model institutions', will 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 will 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.

2.8.59 During the Tenth Plan appropriate policy initiatives will 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 will 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

2.8.60 Assessment of the quality of health care is often thought to be a value judgement 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. Health care quality evaluation includes safety, effectiveness and timeliness of interventions. It must also include assessment of the performance of the system 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.

Introduction of Quality Control System in India will:

- ⊠ prevent overuse, under-use, abuse and misuse of facilities;
- ⊠ improve effectiveness and efficiency;
- ⊠ help to make positive outcomes more likely;
- ⊠ help in effective and responsible use of resources;
- ⊠ minimise barriers to appropriate care at different levels by matching the levels of care to the level of need;
- ⊠ bring accountability into the health system; and
- ⊠ ensure that optimum use is made of every rupee invested.

2.8.61 During 1990s, some initiatives were taken to address issues relating to quality of care e.g. inclusion of health sector under the Consumer Protection Act. Some states have attempted to provide a legal framework for the functioning of private health care 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.

2.8.62 During the Tenth Plan quality control concepts and tools will 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.

HUMAN RESOURCE DEVELOPMENT FOR HEALTH

2.8.63 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.

2.8.64 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

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 and 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.

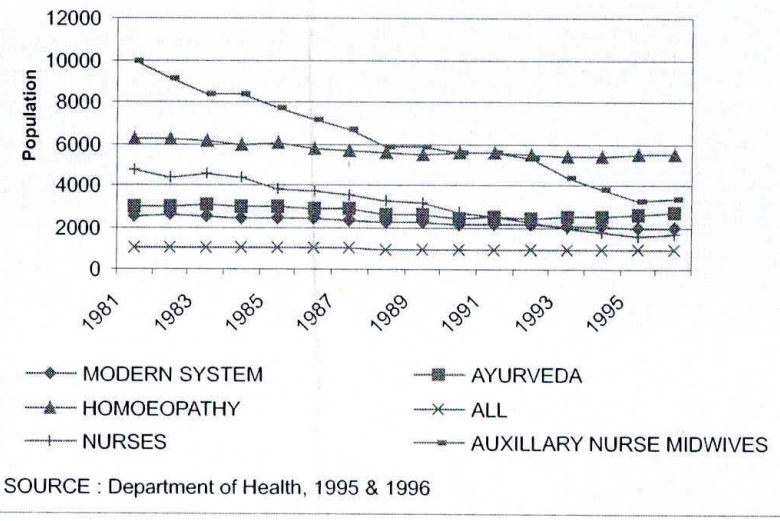
decades later there are 181 medical colleges in the modern system of medicine and over 400 ISM&H colleges. The country produces over 17,000 doctors in modern system of medicine annually and a similar number of ISM&H practitioners, nurses/ANMs as well as para professionals. A vast health care infrastructure 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 compulsory for health professionals and preference is given for those opting for rural services in post-graduate courses. The sustainability and impact of these measures are yet to be evaluated.

2.8.65 During the Tenth Plan medical education will have newer opportunities and challenges. The country has to train 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

2.8.66 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

Figure 2.8.14 - Health Care Provider-population Ratio



SOURCE : Department of Health, 1995 & 1996

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 2.8.14.

2.8.67 The Ninth Plan envisaged that health manpower planning will be based on the district-specific assessment of available manpower and facilities and 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

2.8.68 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 5,39,00 MBBS doctors were registered with the Medical Council of India (MCI) till 2000. At the national level, the number of physicians and specialists available is more than the estimated requirements. 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.

2.8.69 There are massive interstate differences in health indices, health care institutions 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.

2.8.70 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 and co-ordinates activities aimed at improving the quality of education. During the Tenth Plan all states will be encouraged to establish a UHS.

2.8.71 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.

2.8.72 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. Implementation of 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

2.8.73 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. As in the case of medical colleges, there are regional imbalances in the distribution of dental colleges. 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 need for dental paraprofessionals and take steps to meet the requirements.

Nursing Manpower

2.8.74 Around 7.37 lakh nurses have been registered in the various state nursing councils in the country; 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 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.

Paramedical Staff

2.8.75 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 has been cited as a major factor responsible for poor performance of the tuberculosis and malaria control programmes. 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.

2.8.76 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.

2.8.77 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 council and utilise the UHS to improve the standard of education and training of paraprofessionals will continue during the Tenth Plan period

Continuing Medical Education (CME)

2.8.78 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

2.8.79 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 practising 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.

2.8.80 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 in other regions so that patients could benefit from tele-consultations.

PREVENTION AND MANAGEMENT OF COMMUNICABLE DISEASES

2.8.81 The control of communicable diseases has received priority attention right from independence. Effective antibiotic therapy for infections and

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's 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.

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; increasing attention is urgently needed for prevention of hospital acquired infections 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.

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

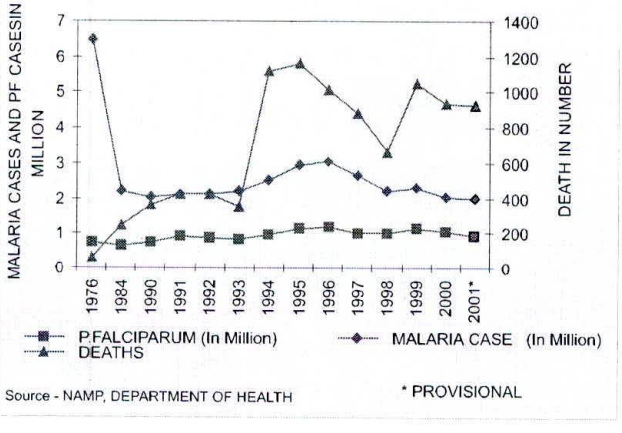
National Vector Borne Disease Control Programme

2.8.83 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 will be implemented as National Vector Borne Disease Control Programme.

Malaria

2.8.84 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 cases

Figure 2.8.15 - Total Malaria Cases & Deaths



Source - NAMP, DEPARTMENT OF HEALTH

* PROVISIONAL

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 2.8.15).

2.8.85 In view of the high incidence of malaria (particularly of falciparum malaria) and high mortality, 100 per cent central assistance under the

Ninth Plan strategy

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

Target for 2002

- ☒ ABER of over 10 per cent
- ☒ API of less than 0.5 per cent
- ☒ 25 per cent reduction in morbidity and mortality due to malaria

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

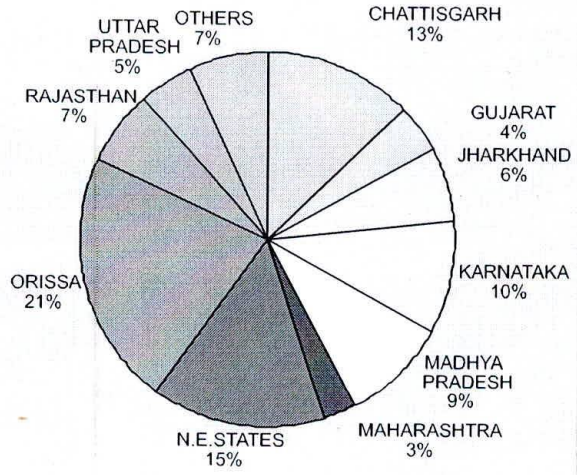
Strategies for vector control include:

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

state governments require. The state governments meet the operational cost, including the salaries.

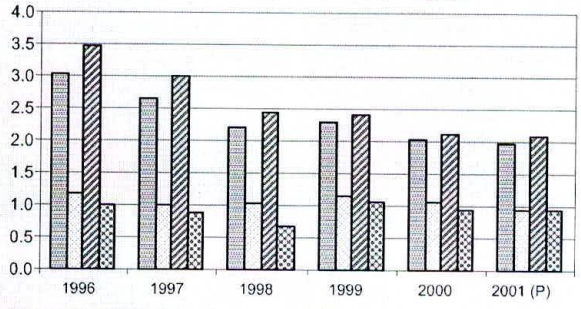
2.8.86 The percentage distribution of malaria cases in various states is given in Figure 2.8.16. The performance during the Ninth Plan period is shown in Figure 2.8.17. The decline in cases was not commensurate with the substantial increase in the funding for the activities. The rising proportion of P. falciparum malaria, increasing vector resistance to insecticides and the growing parasite resisitance to chloroquin will render malaria containment and control more difficult in the Tenth Plan period. The Ninth Plan goal for reduction in API and morbidity has not been achieved (Figure 2.8.17). The programme review by the Government of India and the World Bank showed that progress

Figure 2.8.16 - Percentage Distribution of Malaria Cases - 2001



Source : NAMP, D/o Health

Figure 2.8.17 - National Anti Malaria Programme



Source : NAMP, Deptt of Health

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 2.8. 4)

Table 2.8.4
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

2.8.87 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.

2.8.88 The strategy for control of 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 (Table 2.8.5) have not shown significant decline during the Ninth Plan period. 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 have been reported from Bihar.

Dengue/Japanese Encephalitis (JE)

2.8.89 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

Table 2.8.5
Cases and Deaths due to Kala-Azar

Year	Bihar		West Bengal		Country	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
1996	25056	674	NA	NA	27049	687
1997	15948	251	1450	3	17429	255
1998	12229	211	1113	6	13577	226
1999	11627	277	1091	6	12869	297
2000 (P)	12039	124	950	8	14239	132

Source: Report of the Working Group on Communicable Diseases for the Tenth Plan. P-Provisional

shock syndrome and dengue haemorrhagic fever (DHF). 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. 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 2.8.6.

Table 2.8.6
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.

Filariasis

2.8.90 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.

2.8.91 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 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 will be evaluated and, if found feasible, they will be replicated. The Government of India is a signatory to the UN resolution to eliminate lymphatic filariasis by 2020. The National Health Policy (NHP), 2002 envisages the elimination of lymphatic filariasis by 2015.

Tenth Plan Initiatives

2.8.92 During the Tenth Plan, the National Vector-Borne Disease Control Programme will be implemented through the existing health care infrastructure. The programme will 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.

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)

Revised National Tuberculosis Control Programme (RNTCP)

2.8.93 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 progressive increase in primary and acquired multi-drug resistant cases of tuberculosis.

2.8.94 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 appro-priate 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 seeking health care, 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. Introduction of 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.

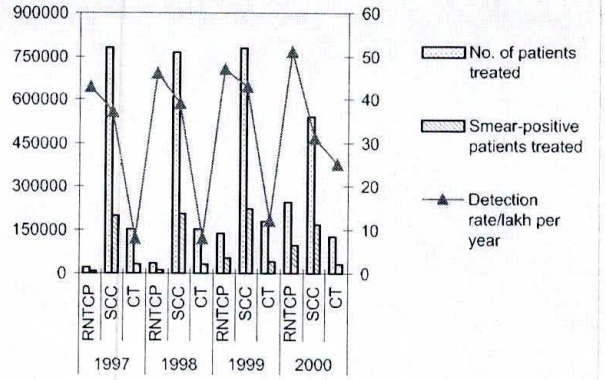
2.8.95 There were delays in the initiation of the RNTCP but a rapid scale-up of the programme began in late 1998. According to programme reports:

- 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.
- 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.

2.8.96 The performance under RNTCP during the Ninth Plan is given in Figure 2.8.18. 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:

Figure 2.8. 18 - Tuberculosis Detection and Treatment in India



Source: RNTCP, Department of Health

- 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.

2.8.97 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-2.8.7).

Table 2.8.7
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 will 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 pro-gramme;
- 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;

2.8.98 The NHP envisages a 50 per cent reduction in mortality due to tuberculosis by 2010. Goals for the tenth plan are indicated in Table 2.8.8.

Table 2.8.8
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 to be examined (Million)	2.08	2.50	3.04	3.42	3.80	4.07
Total Number of patients to be put on treatment under RNTCP (Million)	0.52	0.61	0.75	0.85	0.94	1.00
New smear positive patients to be 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

National Leprosy Eradication Programme (NLEP)

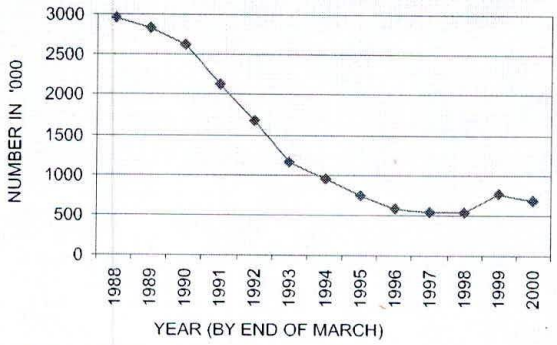
2.8.99 Leprosy has been a major public health problem in India. In 1984 it was estimated that there were nearly four million cases of leprosy in the country, 15 per cent of whom were children. Recognising that leprosy is a major cause of disability and the infected persons face social ostracism, several 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. 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.

2.8.100 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 2.8.19). 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;

Figure 2.8.19 - Prevalence of Leprosy Cases (1988-2000)

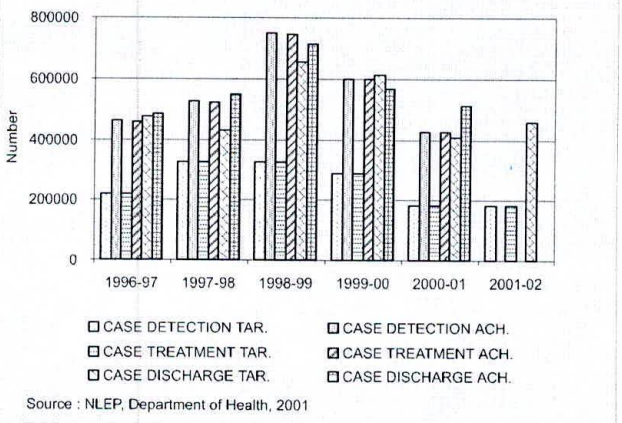


Source: NLEP, Department of Health, 2001

- ☒ 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).

2.8.101 The performance of the NLEP during the Ninth Plan is shown in Figure 2.8.20. 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.

Figure 2.8.20 - National Leprosy Eradication Programme



Source : NLEP, Department of Health, 2001

Outlays and utilisation of funds during the Ninth Plan period is shown in Table 2.8.9.

Table 2.8.9
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.

2.8.102 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.

2.8.103 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.

2.8.104 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 2.8.10.

2.8.105 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 infra-structure.

2.8.106 The NLEP 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

Table – 2.8.10
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 1998-99PR – Prevalence rate/10,000.

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.

2.8.107 The Tenth Plan goal is to eliminate leprosy as a public health problem by bringing prevalence to less than 1/10,000. The strategy to achieve this will 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 pro-gramme;
- ⊠ 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

2.8.108 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.

2.8.109 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 Acquired Immuno-Deficiency Syndrome (AIDS) was perceived as a rapidly fatal disease affecting young persons; 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, family, community and the country.

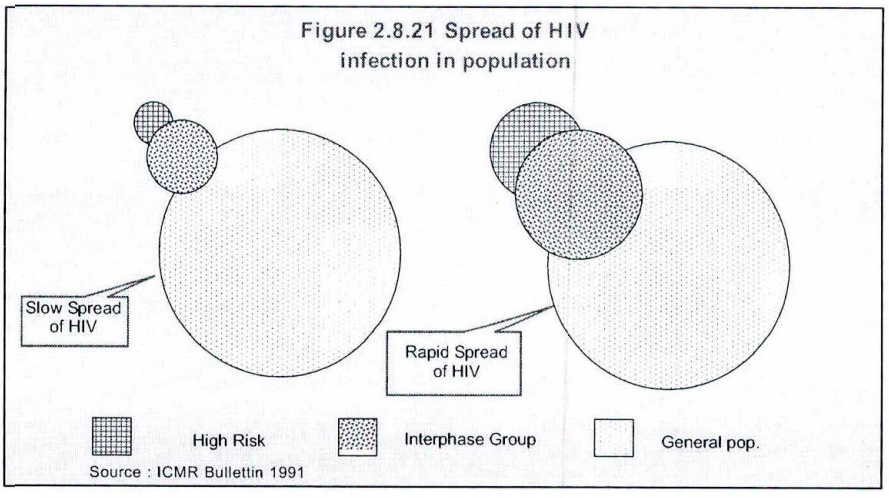
2.8.110 The load of HIV infection in the community depends upon the prevalence of infection in three groups of population – the high-risk group, the interphase group and the low risk group. The high risk group (HRG) is a relatively small group e. g. commercial sex workers, intravenous (IV) drug users. 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 mainly from spouses who have multiple sex partners. The size of the three groups and the extent of the interphase between them determines 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 (Figure 2.8.21). Global epidemiological data on HIV infection indicate that soon after the introduction of the infection in the community seropositivity rates are low. In the next phase the infection spreads to susceptible persons in vulnerable groups resulting in steep rise in seropositivity rates. Finally in the third phase the sero positivity rates plateau when the number of persons who get infected is similar to the number 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.

2.8.111 India has the distinction of initiating a 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 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.

2.8.112 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 2.8.21 Spread of HIV infection in population



Source : ICMR Bullettin 1991

(Figure 2.8.22). 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.

2.8.113 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:

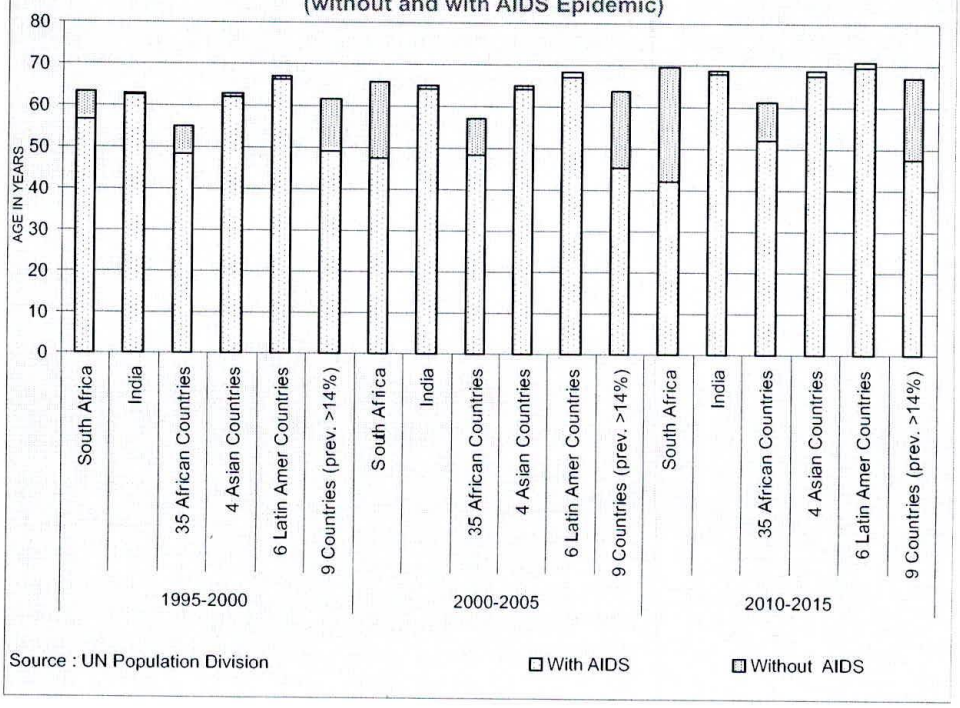
- reducing HIV transmission among the poor and marginalised high risk group population by targeted intervention, STD control and condom promotion;
- reducing the spread of HIV among the general population by reducing blood-borne transmission;

Capacity building

- Awareness generation among all segments of population through Family Health Awareness campaigns;
- Focused attention and counselling to adolescents, sex workers, drug users, migrant labourers;
- 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.

- promotion of IEC, voluntary testing and counselling;
- developing capacity for community-based low cost care for people living with HIV/AIDs;

Figure 2.8.22 - Life Expectancy at Birth in Different Countries (without and with AIDS Epidemic)



Source : UN Population Division

Infrastructure set up by NACO

Modernisation and strengthening of :

- 815 blood banks;
- 504 STD clinics in district hospitals;

Establishment of :

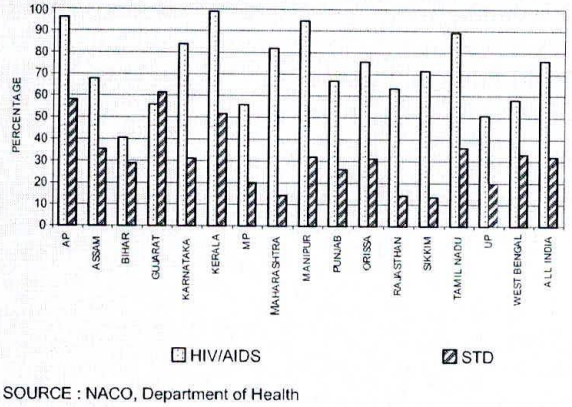
- 40 blood component separation facilities;
- 142 voluntary blood testing centers;
- 320 sentinel sites for monitoring the time trends in prevalence of HIV infection;
- 570 targeted intervention for prevention and management of HIV infection in high risk groups;
- low cost community based care for people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

2.8.114 The recently concluded behavioural survey and the NFHS-2 (1998-99) have shown that over two-third of the population knows about HIV infection. There are considerable urban-rural and inter-state differences. Awareness about STD was much lower than that about HIV infection (Figure-2.8.23). The outlay and expenditure on National AIDS Control Programme during the Ninth Plan is given in Table 2.8.11.

Figure 2.8.23 - Proportion 0f Respondent Who Had Ever Heard of HIV/AIDS and STD



SOURCE : NACO, Department of Health

Table 2.8.11
AIDS Control Programme - Outlays & Expenditure (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.

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

- prevention of mother-to-child trans-mission;
- reduction in blood-borne trans-mission 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.

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

2.8.117 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 for traditional activities of the health sector such as prevention, detection, counselling and management, but also for 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 will look after area of 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 to take care of children who have lost their parents due to AIDS. If each sector takes up the tasks pertaining to that, the country will be able to look after the needs of HIV infected persons and their families without any adverse effect on other programmes.

2.8.118 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 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;
- achieving zero level increase of HIV /AIDS prevalue by 2007.

Water Borne Diseases

2.8.119 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.

2.8.120 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 chronicity 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.

2.8.121 During the Tenth Plan, efforts will 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.

Ninth Plan Initiatives

Disease surveillance

2.8.122 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.

2.8.123 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.

2.8.124 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.

2.8.125 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 North Arcot District (NADHI) in Tamil Nadu 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.

2.8.126 During the Tenth Plan, a comprehensive review of:

- disease surveillance programmes currently being implemented in 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.

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

- strengthen routine data collection at the village level for selected diseases; monthly reports will 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 will be reported by all; region specific problem such as malaria, filaria, leptospirosis will 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)

2.8.127 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. 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 will 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 will be collected, collated and reported from all districts and utilised to improve functional status and efficiency of the health system. Efforts will also be made to build up a fully functional, accurate HMIS utilizing currently available IT tools; this real time communication link will 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.

Disease Burden Estimates

2.8.128 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, 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. The estimated share of 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 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 diseases emerge as major public health problems. In view of this,

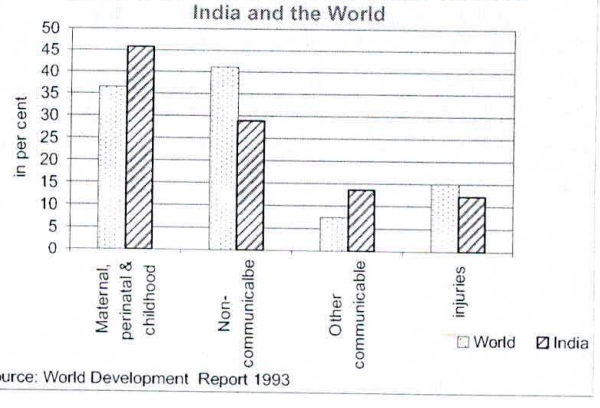
India's share in global health problems

- 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 per cent of leprosy cases
- 30 per cent of tuberculosis cases
- 10 per cent of HIV infected persons

there is a need to obtain data on not only mortality but morbidity due to chronic illnesses and disabilities and take them 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.

2.8.129 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 Organi-sation 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 2.8.24. Disease burden due to four major diseases in different

Figure-2.8. 24- Distribution of Disease Burden in India and the World



Source: World Development Report 1993

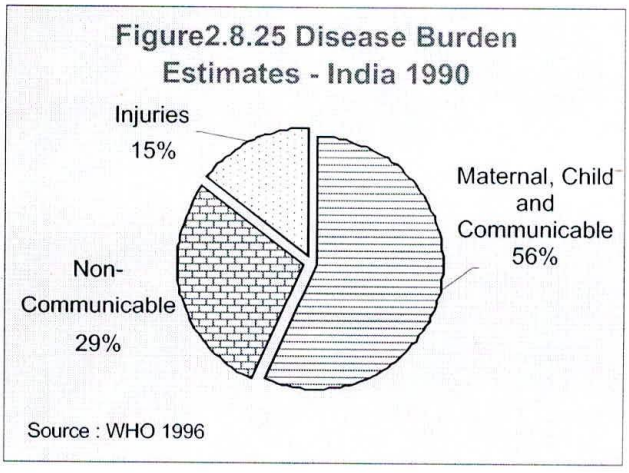
Table 2.8.12
Burden for four major diseases (millions of DALYs)

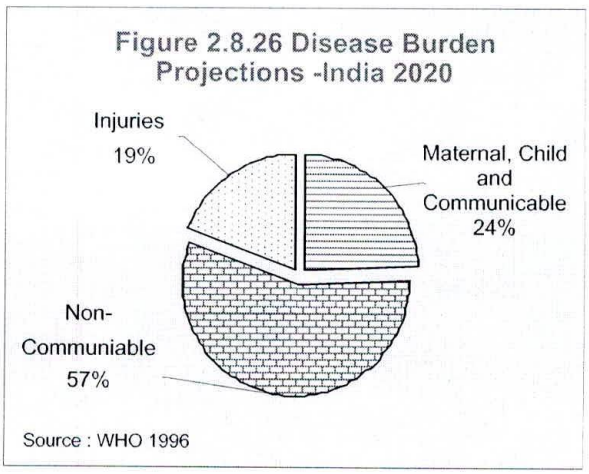
Disease and sex	Age (years)					
	0-4	5-14	15-44	45-59	60+	Total
Diarrhea						
Male	42.1	4.6	2.8	0.4	0.2	50.2
Female	40.7	4.8	2.8	0.4	0.3	48.9
Worm infection						
Male	0.2	10.6	1.6	0.5	0.1	13.1
Female	0.1	9.2	0.9	0.5	0.1	10.9
Tuberculosis						
Male	1.2	3.1	13.4	6.2	2.6	26.5
Female	1.3	3.8	10.9	2.8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

age and sex population computed by WHO is in Table 2.8.12.The fact that while estimates regarding mortality are reasonably adequate, the estimates of morbidity based on the available data from the developing countries are often inadequate haas to be kept in mind while interpreting these global data.

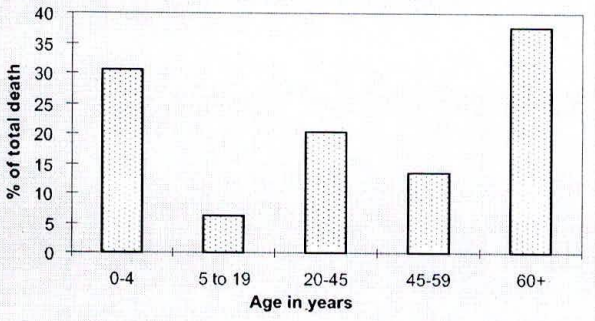
2.8.130 Using the 1990 database (Figure 2.8.25) and assuming that the trends in epidemiological transition achieved by other countries during the previous two decades will occur in India, the changing pattern of disease burden for 2020 was also computed by WHO (Figures 2.8.26). However, data from National 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 2.8.27) or cause of death. It would appear that the epidemiological transition is occurring at the slower pace than projected for the country. This is perhaps due to persistent 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 in health indices, morbidity rates, magnitude and rate of demographic and epidemiological transition. Under these conditions, it is important to :

Figure 2.8. 27 Distribution of Deaths (%)



Source: SRS1997

- ascertain and document morbidity and mortality due to major health problems in different states/ districts;
- evolve appropriate intervention 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.

2.8.131 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 bringing about modifications in the existing health system to ensure equitable, efficient and effective implementation of the programmes to tackle dual disease burden.

Infection Control and Waste Management in Health Care Settings

2.8.132 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 will be incorporated as an essential routine activity in all health care institutions at all levels of care.

Horizontal Integration of Vertical Programmes

2.8.133 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 compre-

hensive 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.

2.8.134 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 will be mainly directed to improving the pace and coverage of this convergence. The NHP 2002 envisages 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.

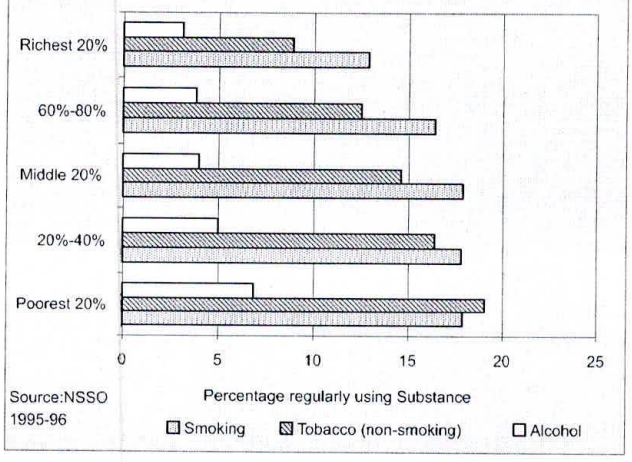
PREVENTION AND MANAGEMENT OF NON-COMMUNICABLE DISEASES (NCD)

2.8.135 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.

2.8.136 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 2.8.28) 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

Figure 2.8.28 Prevalence of Alcohol and Tobacco use in India by Income Quintile



will 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 per 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 of diabetes and impaired glucose tolerance in 12.1 per cent and 14.0 per cent respectively, with no gender difference.

2.8.137 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.

2.8.138 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.

2.8.139 During the Tenth Plan, efforts will 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 will 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)

2.8.140 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.

2.8.141 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 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.

2.8.142 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 RCCs 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.

2.8.143 The ICMR established a National Cancer Registry Programme (NCRP) in 1981–82, there are 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.

2.8.144 During the Tenth Plan, a major effort will 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)

2.8.145 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

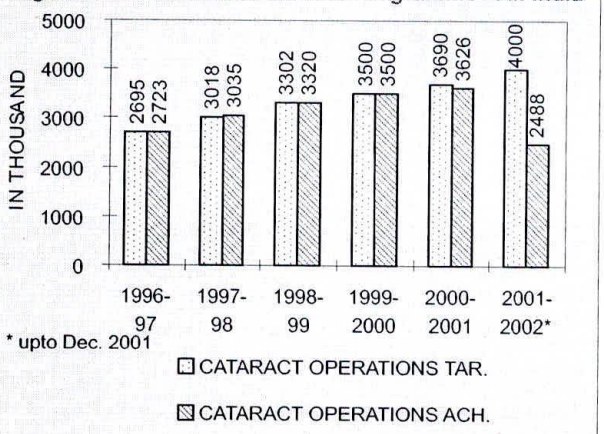
India-WHO survey in 1986-89 showed that prevalence of blindness remained unaltered. Prevalence of blindness was higher than the national average of 1.4 per cent in eight states (Andhra Pradesh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and Jammu and Kashmir).

2.8.146 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.

2.8.147 During the Ninth Plan, the programme was revised to cover the entire country. The performance during the Ninth Plan is given in Fig. 2.8.29. Outlays and expenditure under the NPCB is shown in Table 2.8.13.

Figure 2.8.29 Blindness Control Programme - All India



Source : Deptt. of Health

Table 2.8.13
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.

2.8.148 The review of the World Bank assisted project in 2000 showed that even though infra-structure 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

2.8.149 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 assess-ment 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/ 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 will take up only screening of cases and provide follow up care.

2.8.150 A pilot survey carried out in 1999 in two districts showed that there has been a shift in the

causes of blindness (Table 2.8.14). The NPCB will have to 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 2.8.14
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

2.8.151 During the Tenth Plan, attempts will made to:

- clear the backlog of blindness due to cataract by performing 4.5 million cataract operations per year. A majority of these will be done in fixed institutions; and wherever adequate facilities are available, Intra-Ocular Lens (IOL) will 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

2.8.152 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.

2.8.153 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.

2.8.154 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 to 3,000 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.

2.8.155 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.

2.8.156 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.

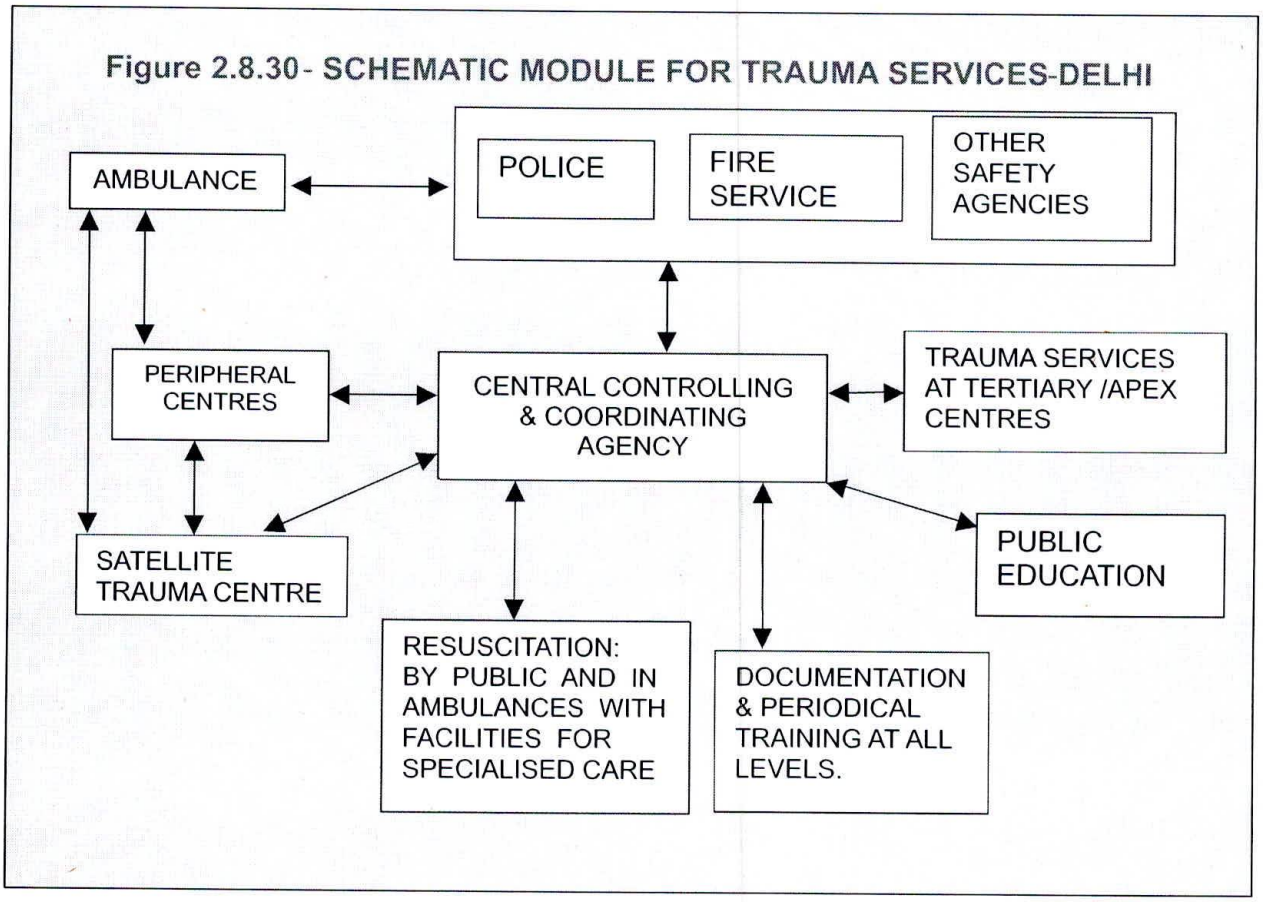
2.8.157 Following encouraging results, the programme was expanded during the Ninth Plan to 22 districts in 20 states. It was envisaged that decentralised district-based training in essential mental health care will be provided to all health professionals so that psychiatric care will be provided in all 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.

2.8.158 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 to cover all the districts in a phased manner. Psychiatry departments in medical colleges will play a pivotal role in the operationalisation and monitoring of the programme in the district in which they are located and synergistic links will be formed with other ongoing related programmes.

Accident and Trauma Services

2.8.159 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

Figure 2.8.30 - SCHEMATIC MODULE FOR TRAUMA SERVICES-DELHI



substantially reduce mortality, morbidity and disability due to accidents, trauma and poisoning. At present there is no 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 multi-disciplinary trauma care system. A conceptual model (Figure 2.8.30) 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.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.

2.8.160 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.

2.8.161 **During the Tenth Plan** efforts will 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

2.8.162 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.

2.8.163 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 will be intensified during the Tenth Plan. Emphasis will 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.

2.8.164 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 will be made to fully operationalise the Ninth Plan recommendations that:

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

2.8.165 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 safe-guards, 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 providing 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.

2.8.166 During the Tenth Plan priority will 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 from traditional material;
- development of biomarkers for long term bio-monitoring designed to detect changes in aquatic eco systems due to water pollution.

Occupational Health

2.8.167 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. However, both coverage and quality of 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 agri-cultural 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.

2.8.168 Not much progress was achieved during the Ninth Plan. During the Tenth Plan the focus will 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

2.8.169 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. 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;
- the absence of treatment protocols for common diseases leading to unnecessary and irrational drug prescriptions; and
- poor compliance with the prescribed regimen due to lack of awareness and counselling.

2.8.170 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.

2.8.171 Research and monitoring of all aspects of drug use including adverse drug reaction were attempted.

2.8.172 During the Tenth Plan efforts will be made to:

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

2.8.173 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 manufacturing of 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 manu-facturing units and poor quality control have led to spurious and poor quality drugs reaching the market. The revised National Drug Policy 2001 had reviewed the situation and suggested remedial measures.The limit for the situatory foreign direct investment in the phar-maceutical 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.

2.8.174 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.

2.8.175 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.

2.8.176 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)

2.8.177 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 participatory 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.

2.8.178 During the Tenth Plan, attempts will 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; and
- ensure the involvement of non-formal leaders in the community in order to make health promotion/ education/ IEC&M a people's movement; and

Public Health

2.8.179 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; and
- medical care services manned by health professionals and paraprofessionals providing promotive, preventive, curative and rehabilitative care to individuals.

2.8.180 In the post-independence period, tasks relating to civic services infrastructure and environment got transferred to other departments dealing with urban and rural development, environment and forests. Medical care also underwent changes. Specilaists 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.

2.8.181 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.

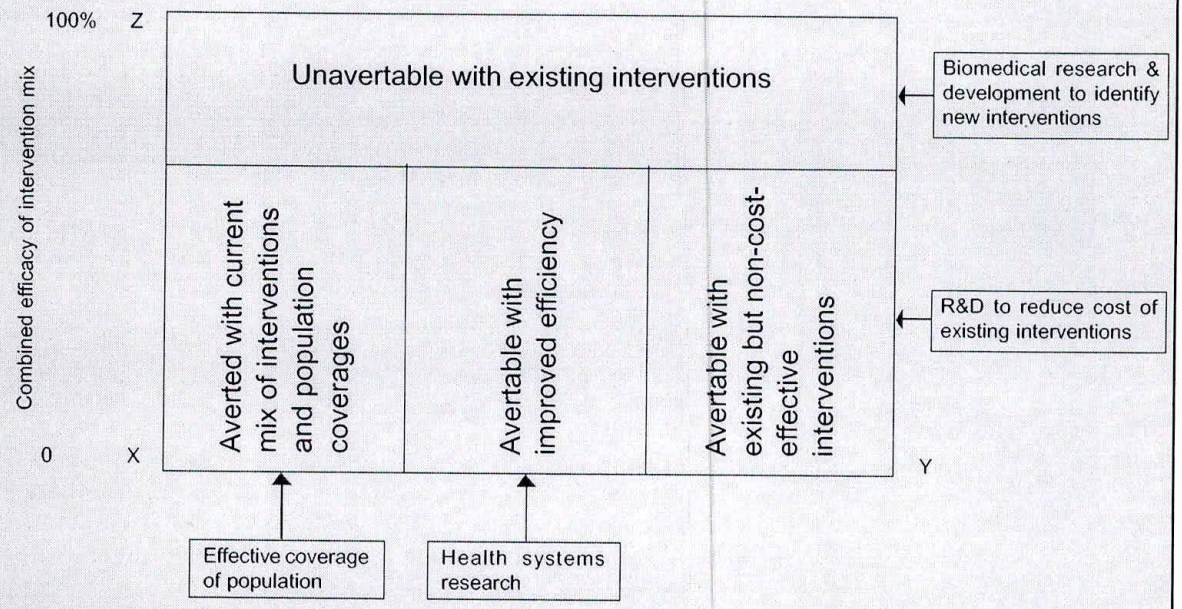
2.8.182 The newer concepts of public health were discussed in 1999 and the 'Calcutta Declaration 1999' redefined the role of public health. The declaration stated that as the countries in the Southeast Asian region are stepping into the new century with an unfinished agenda of existing health concerns, 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.

2.8.183 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

2.8.184 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 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, undernutrition and blindness have provided the database for the formulation of national programmes on these diseases and for monitoring their impact.

Figure 2.8.31 Research Needs



X = population coverage with current mix of interventions;
Y = maximum achievable coverage with a mix of available cost-effective interventions
Z = combined efficacy of a mix of all available interventions
Source : Investing in Health Research and Development, WHO, 1996

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

- 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.

2.8.185 In India, most of the morbidity and mor-tality 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 techno-logical 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 2.8.31).

2.8.186 During the Ninth Plan, the major focus of research efforts was on basic, applied and operational research for improving the quality, coverage, 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 commu-nicable diseases, research has focussed on deve-lopment 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.

2.8.187 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 will 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 will receive priority. Clinical, and operational research in both the modern system of medicine and ISM&H will 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 and harnessing emerging techno-logies 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 pathogens 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.

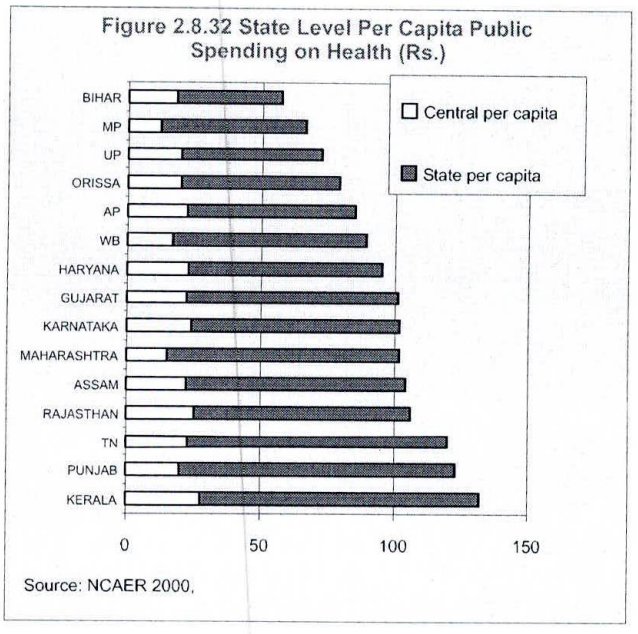
Health Care Financing

2.8.188 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-subsidisation.

2.8.189 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 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 States 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.

2.8.190 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 utilisation of funds allocated . If these are taken into account, the central government expenditure does not show much variation between states (Fig 2.8.32)

Figure 2.8.32 State Level Per Capita Public Spending on Health (Rs.)



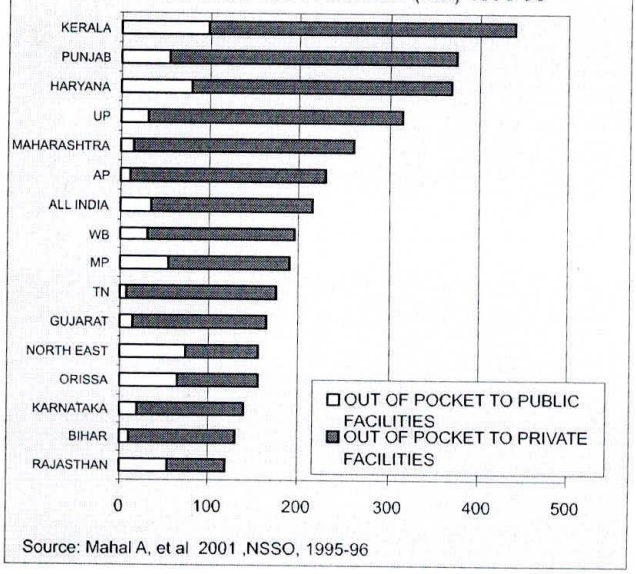
Source: NCAER 2000,

2.8.191 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 2.8.32). 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.

2.8.192 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 (Figure2.8.33). 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.

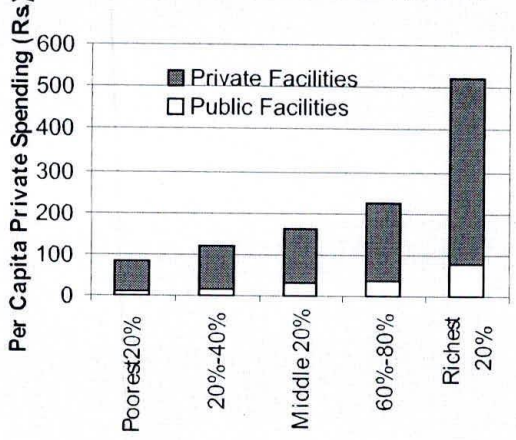
2.8.193 The poorer segments of population have less access to both public and private sector curative services than the better off sections. The out-of-pocket expense on both public and private facilities for the lowest income quintile is about one-fifth that of the highest quantile population (Figure2.8.34) 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.

Figure2.8.33 Private Spending on Health Services at Private and Public Facilities (Rs.) 1995-96



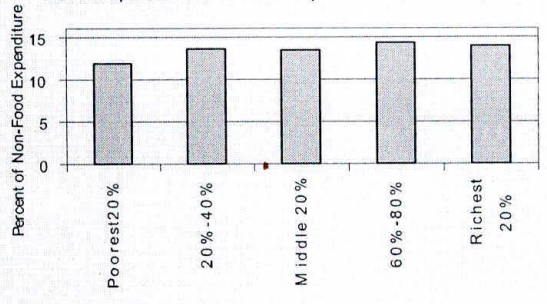
Source: Mahal A, et al 2001 ,NSSO, 1995-96

Figure 2.8.34 Out - of Pocket Payments and Household Income-1995-96



Source: NCAER-2000 , NSSO, 1995-96

Figure 2.8.35 Distribution of Total out of Pocket Health Expenditures as A Proportion of Non-food Expenditures, All India, 1995-96



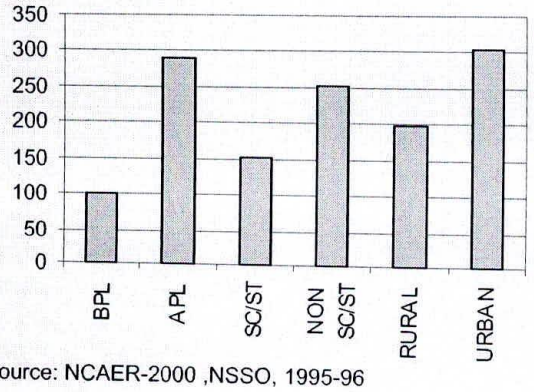
Source: NCAER-2000 ,NSSO, 1995-96

2.8.194 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 2.8.35)

2.8.195 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 (Figure2.8.36). 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.

2.8.196 Mechanisms by which different income groups meet the out-of-pocket expenses for hospitalisation is shown in

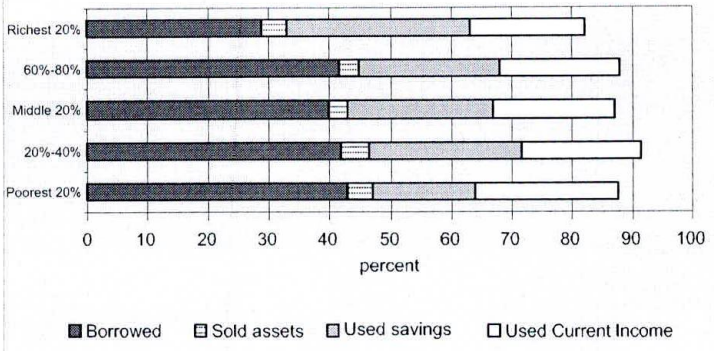
Figure 2.8.36 Out-of Pocket Payments by Socioeconomic Group.1995-96



Source: NCAER-2000 ,NSSO, 1995-96

Figure 2.8.37. 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.

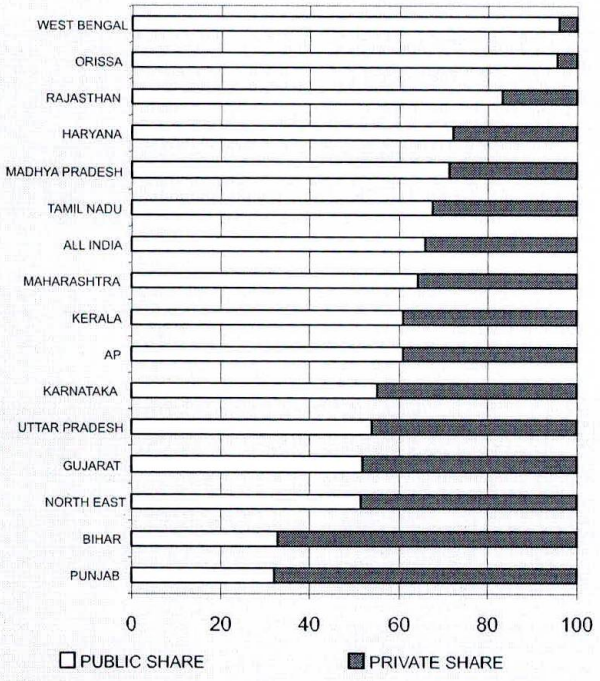
Figure 2.8.37 Sources of Financing for Private Expenditures on Hospitalisation in India by Income Quintile, 1995-96



Source: NCAER-2000, NSSO 1995-96

2.8.197 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. 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

Figure 2.8.38 Public And Private Sector of Inpatient Bed Days by People Below the Pverty Line



Source: NCAER-2000 , NSSO, 1995-96

areas might be the reason for the poor using public sector hospitals (Figure2.8.38).

2.8.198 Health sector reforms during the Tenth Plan will 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.

2.8.199 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 treatment for chronic ailments requiring expensive and continuous care. However, the experience in developed countries show that health insurance runs the risk of market failure and cost escalation because:

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

2.8.200 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.

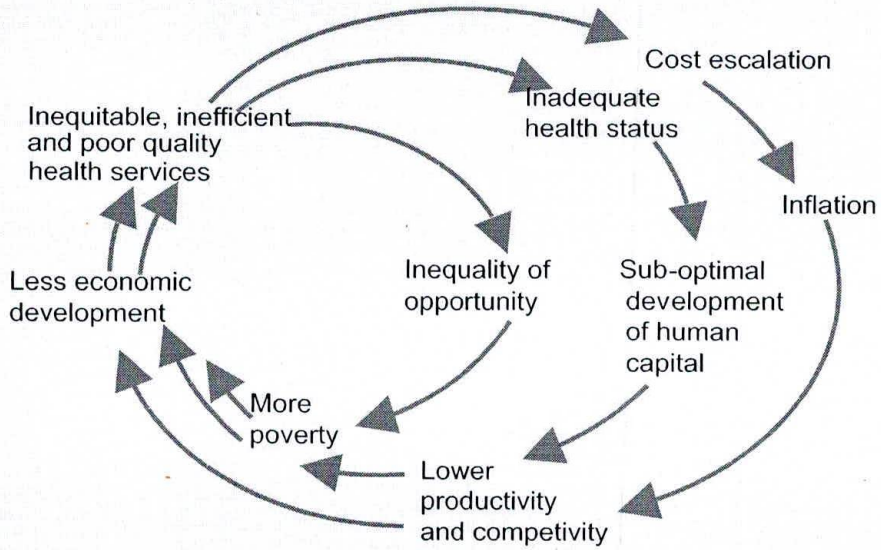
2.8.201 Health insurance can improve access to good quality health care only if it is able to provide for health care in institutions with adequate facilities and skilled personnel at affordable cost. Some states like Kerala and Delhi are conceptualising pilot projects where the government pays the social 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 will 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

2.8.202 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

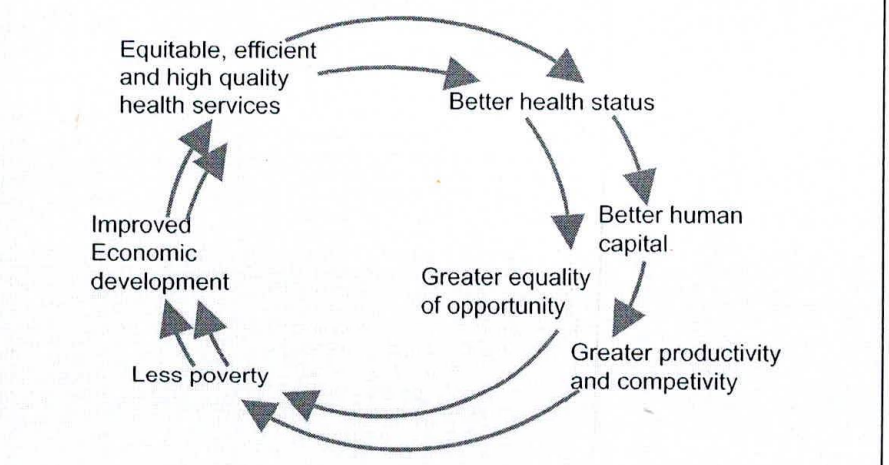
system, whether government-funded or private. Health care can absorb a very large quantity of investments from the government and individuals and yet leave millions of people, especially the poor who suffer from a high disease burden, inadequately covered (Figure 2.8.39) It is also being increasingly 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 2.8.40).

Figure 2.8.39 Unproductive Investment in Health : a Vicious Cycle



Source:Fundacion MaxicanaPara La Salud, 1995

Figure 2.8.40 Productive Investment in Health : a virtuous cycle



Source: Fundacion MaxicanaPara La Salud, 1995

2.8.203 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; and
- assessing quality of care and its cost effectiveness.

2.8.204 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:

2.8.205 The health sector is funded by the central and state governments and externally assisted projects (in both the Centre and the states).

Externally Assisted Projects

2.8.206 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.

2.8.207 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).

2.8.208 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 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:

2.8.209 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.

2.8.210 Funds provided during the Tenth Plan will 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 2.8.5.

Central Sector

2.8.211 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.

2.8.212 In addition to the domestic budgetary support, external funds have also been obtained for several centrally sponsored disease control programmes.

Zero Based Budgeting-2001

2.8.213 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 2.8.15.

Path Ahead And Goals

2.8.214 Major focus in the Tenth Plan will 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 practising their system of care, they

Table 2. 8.15
Zero Based Budgeting Exercise 2001–Centrally Sponsored Schemes & Central Sector Schemes

Rs. in Crore

Category	Central sector			Centrally sponsiored		
	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	3,326.50	3,258.53

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.

2.8.215 The National Health Policy (NHP) formulated in 1983 - after the Alma Ata declaration - articulated the ambition of the country to provide health care for all based on needs and to rapidly achieve all round improvement in the health indices of the population. The NHP (1983) provided a comprehensive framework for planning, implementation, monitoring of health services and goals to be achieved by 2000. The Department of Health has reviewed the performance since 1983 and formulated the NHP, 2002 so that it provides a reliable and relevant policy framework for improving health care and measuring and monitoring the health care delivery systems and health status of the population; NHP2002 has laid down the goals upto 2015.

The Ninth Plan recommended a review of the National Health Policy in view of:

- ⊠ ongoing demographic transition;
- ⊠ ongoing epidemiological transition;
- ⊠ expansion of health care infrastructure;
- ⊠ changes in health care seeking behaviour;
- ⊠ availability of newer technologies for diagnosis and treatment;
- ⊠ rising expectations of the population, and escalating cost of health care.

2.8.216 The NHP 2002 emphasises that any significant improvement in the quality of health services and health status of the citizens, would depend on increased financial and material inputs, service providers treating their responsibility not as a commercial activity, but as a service (albeit a paid one), the citizens demanding improvement in the quality of services, a responsive health delivery system, particularly in the public sector, and improved governance. Recognising that the health needs of the country are enormous and dynamic and acknowledging the human and financial resource constraints, the NHP 2002, attempts to make choices between various priorities and focuses on:

- ⊠ expanding and improving primary health care facilities;

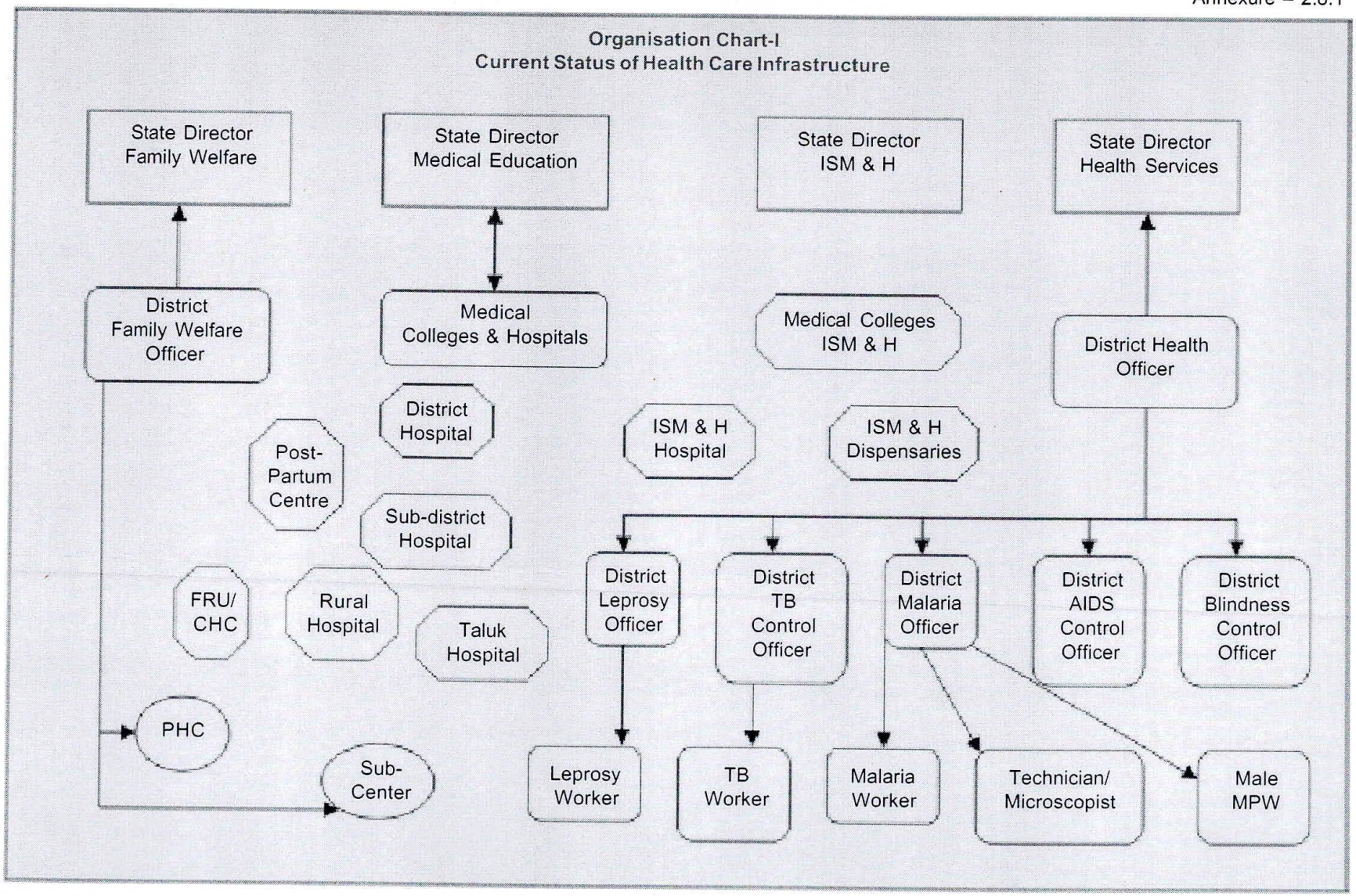
NHP2002- Goals to be achieved	
Eradicate polio and yaws	2005
Eliminate leprosy	2005
Eliminate kala azar	2010
Eliminate lymphatic filariasis	2015
Achieve zero level growth of HIV/AIDS	2007
Reduce mortality on account of TB, malaria and other vector and water- borne diseases by 50 per cent	2010
Reduce prevalence of blindness to 0.5 per cent	2010
Reduce IMR to 30/1000 and MMR to 100/100,000 live births	2010
Increase utilisation of public health facilities from the current level of <20 per cent to >75 per cent	2010
Establish an integrated system of surveillance, national health accounts and health statistics.	2005

Source : NHP 2002

- organisational restructuring of the national public health systems to facilitate more equitable access to the health care;
- area-specific programmes to meet the health needs of women, children, elderly, tribals and socio-economically under-served sections;
- programmes for the control of diseases like TB, malaria, blindness and HIV/AIDS;
- disaster management plan to cope with natural and man-made calamities; and
- macro-policy prescriptions for coordination between government, voluntary, private sector, NGOs and other institutions of civil society.

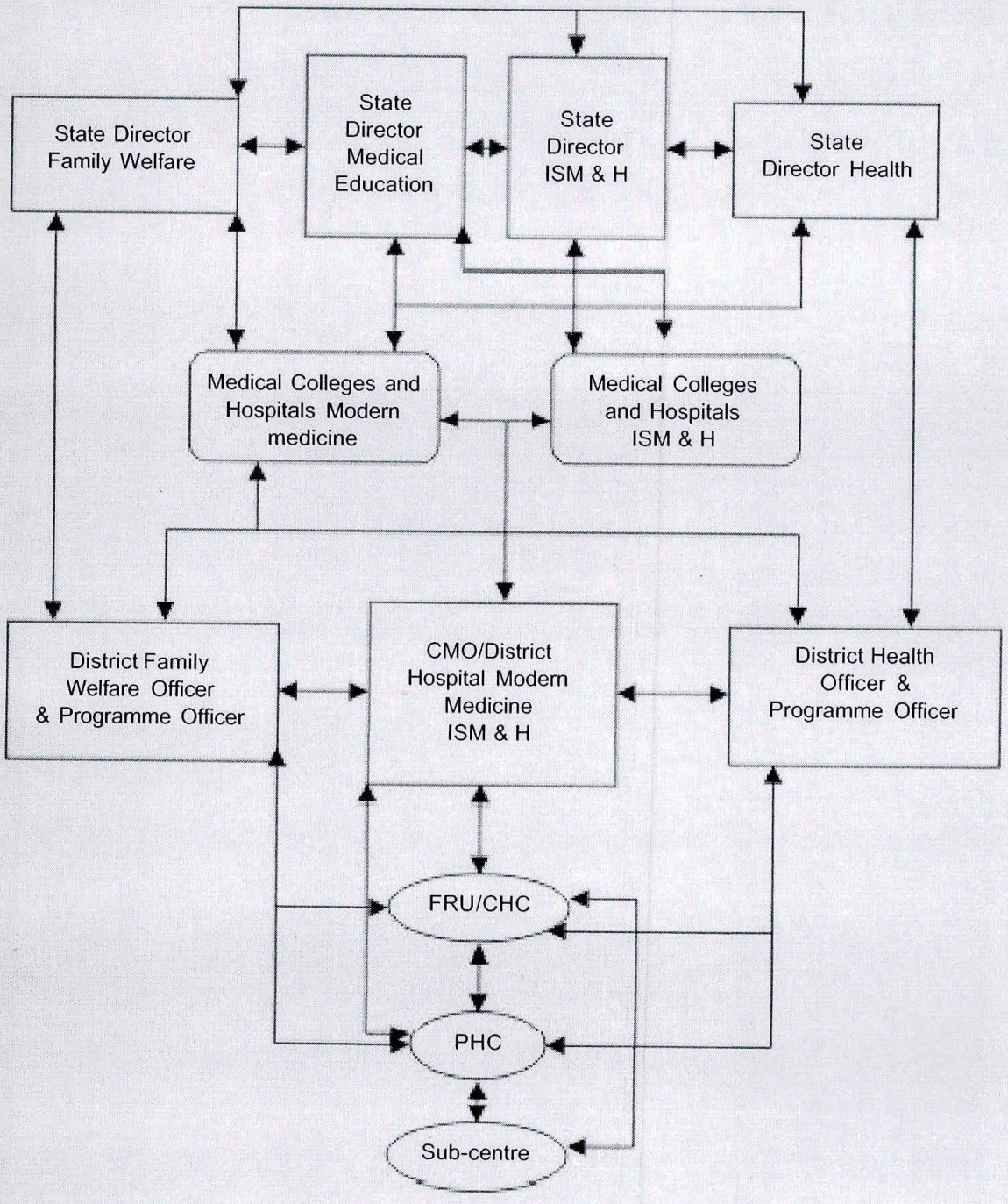
2.8.217 It is expected that with effective implementation of the policies and strategies indicated in the Tenth Plan and NHP 2002 ,the country will achieve goals set and complete the health and demographic transition with in the set time frame. The schemewise outlays of Department of Health for the Tenth Plan is indicated in Annexure 2.8.6 and Appendix.

Annexure – 2.8.1



Annexure – 2.8.2

Organisational Chart-II
Proposed Reorganisation and Linkages



ANNEXURE - 2.8.3

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

STATES/UTs	RURAL HEALTH CARE INFRASTRUCTURE									DISPENSARIES			HOSPITALS							
	Sub centres			Primary Health Centres			Community Health Centre			Modern System of Medicine @		ISM&H @@	Modern System of Medicine @		ISM&H@@		Urban Family Welfare Centres		PostPartum Centres	
	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	Dispens Aries	Beds	Dispens Aries	Hospi tals	Beds	Hospi tals	Beds	UFWC	Health Posts	District level	Sub-dis trict level
1 ANDHRA PRADESH	10242	10568	(326)	1707	1386	321	427	219	208	134	0	1930	3133	69778	22	1249	131	-	28	55
2 ARUNACHAL PRADESH	220	273	(53)	37	65	(28)	9	20	(11)	11	0	46	-	-	1	15	6	-	-	1
3 ASSAM	4356	5109	(753)	726	610	116	181	100	81	325	42	409	268	12661	6	260	10	-	11	30
4 BIHAR	11547	10332	1215	1961	1642	319	490	87	403	427	96	831	328	29090	14	1385	42	-	37	54
5 CHHATISGARH	4692	3818	874	704	545	159	176	150	26											
6 GOA	138	172	(34)	23	19	4	6	5	1	33	0	115	105	3848	6	245	-	-	4	-
7 GUJARAT	6168	7274	(1106)	1028	1001	27	257	242	15	7255	9289	583	2528	63417	55	2476	113	28	33	55
8 HARYANA	2482	2299	183	414	401	13	103	64	39	130	126	454	80	7230	7	850	19	16	13	20
9 HIMACHAL	973	2069	(1096)	162	302	(140)	40	65	(25)	173	169	1081	63	5463	18	355	89	-	11	22
10 JAMMU & KASHMIR	1176	1700	(524)	196	337	(141)	49	53	(4)	610	0	445	67	8202	4	235	12	-	11	6
11 JHARKHAND	4278	4462	*	676	561	115	169	47	122											
12 KARNATAKA	6431	8143	(1712)	1072	1676	(604)	268	249	19	797	1163	642	293	38479	178	8400	87	-	39	64
13 KERALA	4325	5094	(769)	721	944	(223)	180	105	75	53	164	3523	2107	97840	182	4031	-	-	22	60
14 MADHYA PRADESH	7430	8835	*	1316	1193	123	329	229	100	256	2	2363	363	18141	47	1810	63	99	47	75
15 MAHARASHTRA#	10533	9725	808	1756	1768	(12)	439	351	88	8143	1622	486	3115	78920	160	18618	74	278	52	69
16 MANIPUR	344	420	(76)	57	69	(12)	14	16	(2)	42	0	10	17	1626	3	75	2	-	3	1
17 MEGHALAYA	464	413	51	77	85	(8)	19	13	6	21	0	5	9	1828	0	0	1	-	3	1
18 MIZORAM	122	346	(224)	20	58	(38)	5	9	(4)	13	130	2	12	1021	0	0	1	-	2	4
19 NAGALAND	325	302	23	54	46	8	14	9	5	17	68	2	29	1158	0	0	-	-	1	1
20 ORISSA	6374	5927	447	1062	1352	(290)	265	157	108	1197	282	1104	273	11980	13	473	10	8	19	60
21 PUNJAB#	2858	2852	6	476	484	(8)	119	105	14	1469	5503	629	220	14921	17	956	23	64	19	35
22 RAJASTHAN	7484	9926	(2442)	1247	1674	(427)	312	263	49	268	134	3689	219	21387	102	1631	61	90	35	100

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

STATES/UTs	RURAL HEALTH CARE INFRASTRUCTURE									DISPENSARIES			HOSPITALS							
	Sub centres			Primary Health Centres			Community Health Centre			Modern System of Medicine @		ISM&H @@	Modern System of Medicine @		ISM&H@@		Urban Family Welfare Centres		PostPartum Centres	
	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	Dispens Aries	Beds	Dispens Aries	Hospi tals	Beds	Hospi tals	Beds	UFWC	Health Posts	District level	Sub-dis trict level
23 SIKKIM	85	147	(62)	14	24	(10)	4	2	2	147	0	2	1	300	0	0	1	-	1	2
24 TAMILNADU	7424	8682	(1258)	1237	1436	(199)	309	72	237	512	278	396	408	48780	229	2187	65	100	32	87
25 TRIPURA	579	539	40	96	58	38	24	11	13	612	0	96	29	1866	2	30	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	81	150	72	147
28 WEST BENGAL#	10356	8126	2230	1726	1262	464	431	99	332	571	0	1153	399	53732	19	1007	111	-	27	55
29 ANDAMAN & NICOBAR ISLANDS	45	100	(55)	7	18	(11)	2	4	(2)	138	0	7	10	901	0	0	-	-	1	-
30 CHANDIGARH#	13	13	0	2	0	2	1	1	0	33	0	9	1	500	3	185	3	10	2	-
31 DADRA & NAGAR HAVELI	40	36	4	7	6	1	2	1	1	3	6	2	3	115	2	0	-	-	-	-
32 DAMAN & DIU	12	21	(9)	2	3	(1)	1	1	0	28	0	1	3	150	1	5	-	-	-	-
33 DELHI	190	42	148	32	8	24	8		8	490	0	236	77	19345	17	1322	69	28	9	5
34 LAKSHADWEEP	7	14	(7)	1	4	(3)		3	(3)	0	0	6	2	70	0	0	-	-	-	-
35 PONDICHERRY	58	80	(22)	10	39	(29)	3	4	(1)	12	0	21	29	3136	0	0	-	-	3	-
36 CGHS	-	-	-	-	-	-	-	-	-	241	-	79	-	-	1	25	-	-	-	-
37 CENTRAL RESEARCH COUNCILS	-	-	-	-	-	-	-	-	-	-	-	85	-	-	39	930	-	-	-	-
38 M/o RAILWAY	-	-	-	-	-	-	-	-	-	-	-	162	-	-	0	0	-	-	-	-
36 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	14926	663163	3005	60631	1083	871	538	1012

FIGURES IN BRACKET INDICATE THE SURPLUS INFRASTRUCTURE, SHORTFALL AS ON 31.3.2001;
@ FOR THE PERIOD 1.1.1998; @@ FOR 1.4.1999
NOTE :- - = NIL INFORMATION. THE TOTAL NUMBER OF HOMOEOPATHIC HOSPTALS HAVE REDUCED AS UTTAR PRADESH HAS REPORTED REDUCED FIGURES.
= INFORMATION FOR THE CURRENT YEAR HAS NOT BEEN RECEIVED, HENCE REPEATED FOR THE LATEST AVAILABLE YEAR.
SOURCE: HEALTH INFORMATION OF INDIA, ISM&H IN INDIA AND D/O FAMILY WELFARE; FIGURES ARE PROVISIONAL

Annexure - 2.8.4

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
				(2-3)
1	2	3	4	5
Specialists (4/CHC)	22348	3741	6579	18607
Doctors at PHCs (1/PHC)	22349	25506	29702	3157*
Block Extension Educator/ Health Educator (1/PHC)	22349	5508	6534	16841
Pharmacist (1/CHC+1/PHC)	27936	21077	22871	6859
Lab. Technician (1/CHC+1/PHC)	27936	12709	15865	15227
X-ray Technician/ Radiographer (1/CHC)	5587	1768	2137	3819
Nurse Midwife (7/CHC+1/PHC)	61458	17673	22672	43785
Health Assistant (M) (1/PHC)	22349	22265	26427	84
Health Assistant (F) (1/PHC)	22349	19426	22479	2923
Health Worker (M) (1/SC)	134108	73327	87504	60781
Health Worker (F) (1/SC+1/PHC)	156457	134086	144012	22371
TOTAL	525226	337086	386782	191297

* indicates surplus and has not been added to Gap

Source :- RHS Bulletin, June, 2000 (Ministry of Health & FW)

Annexure - 2.8.5

Outlay for Health in the States & UnionTerritories

Rs. Lakhs

STATES	9th Plan OUTLAY HEALTH	1997-98 OUTLAY HEALTH	1997-98 Act. Expd. HEALTH	1998-99 OUTLAY HEALTH	1998-99 Act. Expd. HEALTH	1999-2000 OUTLAY HEALTH	2000-01 OUTLAY HEALTH	2001-02 OUTLAY HEALTH
1	2	3	4	5	6	7	8	9
ANDHRA PRADESH	63052.00	13937.00	12366.00	20046.00	19865.00	28033.00	27749.95	33223.02
ARUNACHAL PRADESH	33502.00	3149.00	1782.00	3520.00	1814.00	2947.00	2068.93	2476.01
ASSAM	38410.00	6561.00	6223.00	7191.00	6887.00	7741.00	7439.00	12580.00
BIHAR	83200.00	7245.00	4950.00	12177.00	6902.00	12768.00	9891.01	10078.21
GOA	8122.00	1082.00	1032.00	772.00	1069.00	1646.00	1423.00	1649.00
GUJARAT	83225.00	22093.00	17180.00	23550.00	17179.00	25100.00	26000.00	21000.00
HARYANA	35134.00	3882.00	4493.00	5946.00	4126.00	5327.00	5648.00	6595.00
HIMACHAL PRADESH	31765.00	5544.00	6535.00	8965.70	8164.00	10555.00	9685.09	12014.86
J & K	110029.00	7450.00	6989.00	11385.51	8244.00	11974.00	10595.17	11628.32
KARNATAKA	110000.00	18359.00	21914.00	19544.30	22909.00	22774.00	22558.11	26879.60
KERALA	30940.00	6096.00	5828.00	6200.00	7343.00	6400.00	6335.00	5553.00
MADHYA PRADESH	56787.00	9331.00	7031.00	17351.47	14524.00	13524.00	11217.62	13462.62
MAHARASHTRA	91823.00	17391.00	13811.00	22993.00	16224.00	27798.00	30485.85	39128.91
MANIPUR	3600.00	630.00	540.00	809.35	809.00	1080.00	1250.00	1486.00
MEGHALAYA	14000.00	2430.00	1790.00	2430.00	2360.00	3079.00	3300.00	3200.00
MIZORAM	11201.00	1651.00	1651.00	1816.00	1785.00	2286.00	2562.00	2542.00
NAGALAND	10631.00	2506.00	2480.00	2128.00	2022.00	2128.00	1577.00	1283.00
ORISSA	41606.00	4104.00	5198.00	7526.21	7042.00	13208.00	8405.05	14915.16
PUNJAB	51159.00	9938.00	3187.00	16352.00	8374.00	18319.00	19187.00	17465.57
RAJASTHAN	77060.00	13919.00	12339.00	15289.00	10991.00	17262.00	9914.94	12366.30
SIKKIM	8000.00	857.00	757.00	814.00	1914.00	1559.00	1200.00	1373.50
TAMILNADU	78052.00	8909.00	11005.00	11650.93	12843.00	12426.00	12724.42	18084.16
TRIPURA	8559.00	1371.00	1091.00	1407.92	1448.00	1355.00	1442.46	1879.18
UTTAR PRADESH	118500.00	17312.00	15609.00	40551.00	10862.00	42816.00	30200.00	37278.00
WEST BENGAL	97864.00	20633.00	3322.00	19286.00	7811.00	23502.00	32176.00	42931.24
TOTAL STATES	**1296221.00**	**206380.00**	**169103.00**	**279702.39**	**203511.00**	**315607.00**	**295035.60**	**351072.66**
U T s								
A & N ISLANDS	7741.00	1559.00	1831.59	1895.00	2055.29	2000.00	1900.00	1900.00
CHANDIGARH	17065.00	3617.00	3748.90	3548.30	3297.61	3483.00	3717.00	3947.25
D & N HAVELI	514.00	219.00	148.87	252.70	189.82	280.00	217.80	234.80
DAMAN & DIU	887.00	133.00	165.96	173.00	186.91	136.00	150.10	165.00
DELHI	110140.00	15240.50	12684.15	19700.00	13994.62	27345.00	26642.00	34121.00
LAKSHADWEEP	817.46	233.85	267.78	333.00	323.61	229.03	281.45	211.46
PONDICHERRY	10000.00	1630.00	1546.97	2370.00	1921.30	2720.00	2720.00	3160.54
TOTAL UTs	**147164.46**	**22632.35**	**20394.22**	**28272.00**	**21969.16**	**36193.03**	**35628.35**	**43740.05**
GRAND TOTAL (STATES & UTs)	**1443385.46**	**229012.35**	**189497.22**	**307974.39**	**225480.16**	**351800.03**	**330663.95**	**394812.71**
CHHATISGARH								**6024.66**
JHARKHAND								**NA**
UTTARANCHAL								**5972.00**
GRAND TOTAL (STATES & UTs) Incl 2 states								**406809.37**

Annexure 2.8.6

Outlays for Department of Health

Rs crores

IX Plan	X Plan	Name of the Schemes / Institution	9th Plan Allocation	9th Plan Anticipated Expenditure	10th Plan Alocation Agreed by PC	2002-03 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	1370.00	235.00
3	2	National Leprosy Eradication Programme.	301.00	388.48	255.00	75.00
4	3	National Tuberculosis Control Programme.	450.00	462.73	680.00	115.00
5	4	National AIDS Control Programme including Blood Safety Measures and National S.T.D. Control Programme	760.00	745.26	1270.00	225.00
6		National Guinea Worm Eradication Prog.	2.00	1.29		
7	5	Disease Surveillance Programme	25.00	20.32	190.00	10.00
8	6	Hospital Waste Management	2.00	1.79	10.00	5.00
		Strengthening of Drug & Food Administration & Control Capacity Building				
9	7	Assistance to States for Capacity Building (drug Quality)	20.00	29.00	60.00	20.00
10	8	Capacity Building for drug & PFA	20.00	1.00	97.00	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	445.00	86.00
16&17	10	National Cancer Control Programme and Anti-Tobacco Initiative	190.00	198.14	285.00	61.00
18&19	11	National Iodine Deficiency Disorders Control Programme and Pilot Project on Micronutrients	18.00	14.75	35.00	7.00
20	12	National Mental Health Programme	28.00	20.39	190.00	30.00
21	13	Drug De-addiction Programme including assistance to States	20.00	26.51	33.00	7.00
		Other Programmes				
22	14	UNDP Pilot Initiatives for Community Health		2.50	4.80	4.80
					4924.80	**882.10**
		Central Sector Schemes:				
		Control of Communicable Diseases:				
1	1	National Institute of Communicable Diseases, Delhi (ongoing activities including Guineaworm & Yaws Eradication)	23.00	22.40	65.00	12.00
2		Strengthening of Institute	3.70	3.69		
3	2	National Institute of Tuberculosis, Bangalore	1.50	3.78	10.30	2.00
4	3	Lala Ram Sarup Institute of T.B. and allied diseases, Mehrauli, Delhi	30.00	27.60	54.50	10.00
5	4	Central Leprosy Training & Research Institute Chengalpattu (Tamil Nadu) Regional Institute of Training, Research & Treatment under Leprosy Control Programme:	5.00	3.57	5.50	1.00

Annexure 2.8.6 Contd.

Rs crores

IX Plan	X Plan	Name of the Schemes / Institution	9th Plan Allocation	9th Plan Anticipated Expenditure	10th Plan Alocation Agreed by PC	2002-03 Outlay
6	5	(a) R.L.T.R.I., Aska (Orissa)	2.00	0.56	2.00	0.40
7	6	(b) R.L.T.R.I., Raipur (M.P.)	2.50	0.71	1.00	0.20
8	7	(c) R.L.T.R.I., Gauripur (W.B.)	5.00	4.65	7.00	1.50
9	8	B.C.G. Vaccine Laboratory, Guindy, Chennai	5.00	5.80	19.50	5.00
10	9	Pasteur Institute of India, Coonoor	5.00	13.10	35.00	7.00
11	10	Central Research Institute, Kasauli	20.00	21.83	50.00	5.00
					249.80	**44.10**
		Hospitals and Dispansaries:				
12	11	Central Government Health Scheme	40.00	47.66	80.00	20.00
13	12	Central Institute of Psychiatry, Ranchi	16.00	17.00	50.00	8.00
14&15	13	All India Institute of Speech & Hearing Mysore and Pilot Project	8.00	15.21	30.00	7.00
16&17	14	All India Institute of Physical Medicine & Rehabilitation, Mumbai and Pilot Project	15.00	6.71	20.00	2.70
18	15	Health Sector Disaster preparedness and Management	3.00	3.00	30.00	6.00
19	16	Safdarjung Hospital, New Delhi	103.00	96.36	230.00	65.00
20	17	Dr. R.M.L. Hospital, New Delhi	45.00	70.07	150.00	25.00
21	18	Institute for Human Behaviour & Allied Sciences, Shahdara, Delhi	10.00	3.00	7.00	1.00
					597.00	**134.70**
		Medical Education, Training & Research:				
		(a) Medical Education:				
22-25	19	All India Institute of Medical Sciences & Its Allied Departments, New Delhi and 3 Pilot Projects	340.00	382.47	675.00	105.00
26	20	P.G.I.M.E.R., Chandigarh	175.00	162.00	200.00	25.00
27	21	J.I.P.M.E.R., Pondicherry	70.00	52.05	150.00	15.00
28	22	Lady Harding Medical College & Smt. S.K. Hospital, New Delhi	65.00	30.59	200.00	10.00
29	23	Kalawati Saran Childrens Hospital, New Delhi	56.00	49.92	140.00	6.00
30	24	Indira Gandhi Institute of Health & Medical Sciences for North East Region at Shilong.	85.00	59.50	380.00	60.00
31	25	Kasturba Health Society, Wardha	25.00	38.28	50.00	10.00
32	26	V.P. Chest Institute, Delhi	5.00	11.28	23.00	8.00
33&34	27	All India Institute of Hygiene & Public Health, Calcutta and Pilot Project	15.00	6.82	20.00	3.00
35	28	Serologist & Chemical Examiner to the Government of India, Calcutta	1.25	1.23	2.50	0.50
36	29	National Medical Library, New Delhi	15.00	25.12	35.00	8.00
37	30	National Academy of Medical Sciences, New Delhi	1.60	1.55	2.50	0.50
38	31	National Board of Examinations, New Delhi	0.50	0.77	1.00	0.20
39	32	Medical Council of India, New Delhi	3.90	2.78	5.00	1.00
40	33	Education Commission of Health Sciences	2.00	0.00	10.00	5.00
41	34	N.I.M.H.A.N.S., Bangalore	60.00	80.40	120.00	24.00

Annexure 2.8.6 Contd.

Rs crores

IX Plan	X Plan	Name of the Schemes / Institution	9th Plan Allocation	9th Plan Anticipated Expenditure	10th Plan Alocation Agreed by PC	2002-03 Outlay
		(b) Nursing Education:				
42	35	Indian Nursing Councils		0.50	2.10	0.40
43-47	36	Strengthening/adding seats to existing schools of Nursing	4.50	8.05	100.00	20.00
48	37	R.A.K. College of Nursing, New Delhi	3.50	1.53	11.00	3.00
49	38	Lady Reading Health School, New Delhi		0.25	2.00	0.30
		(c) Research:				
50-55	39	Indian Council of Medical Research, New Delhi and 5 Pilot Projects	263.00	333.37	870.00	110.00
					2999.10	**414.90**
		Other Programmes:				
56	40	National Institute of Biological, NOIDA (U.P.)	70.00	63.54	170.90	20.00
57	41	Health Education	6.00	3.97	12.60	2.20
58	42	Health Intelligence (& Health Accounts)	1.25	1.44	8.80	1.90
59	43	Port Health Authority (Including setting up of offices at 8 newly created international airport)	2.00	2.12	9.00	1.60
60	44	Strengthening of D.G.H.S.	3.99	7.87	8.00	2.00
61	45	Strengthening of (Deptt. under) Ministry			12.00	3.00
62	46	Prevention of Food Adulteration	20.00	12.63	83.00	8.00
63&64	47	Central Drug Standard & Control Orgn. and Medical Store Organisation	40.00	23.68	57.00	15.00
					361.30	**53.70**
		NEW INITIATIVES DURING 10TH PLAN				
	48	**Centrally Sponsored Schemes**			110.00	20.00
	49	**Central Sector Schemes:**			11.00	0.50
					121.00	**20.50**
					9253.00	**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 2.9

INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

INTRODUCTION

2.9.1 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.

2.9.2 India also has a vast network of governmental ISM&H healthcare institutions. There are 3,000 hospitals with over 60 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.

2.9.3 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; and
- medicinal plants have been overexploited and, as a result, the cost of ISM&H drugs has increased and spurious products are getting into the market.

2.9.4 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.

2.9.5 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.

Approach during the Tenth Plan

2.9.6 The approach during the Tenth Plan will be to ensure that the ISM&H system achieves its full potential in providing healthcare by:

- ☒ 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 complementary systems 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, and patenting them; and
- ☒ undertaking clinical trials of promising drugs 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

2.9.7 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

2.9.8 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 2.9.1. 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 choose the system for treatment.

Secondary Health Care

2.9.9 A majority of existing ISM&H secondary hospitals function as separate institutions and do

Infrastructure

Vast infrastructure has been created:

☒ Hospitals	3005
☒ Beds	60,681
☒ 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 linkage with existing modern system hospitals – hence they are unable to function optimally as a complementary system or utilise the diagnostic facilities available.

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.

Tertiary Health Care

2.9.10 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.

2.9.11 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
- assessing the pros and cons of providing complementary system of healthcare and effecting mid-course corrections.

Development of Human Resources for ISM&H

Table 2.9.1 - Medical Education in ISM&H

	Colleges	
System	**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

2.9.12 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 2.9.1). But the quality of training these colleges impart is poor. A recent inspection of 160 colleges showed that:

- 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 ISM&H 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; and
- 52 per cent of all colleges have a student/bed ratio, which is higher than the prescribed ratio of 1:3.

2.9.13 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.

2.9.14 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

2.9.15 The Indian Medicines Central Council Act, 1970 was enacted for the constitution of a 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.

2.9.16 A review of the functioning of the Councils by the Department of ISM&H showed 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, poor.

2.9.17 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.

2.9.18 During the Tenth Plan, every effort will 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 are 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

2.9.19 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. During the Tenth Plan these two matters will be taken up, so that ISM&H practitioners have the necessary support staff.

National Institutes in ISM&H

2.9.20 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 standards.

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 Vidyapeeth, New Delhi

* being established

Continuing Medical Education (CME) in ISM&H

2.9.21 Most of the Registered Practitioners of ISM&H (Table 2.9.2), 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 most practitioners felt that they cannot leave their practice for an extended period.

Table 2.9.2 - 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

2.9.22 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

2.9.23 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.

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

- ☒ 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; and
- ☒ establishment of a Medicinal Plant Board for integrated development of the medicinal plants.

2.9.25 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 their awareness and 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

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.

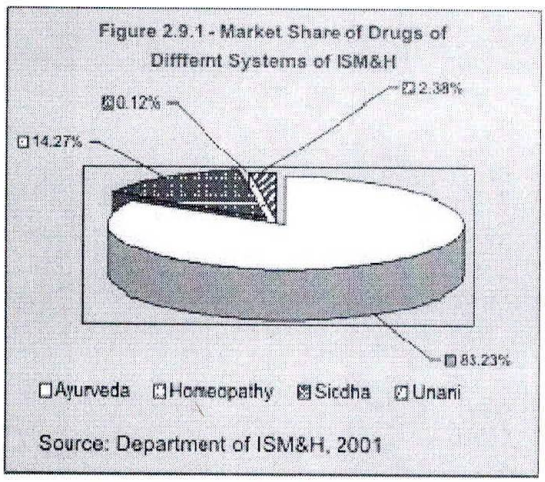
cultivation of medicinal plants. Agro-techniques are being standardised for 28 plants identified for fast track cultivation. States have been requested to introduce measures to register cultivators and traders dealing with medicinal plants and to make the Forest Development Corporation the conduit for 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.

2.9.26 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 have been 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.

ISM&H Industry

2.9.27 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 2.9.1).

Figure 2.9.1 - Market Share of Drugs of Difffernt Systems of ISM&H



Source: Department of ISM&H, 2001

2.9.28 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 2.9.3).

Table 2.9.3 - 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

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.

2.9.29 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

2.9.30 There are a large number of ISM&H pharmacies in the country (Table 2.9.4) and many of them, especially smaller ones, do not adopt good

Table 2.9.4 - Licensed Pharmacies in India

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

Source : Department of ISM&H, 2001

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.

2.9.31 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 enforcing the standards laid down by appropriate licensing and quality control measures.

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&H drug industry personnel and drug inspecting staff in standardisation and quality control.

2.9.32 During the Tenth Plan every effort will 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; and
- monitoring work relating to testing of survey samples and statutory samples of ISM&H drugs.

Neutraceuticals and Food Supplementation Products

2.9.33 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 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 is monitored carefully.

Medical Tourism

2.9.34 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 for 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

2.9.35 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, and 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.

2.9.36 During the Tenth Plan the following measures will 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; and
- promising and widely accepted practices and skills of traditional healers in rural and tribal areas will be identified and evaluated.

Zero Based Budgeting

2.9.37 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.

2.9.38 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 will therefore, continue. 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 was corrected (Table 2.9.5). The outlays and expenditure under each of these during the Ninth Plan is summarised in Annexure 2.9.2.

Table 2.9.5 – Summary of Zero Based Budgeting Exercise – 2001

Scheme	Centrally Sponsored Schemes 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

PATH AHEAD AND GOALS SET

2.9.39 During the Tenth Plan the following areas will 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 the goals set in the National Population Policy (2000) and National Health Policy (2002). The schemewise outlays for the Department of ISM&H is indicated in Annexure 2.9.2 and Appendix.

Annexure - 2.9.1

HOSPITALS AND DISPENSARIES UNDER INDIAN SYSTEMS OF MEDICINE AND HOMOEOPATHY

Sl. No.	Name of States/UTs	AYURVEDA			UNANI			HOMOEOPATHY			OTHERS		
		Dipensaries	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.	ARUNCHAL 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	MAHARA -SHTRA#	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 is under clarification.

Figures are provisional

Annexure-2.9.2

TENTH PLAN OUTLAYS - DEPARTMENT OF ISM&H

(Rs. In Lakhs)

		9th Plan			10th Plan	2002-03
		Ninth Plan Outlay	Sum of Year-wise Outlay	Anticipated Expenditure	Outlay	Outlay
	Centrally sponsored schemes					
1	Development of Institutions	2920.00	4020.00	4279.48	11750.00	1950.00
2	Hospitals and dispensaries	490.00	402.00	73.72	4900.00	750.00
3	Information, Education and Communication (IEC)	51.00	51.00	0.00	1200.00	300.00
4	Drugs Quality Control	2582.00	3700.00	3146.55	4540.00	875.00
	Central Sector					
1	Strengthening of Deptt. of ISM&H	1650.00	2129.00	1964.61	2250.00	515.00
2	Educational Institutions	5282.00	6693.00	4990.65	11650.00	2615.00
3	Statutory Institutions	176.00	169.00	147.00	265.00	15.00
4	Research Councils (intra and extra mural research)	8391.00	10777.00	10661.94	13600.00	2520.00
5	Hospitals and dispensaries	71.00	292.00	314.80	2244.00	276.00
6	Medicinal Plants	1765.00	3420.00	2215.56	10700.00	2516.00
7	Strengthening of Pharmacopoeial Laboratories	1082.00	1150.00	365.50	2650.00	567.00
8	Information, Education and Communication (IEC)	480.00	680.00	839.28	1700.00	300.00
9	Other Programes and Schemes	1595.00	2960.00	226.52	8550.00	1801.00
10	New Initiatives during the 10th plan				1501.00	
	Grand Total	26635.00	36443.00	29225.61	77500.00	15000.00

CHAPTER 2.10

FAMILY WELFARE

Introduction

2.10.1 India is the second most populous country in the world, sustaining 16.7 per cent of the world population on 2.4 per cent of the world's surface area. Realising that high population growth is inevitable during the initial phases of demographic transition and the urgent need to accelerate the pace of the transition, India became the first country to formulate a National Family Planning Programme in 1952. The objective of the policy was "reducing birth rate to the extent necessary to stabilise the population at a level consistent with requirement of national economy". The First Five-Year Plan stated that "the main appeal for family planning is based on considerations of health and welfare of the family. Family limitation or spacing of children is necessary and desirable in order to secure better health for the mother and better care and upbringing of children. Measures directed to this end should, therefore, form part of the public health programme". This statement preceded the International Conference on Population and Development (ICPD) 1994 by four decades.

2.10.2 The focus of India's health services right from the early 1950s has been health care for women and children and provision of contraceptive services. Successive Five- Year Plans have been providing the policy framework and funding for the planned development of nation wide health care infrastructure and manpower. The centrally sponsored and 100 per cent centrally funded Family Welfare Programme provides the states the additional infrastructure, manpower and consumables needed for improving the health status of women and children and to meet all the felt needs for fertility regulation.

2.10.3 Technological advances and the improved quality and coverage of health care resulted in a rapid fall in the crude death rate (CDR) from 25.1 in 1951 to 9.8 in 1991. In contrast, the reduction in crude birth rate (CBR) has been less steep, declining from 40.8 in 1951 to 29.5 in 1991. As a result, the annual exponential population growth rate has been over 2 per cent in the 1971-1991 period. The pace of demographic transition in India has been relatively slow but steady. The 1991 Census

The NDC Sub-Committee on Population recommended that there should be a paradigm shift in the Family Welfare Programme and the focus should be on:

- ☒ Decentralised area-specific planning based on need assessment.
- ☒ Emphasis on improved access and quality of services to women and children.
- ☒ Providing special assistance to poorly performing states/districts to minimise the differences in performance.
- ☒ Creation of district-level databases on quality, coverage and impact indicators for monitoring the programme.

The International Conference on Population and Development (ICPD) at Cairo in 1994 advocated a similar approach.

A convergence between national (NDC Sub-Committee) and international (ICPD) efforts improved funding of Family Welfare Programme during the Ninth Plan period.

showed that the population growth rate fell below 2 per cent after three decades. In order to give a new thrust to efforts to achieve a more rapid decline in birth rate, death rate and population growth rate, the National Development Council (NDC) set up a Sub-Committee on Population (1992) and endorsed its recommendations in 1993.

2.10.4 During the Ninth Plan period, the Department of Family Welfare implemented the recommendations of the NDC Sub Committee. Centrally-defined method specific targets for family planning were abolished. The emphasis shifted to decentralised planning at the district level, based on assessment of community needs and implementation of programmes aimed at fulfilment of these needs. State specific goals for process and impact parameters for maternal and child health and contraceptive care were worked out and used for monitoring progress. Efforts were made to improve the quality and content of services through training to upgrade skills for all personnel and building up a referral network. A massive pulse polio campaign was taken up to eliminate polio. The Department of Family Welfare set up a consultative committee to suggest appropriate restructuring of infrastructure funded by the states and the centre and revise norms for re-imbursement by the centre and has started implementing the recommendations of the Committee. Monitoring and evaluation has become a part of the programme and the data is used for mid-course corrections. The Department has drawn up the National Population Policy 2000(NPP 2000), which aims at achieving replacement level of fertility by 2010. A National Commission on Population was constituted in May 2000, in line with the recommendations of the NPP 2000.

2.10.5 Currently some of the major areas of concern include:

- the massive inter-state differences in fertility and mortality;fertility and mortality rates are high in the most populous states, where nearly half the country's population lives;
- gaps in infrastructure, manpower and equipment and mismatch between infrastructure and manpower in primary health centres (PHCs)/ community health centres (CHCs); lack of referral services;
- slow decline in mortality during the 1990s; the goals set for mortality and fertility in the Ninth Plan will not be achieved;
- there has been no decline in the maternal mortality ratios over the last three decades, while neonatal and infant mortality rates have plateaued during the 1990s;
- the routine service coverage has declined, perhaps because of the emphasis on campaign mode operations for individual components of the programme;
- in spite of the emphasis on training to improve skills for the delivery of integrated reproductive and child health (RCH) services, the progress in in-service training has been very slow and the anticipated improvement in the content and quality of care has not taken place;
- evaluation studies have shown that the coverage under immunisation is not universal even in the best performing states while coverage rates are very low in states like Bihar; elimination of polio is yet to be achieved;
- the logistics of drug supply has improved in some states but remains poor in populous states;
- decentralised district-based planning, monitoring and mid-course correction utilising the locally generated service data and Civil Registration has not yet been operationalised.

Approach during the Tenth Plan

3.10.6 During the Tenth Plan, the paradigm shift, which began in the Ninth Plan, will be fully operationalised. The shift was from:

- demographic targets to *focussing on enabling couples to achieve their reproductive goals;*
- method specific contraceptive targets to *meeting all the unmet needs for contraception to reduce unwanted pregnancies;*
- numerous vertical programmes for family planning and maternal and child health to *integrated health care for women and children;*

- centrally defined targets to *community need assessment and decentralised area specific microplanning* and implementation of program for health care for women and children, to reduce infant mortality and reduce high desired fertility;
- quantitative coverage to *emphasis on quality and content of care*;
- predominantly women centred programmes to *meeting the health care needs of the family with emphasis on involvement of men in planned parenthood;*
- supply driven service delivery to *need and demand driven service; improved logistics for ensuring adequate and timely supplies to meet the needs;*
- service provision based on providers' perception to *addressing choices and conveniences of the couples.*

2.10.7 The population growth rate continues to be high due to:

- the large size of the population in the reproductive age-group (accounting for an estimated 60 per cent of the total population growth);
- higher fertility due to the unmet need for contraception (contributing to around 20 per cent of population growth); and
- high wanted fertility due to the prevailing high Infant Mortality Rate (IMR) and other socio-economic reasons (estimated contribution of about 20 per cent to population growth).

2.10.8 The Tenth Plan will fully operationalise efforts to:

- assess and meet the unmet needs for contraception;
- achieve reduction in the high desired level of fertility through programmes for reduction in IMR and maternal mortality ratio (MMR); and
- enable families to achieve their reproductive goals.

2.10.9 If the reproductive goals of families are fully met the country will be able to achieve the National Population Policy goal of replacement level of fertility by 2010. The medium and long term goals will be to continue this process to accelerate the pace of demographic transition and achieve population stabilisation by 2045. Early population stabilisation will enable the country to achieve its developmental goal of improving the economic status and quality of life of the citizens.

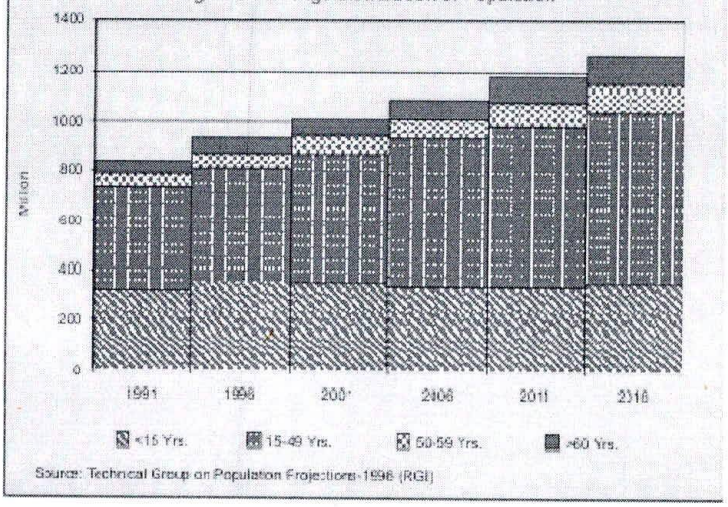
2.10.10 Reductions in fertility, mortality and population growth rate will be major objectives during the Tenth Plan. Three of the 11 monitorable targets for the Tenth Plan and beyond are:

- reduction in IMR to 45 per 1,000 live births by 2007 and 28 per 1,000 live births by 2012;
- reduction in maternal mortality ratio to 2 per 1,000 live births by 2007 and 1 per 1,000 live births by 2012; and
- reduction in decadal growth rate of the population between 2001-2011 to 16.2.

Population Projections

2.10.11 The Technical Group on Population Projections under the Chairmanship of the Registrar General, India (RGI) constituted by the Planning Commission in 1996 had made population projections up to the year 2016 based on the results

Figure.2.10.1 Age-distribution of Population



Source: Technical Group on Population Projections-1996 (RGI)

of 1991 Census. The projections for different age groups are shown in Figure 2.10.1. It then estimated the probable year by which the replacement level (Total Fertility Rate) of 2.1 will be achieved by different states if the recent pace of decline in TFR observed during 1981-93 continues. The Group estimated that the country would achieve the replacement level of fertility by 2026. The most populous states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh will achieve the replacement level of fertility by 2039, 2060, 2048 and after 2100 respectively.

Census 2001

2.10.12 The 2001 Census showed that India's population was 1.02 billion in 2001,15 million more than the projections made by the Technical Group on Population Projections. Comparison of the projections with the Sample Registration System (SRS) data indicates that projections regarding both the birth and death rates were substantially lower. The decadal growth rate has declined from 23.86 per cent for 1981-91 to 21.34 per cent for 1991-2001. (Figure2.10.2). Tamil Nadu and Karnataka have attained replacement level of fertility and Andhra Pradesh has shown a remarkable fall in fertility and decadal growth rate during the 1990s. The decadal growth rate in a majority of the states has shown a decline. Only Bihar has shown a substantial increase in the decadal growth rate. The National Population Policy has set the goal that the country will achieve the replacement level of fertility by 2010. If this is achieved, the decade 2001-2011 will witness a very steep decline in decadal growth rate.

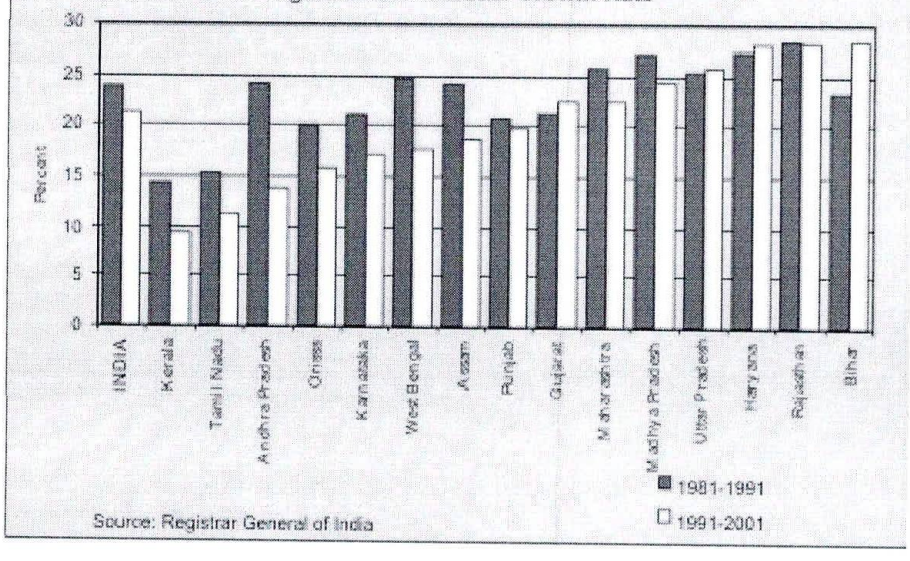
Population Projections for the Tenth Plan

2.10.13 Prior to the formulation of the Tenth Plan it is not possible to make full scale projections taking into account the trends during the 1990s as the data on age and sex distribution of the population from 2001 Census is not yet available. The Department of Family Welfare made the necessary adjustment for higher actual population in the base year of 1997 in the projections made by the Technical Group on Population Projection for the period 1997-2012 (Table 2.10.1).

Interstate Differences

2.10.14 The projected values for the total population in different regions is shown in the Figure 2.10.3. There are marked differences between states in size of the population, projected population growth rates and the time by which TFR of 2.1 is likely to be achieved. If the present trend continues, most of the southern and the western states are likely to achieve TFR of 2.1 by 2010.

Figure 2.10.2. Decadal Growth Rate



Source: Registrar General of India

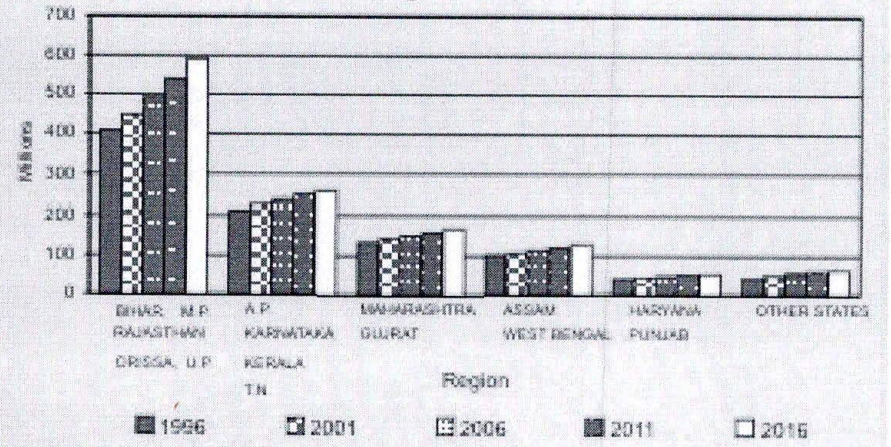
Table 2.10.1
Population Projections Adjusted For The 2001 Census Totals

Year	1997	2002	2007	2012
Population (millions)*	951.18	1028.93	1112.86	1196.41
Population (millions)**	965.28	1044.18	1129.35	1214.14

*Technical Group on Population Projections–1996;
**Adjusted for the 2001 census totals
Source: Deptt of F.W.

Urgent energetic steps to assess and fully meet the unmet needs for maternal and child health (MCH) care and contraception through improvement in availability and access to service are needed in Rajasthan, Orissa, Uttar Pradesh, Madhya Pradesh and Bihar (before division) in order to achieve a faster decline in their mortality and fertility rates. The performance of these states would determine the year and size of the population at which the country achieves replacement level of fertility. It is imperative that special efforts are made during the next two decades to break the vicious self-perpetuating cycle of poor performance, poor per capita income, poverty, low literacy and high birth rate in the populous states so that further widening of disparities between states in terms of per capita income and quality of life is prevented. An Empowered Action Group has been set up to provide special assistance to these states. The benefits accrued from such assistance will depend to a large extent on the states' ability to utilize the available funds and improve services and facilities.

Figure 2.10.3 Population Projections
(Region Wise)



Source: Technical group on population projections , 1996 RGI

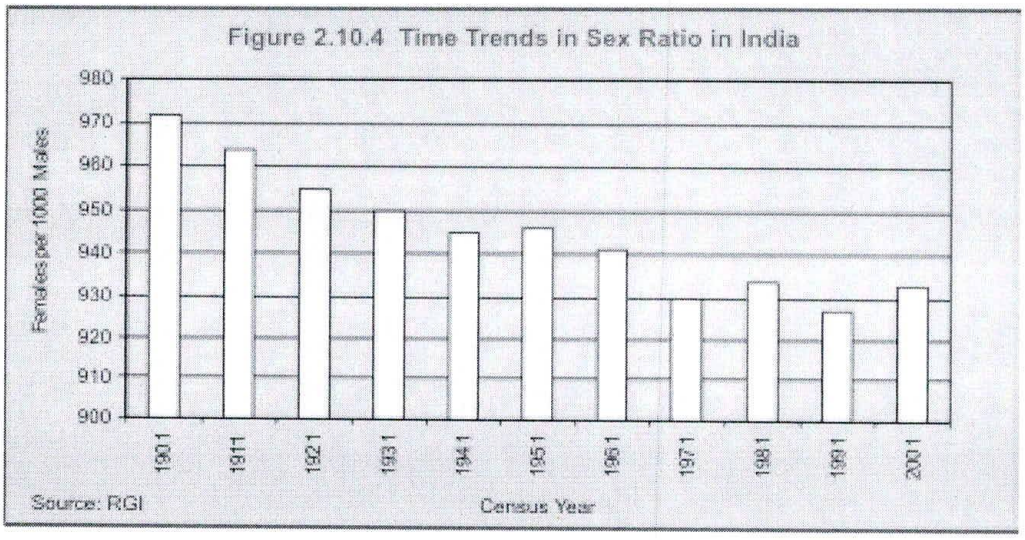
Inter state differences

There are massive inter state differences in population, population growth rates, time by which TFR of 2.1 and population stabilisation will be achieved.

These differences will have a major impact on :

- ✉ health and nutritional status.
- ✉ education and skill development.
- ✉ appropriate employment with adequate emoluments.
- ✉ rural – urban and inter state migrations.
- ✉ social and economic development.

The effort is to provide adequate inputs to improve performance so that the disparities between states are narrowed.



Gender Bias

2.10.15 The reported decline in the sex ratio during the current century has been a cause for concern (Figure 2.10.4). The factors responsible for this continued decline are as yet not clearly identified. However, it is well recognised that the adverse sex ratio is a reflection of gender disparities. There is an urgent need to ensure that all sectors collect and report sex disaggregated data. This will help in monitoring for evidence of gender disparity. Continued collection, collation, analysis and reporting of sex disaggregated data from all social sectors will also provide a mechanism to monitor whether girls and women have equal access to these services.

2.10.16 The census based estimates of sex ratio in the 0-6 age group show massive inter-state differences (Figure 2.10.5). In addition, data indicate that over the last three decades there has been a decline in the 0-6 sex ratio. (Table 2.10.2) There had been speculation as to whether female infanticide, sex determination tests and selective female foeticide are, at least in part responsible for this. The Government of India has enacted a legislation banning the prenatal sex determination and selective abortion while female infanticide is a cognizable offence. However, unless there is a change in social attitudes, these legislations cannot achieve the desired change. Intensive community education efforts to combat these practices, especially in

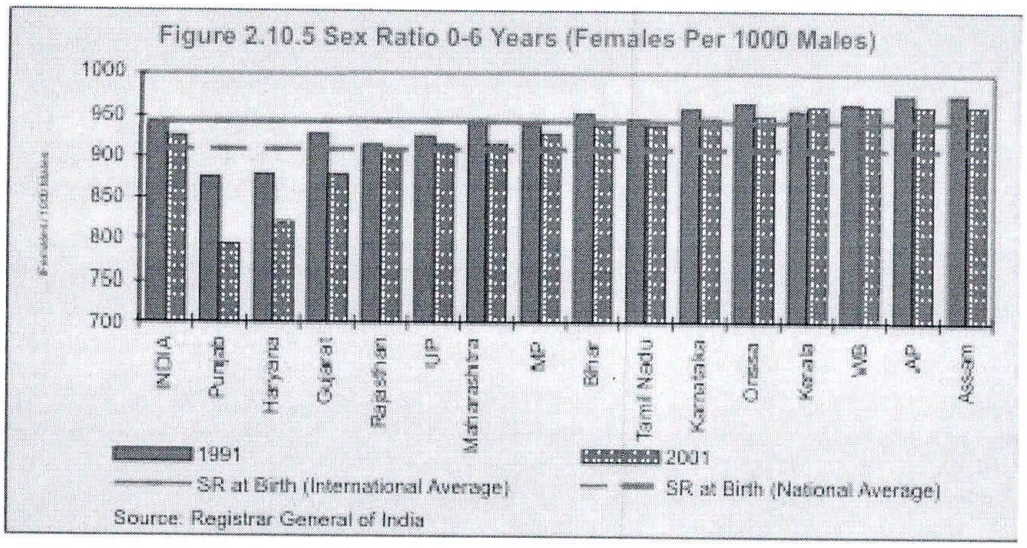


Table 2.10.2

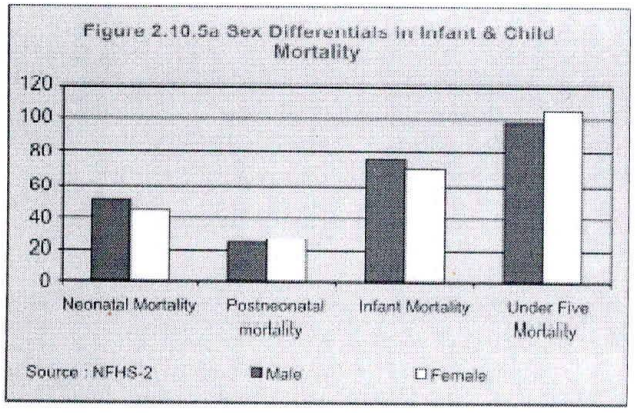
Child sex ratio (Females/1000 Males)

Year	Urban	Rural	Total
1981	931	963	962
1991	935	947	945
2001	903	934	927

Source : RGI

pockets from where female infanticide and foeticide have been reported, are urgently required.

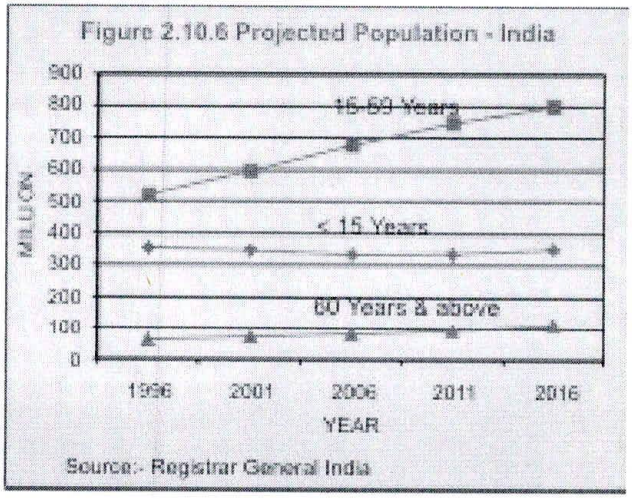
2.10.17 The National Family Health Survey clearly brought out the sex differentials in the neonatal, post neonatal, infant and under five mortality rates . As there is no biological reason for the higher mortality among the girl children these differences are an indication of existing gender bias in caring for the girl child (Figure 2.10.5a).



2.10.18 In the reproductive age-groups, the mortality rates among women are higher than those among men. The continued high maternal mortality is one of the major factors responsible for this. Effective implementation of the RCH programme is expected to result in a substantial reduction in maternal mortality. Currently, the longevity at birth among women is only marginally higher than that among men. However, the difference in life expectancy between men and women will progressively increase over the next decade. Once the reproductive age group is crossed, the mortality rates among women are lower. Women will outnumber men in the over-60 age- group. Departments of Health, Family Welfare and Women and Child Development are initiating steps to ensure that these women get the care they need .

Population Projections and their Implications for the Family Welfare Programme

2.10.19 The projected population of India in the three major age groups (less than 15, 15-59, 60 years or above) between 1996 and 2016 are shown in Figure 2.10.6. In the country as a whole, there will be a



Age group < 15 years

There will be no increase in numbers. Focus will be to improve:

- ⊠ quality and coverage of health and nutrition services and achieve improvement in health and nutritional status
- ⊠ improve access to education & skill development

marginal decline in less than 15 years of age population (352.7 million to 350.4 million), even though in poorly performing states there will be continued increase in the number of children requiring care. The health care infrastructure will, therefore, not be under pressure to provide care to an ever increasing number of children. They will be able to concentrate on:

- ⊠ improving quality of care;
- ⊠ improving on antenatal, intra natal and neonatal care aimed at reducing neonatal morbidity and mortality;

- improving coverage for immunisation against vaccine preventable diseases;
- promoting inter sectoral coordination especially with the ICDS programme so that there is an improvement in health and nutritional status; and
- improving coverage and quality of health care to vulnerable and underserved adolescents.

2.10.20 The economic challenge is to provide needed funds so that these children have access to nutrition, education and skill development. The challenge faced by the health sector is to achieve reduction in morbidity and mortality rates in infancy and childhood, to improve nutritional status and eliminate ill effects of the gender bias.

Age group 15-59 years

The challenge is the massive increase in the number of people in this age group. They will:

- need wider spectrum of services :
  - maternal and child health services
  - contraceptive care
  - gynaecological problems
  - RTI /STD management
- expect better quality of services
- expect fulfillment of their felt needs for MCH/family planning care.

Opportunity is that if their felt needs are met through effective implementation of RCH programme, it is possible to accelerate demographic transition and achieve rapid population stabilisation.

2.10.21 There will be a massive increase of population in the 15-59 age group (from 519 million to 800 million). The RCH care has to provide the needed services for this rapidly growing clientele. The population in this age group is more literate and has greater access to information. These people will, therefore, have greater awareness and expectation regarding both access to a wide spectrum of health care related services and the quality of these services. The Family Welfare Programme has to cater to a wider spectrum of health care needs of this population– including maternal and child health (MCH) care, contraceptive care, management of gynaecological problems; the quality of services also needs to be improved.

2.10.22 There will be a substantial increase in the population more than 60 years (62.3 million to 112.9 million) in the next two decades. Increasing numbers of the population beyond 60 years would necessitate provisions for the management of some of the major health problems in this age group, including early detection and management of cancers.

Evolution of India's Family Welfare Programme

Basic premises of the Family Welfare Programme are:

- acceptance of Family Welfare services is voluntary;
- Family Welfare programme will provide:
  - integrated MCH and family planning services;
  - effective IEC to improve awareness;
  - easy and convenient access to Family Welfare services free of cost.

The 1950s

2.10.23 At the time of Independence, health care services were predominantly urban, hospital-based and curative. General practitioners well versed in maternal and child health and paediatricians and obstetricians provided health care to women and children. While they did provide comprehensive, integrated, good quality services, technology for detection and management of health problems was limited and out reach of services was poor. The majority of the population, especially those belonging to the poorer sections and those residing in rural areas, did not have access to health care, as a result of

which morbidity and morality rates among them were quite high. Many women died while seeking illegal induced abortion to get rid of unwanted pregnancy because they did not have access to contraceptive care. Conceptions that were too early, too close, too many and too late and lack of antenatal care to detect and treat problems in pregnancy resulted in high maternal and infant mortality rates. Antenatal, intrapartum, postnatal and contraceptive care was not readily available to women who required these services desperately.

2.10.24 Obstetricians, who were daily witnessing maternal morbidity and mortality associated with high parity, were willing to persuade their patients who had completed their families to undergo surgical sterilisation. The fact that the technique was simple, safe and effective and could be done soon after delivery under local anaesthesia accounted for the popularity of postpartum tubal sterilisation. The safety, simplicity and efficacy of vasectomy was also well recognised. For couples who had completed their family, sterilisation of one partner resulted in the reduction of maternal morbidity and mortality associated with high parity. To some extent, this was responsible for the decline in maternal mortality rates in urban areas during the 1950s. However, these measures had no impact on the mortality or fertility or the population growth rate of the country as a whole because of poor outreach, especially in rural areas. Thus, in the 1950s, good quality integrated maternal and child health care, and family planning services were available to those who were aware, had access and could afford the services of physicians. There were efforts to improve coverage and extend the services to rural areas as a part of the block development programme. However, resource and manpower constraints were responsible for the slow progress on this front.

The 1960s

2.10.25 In the 1960s, safe, effective vaccines for the prevention of six childhood diseases and effective contraceptives for birth spacing such as Lippe's loop became available. In order to make these available to people, effective programmes for delivery of identified priority services were drawn up by professionals and implemented through the limited health care infrastructure available in rural areas and supplemented by camps. The family planning and the immunisation programmes were among the earliest of such programmes. Subsequently, several other vertical programmes were added to the Family Welfare Programme. In an attempt to improve outreach, the camp approach was adopted for providing care to pregnant women and children and improving access to immunisation. However, these efforts did not result in any marked improvement in the health status of these vulnerable groups because the care was not available when needed and there were no referral services.

2.10.26 The 1961 census showed a rising decadal population growth rate due to declining death rates and unchanged birth rates.The health infrastructure is still predominantly urban-based. During the 1960s, sterilisation remained the focus of the National Family Planning Programme. Efforts were made to popularise vasectomy and to provide services in rural areas through camps. Tubectomy services, however, remained predominantly in urban hospitals. Moving health education out of hospitals into the community through the extension education approach was attempted to improve awareness and increase acceptance of family planning methods. Lippe's loop provided the first reliable birth spacing method for women in India. Following encouraging response in urban clinics, attempts were made to provide this spacing method to the rural population through camps. However, without the infrastructure to provide follow up services, the device fell into disrepute. It became obvious that it will not be possible to achieve any improvement in maternal and child health indices or reduce birth rates without substantial investment into infrastructure and manpower to provide the needed follow up services.

1970s

2.10.27 The 1970s witnessed many initiatives to improve the health and nutritional status of women and children. The Massive Dose Vitamin A programme, the National Anaemia Prophylaxis

Programme and food supplementation to pregnant and lactating women and pre-school children through the Integrated Child Development Services (ICDS) programme were major initiatives to tackle micronutrient deficiencies and under-nutrition and its adverse consequences in women and children. With the improvement in primary health care infrastructure, access to health care improved.

2.10.28 The 1971 Census showed that population explosion was no longer a potential threat but a major problem that needed to be tackled energetically. The Government gave top priority to the family planning programme and provided substantial funds for several new initiatives. Sterilisation, especially vasectomy services were made widely available. Intra-uterine devices (IUD) and condoms were made available through the PHCs. The hospital-based postpartum programme provided contraceptive care to women coming for delivery. The Medical Termination of Pregnancy (MTP) Act, 1972, enabled women with unwanted pregnancy to seek and obtain safe abortion services.

2.10.29 Increasing concern about the rapidly growing population led to the National Family Planning Programme being included as a priority sector programme during the Fifth Plan. The massive sterilisation drive of 1976 did result in eight million persons undergoing sterilisation, but this did not have any perceptible impact on the birth rate, as the cases were not appropriately chosen. There was a steep fall in acceptance in the very next year. In 1978, the Expanded Programme of Immunisation was initiated to improve coverage for the six vaccine preventable diseases. In 1979, the Programme was renamed as the National Family Welfare Programme and increasing integration of family planning services with those of maternal and child health and nutrition was attempted.

The 1980s

2.10.30 The major thrust during the 1980s was to operationalise the WHO's Alma Ata declaration of health for all by 2000 A.D. (1978) by establishing a net-work of centres in urban and rural areas to provide essential primary health care. The network of post partum centres was expanded to improve access to family welfare services. In 1983 the National Health Policy was formulated and provided comprehensive framework for planning, implementation and monitoring of health care services. The Universal Immunisation Programme (UIP), started in 30 districts in 1986, was extended to cover 448 districts by the end of the Seventh Plan.

The 1990s

2.10.31 The 1991 Census showed that India was entering the opportunity window in demographic transition, when larger proportion of the population is in the age group of 20-40 years, when it will be possible to achieve a rapid decline in fertility and mortality. The report of the NDC Sub Committee on Population gave a new thrust and dynamism to the family welfare programme. During the Eighth Plan, efforts were made under the Child Survival and Safe Motherhood initiative and the Social Safety Net programme to improve the access to maternal and child health services. In view of the massive inter-state and intra-state differences in access to services and health indices, the Department of Family Welfare abolished the practice of setting centrally defined, method-specific targets for contraception. It was replaced by decentralised area-specific need assessment (community needs assessment approach), planning and implementing programmes aimed at fulfilling these needs.

2.10.32 In 1997, the Department of Family Welfare initiated the Reproductive and Child Health (RCH) programme aimed at providing integrated health and family welfare services to meet health care needs of women and children. The components of the comprehensive RCH care is indicated in the Text Box. The essential components recommended for nationwide implementation at all levels include:

- prevention and management of unwanted pregnancy;
- services to promote safe motherhood;
- services to promote child survival; and
- prevention and treatment of RTI and sexually transmitted infection (STI).

Components of comprehensive RCH Care:

- ✉ Effective maternal and child health care.
- ✉ Increased access to contraceptive care.
- ✉ Safe management of unwanted pregnancies.
- ✉ Nutritional services to vulnerable groups.
- ✉ Prevention and treatment of RTI/ STD.
- ✉ Reproductive health services for adolescents.
- ✉ Prevention and treatment of gynaecological problems.
- ✉ Screening and treatment of cancers, especially uterine, cervical and breast cancer.

These services are available in secondary and tertiary care centres in the country.

Efforts are being made to improve the content, quality and coverage of care

2.10.33 Efforts were made to provide adequate inputs to improve the availability and access to RCH services and to improve the programme's performance especially in states/districts with poor health indices. Attempts to reduce disparities between states/districts and achieve incremental improvement in the indices by replication of the strategies adopted by better performing districts were encouraged.

National Population Policy

2.10.34 The immediate objective of the National Population Policy is to meet all the unmet needs for contraception and health care for women and children. The medium-term objective is to bring the TFR to replacement level (TFR of 2.1) by 2010 and, the long-term objective is to achieve population stabilisation by 2045.

2.10.35 The Policy has set the following goals for 2010:

- ✉ universal access to quality contraceptive services in order to lower the TFR to 2.1 by adopting the small family norm;
- ✉ universal registration of births and deaths, marriages and pregnancies;
- ✉ universal access to information/counselling and services for fertility regulation and contraception with a wide basket of choices;
- ✉ to reduce the IMR to below 30 per 1,000 live births and a sharp reduction in the incidence of low birth weight (below 2.5 kg.);
- ✉ universal immunisation of children against vaccine preventable diseases;
- ✉ promote delayed marriage for girls, not earlier than the age of 18 and preferably after 20 years;
- ✉ achieve 80 per cent institutional deliveries and increase the percentage of deliveries conducted by trained persons to 100 per cent;
- ✉ containing of STD;
- ✉ reduction in MMR to less than 100 per 100,000 live births;
- ✉ universalisation of primary education and reduction in the drop-out rates at the primary and secondary levels to below 20 per cent for both boys and girls.

2.10.36 Several states/districts have demonstrated that the steep reduction in mortality and fertility envisaged in the National Population Policy are technically feasible within the existing infrastructure and manpower. All efforts are being made to provide essential supplies, improve efficiency and ensure accountability - especially in the states where performance is currently sub-optimal - so that there is incremental improvement in performance. An Empowered Action Group attached to the Ministry of Health and Family Welfare has been constituted in 2001 to facilitate capacity building in poorly performing states/districts so that they attain the goals set in the Policy. If all these efforts are vigorously pursued it is possible that the ambitious goals set for 2007/2010 may be achieved.

National Commission on Population

2.10.37 The National Commission on Population was constituted on 11 May 2000 under the

chairmanship of the Prime Minister. The Deputy Chairman of the Planning Commission is the vice chairman. The Commission has the mandate to:

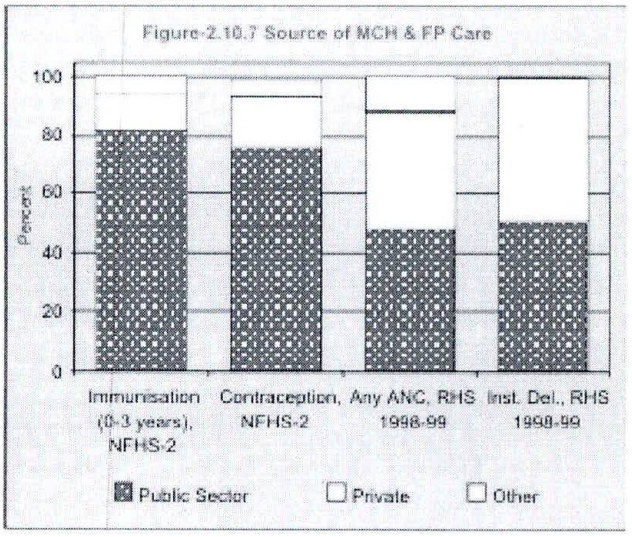
- review, monitor and give direction for the implementation of the National Population Policy with the view of achieving the goals it has set;
- promote synergy between health, educational, environmental and developmental programmes so as to hasten population stabilization;
- promote inter-sectoral coordination in planning and implementation of the programmes through different agencies at the Centre and in the states; and
- develop a vigorous people's programme to support this national effort.

A Strategic Support Group consisting of secretaries of concerned sectoral ministries has been constituted as a standing advisory group to the Commission. Nine working groups were constituted to look into specific aspects of implementation of the programmes aimed at achieving the targets set in the National Population Policy. NCP has allocated funds for action plans drawn up by district magistrates in poorly performing districts to implement programmes aimed at accelerating the pace decline in fertility.

Lessons Learnt in Five Decades

2.10.38 The lessons learnt from the implementation of family welfare programmes in the last five decades are:

- The governmental network provides most of the maternal and child health and contraceptive care services; (Figure 2.10.7)
- adequate financial inputs and health infrastructure are essential prerequisites for the success of the programme;
- providing efficient and effective integrated maternal and child health and contraceptive care helps in building up rapport with the families;



- IEC and motivation activities are powerful tools for promoting the small family norm;
- the people are conservative but responsible and mature and though their response may be slow, it is rational and sustained.

REVIEW OF PERFORMANCE OF THE FAMILY WELFARE PROGRAMME DURING NINTH PLAN

2.10.39 The decentralised planning and initiatives taken up under the RCH programme during the Ninth Plan were expected to lead to substantial improvement in the coverage and quality of services. In order to achieve this, the Department of Family Welfare was given additional outlay to enable it to provide adequate financial inputs to the states. Goals for the Ninth Plan were projected on the basis of these newer initiatives and additional inputs provided. Goals set for the Ninth Plan, current status regarding these are in Annexure 2.10.I

2.10.40 A review of the performance during the Ninth Plan suggests that the health systems in the states needed more time to adapt to decentralised planning and implementation of components of the RCH programme. In an attempt to improve coverage under specific components of the RCH programme, some states embarked on campaign mode operations which took their toll on routine services. Efforts to eliminate polio by the end of 2000 through the massive pulse polio campaign also

had some adverse effect on routine service delivery. As a result, it is unlikely that Ninth Plan goals for CBR, couple protection rate, MMR and IMR will be achieved.

2.10.41 Independent surveys have shown that several states have achieved goals set for some aspect of the RCH programme during the Ninth Plan, demonstrating that these can be achieved within the existing infrastructure, manpower and inputs.

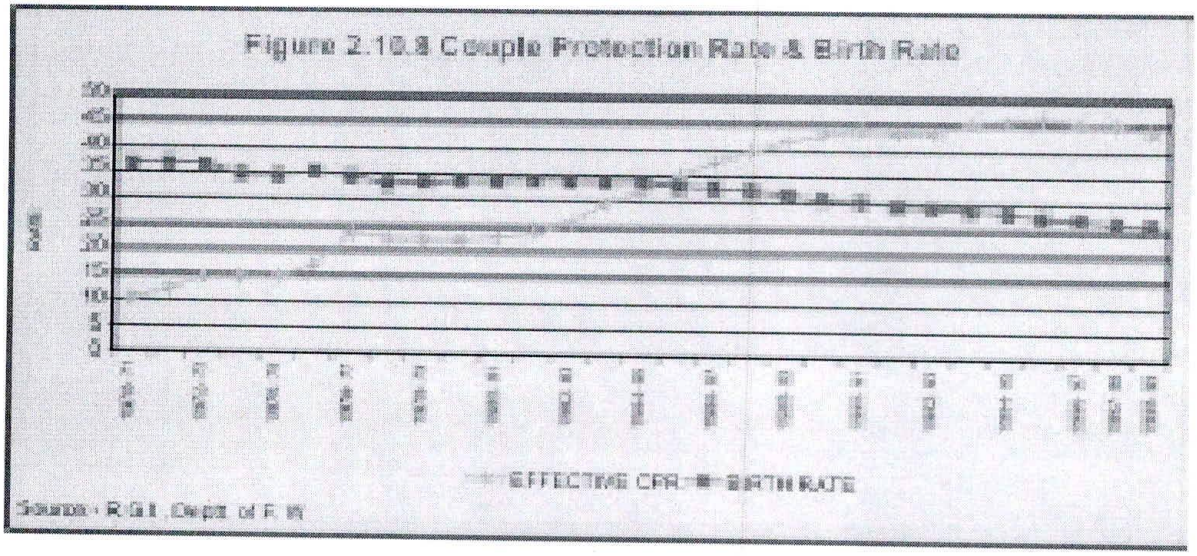
- Andhra Pradesh, Punjab, West Bengal and Maharashtra have shown substantial decline in birth rates and the latter three states are likely to achieve replacement level of fertility, ahead of the projections.
- Punjab has achieved couple protection rate and use of spacing methods far ahead of all other states.
- Tamil Nadu and Andhra Pradesh have achieved significant reduction in home deliveries.
- Kerala, Maharashtra, Punjab and Tamil Nadu improved immunisation coverage.
- Tamil Nadu and Andhra Pradesh had achieved improvement in coverage and quality of antenatal care.

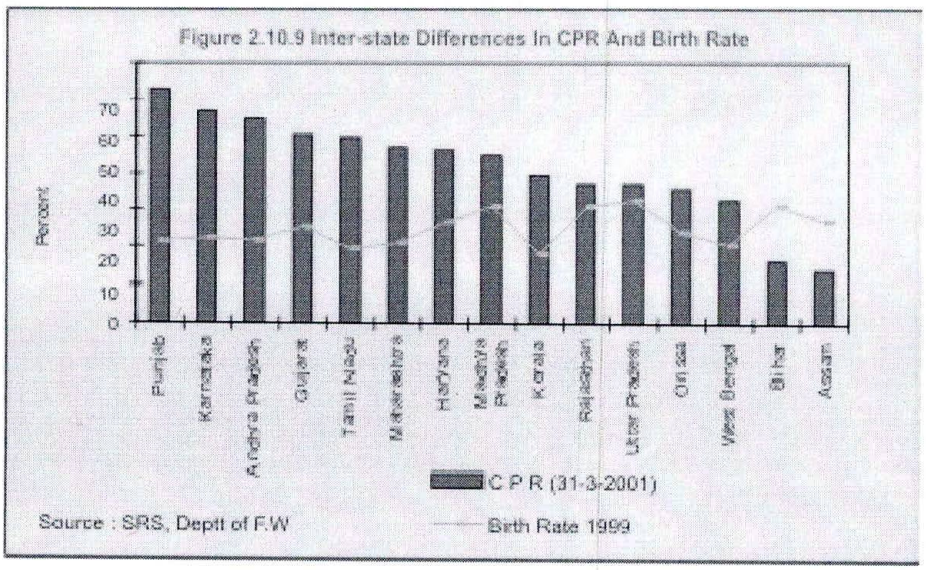
2.10.42 During the Tenth Plan, the pace of implementation of the programme will be accelerated through streamlining of infrastructure; focus will be on improving quality, coverage and efficiency of services so that all the felt needs for family welfare services are fully met. Special attention will be paid to improving access to good quality services to the under-served population living in urban slums, remote rural and tribal areas.

PREVENTION OF UNWANTED PREGNANCY

2.10.43 Efforts to improve the availability of contraceptive care during the 1970s and 1980s resulted in a steep rise in couple protection rates. However, there was no commensurate fall in the birth rate. Service reports on couple protection rate and SRS estimates of CBR indicate that there has been a steady decline in the latter during the 1990s in spite of the fact that the rise in couple protection rate during the decade has been very slow (Figure 2.10.8). This may be because earlier there was over reporting of contraceptive acceptance or there has been an improvement in the quality of services during nineties and appropriate contraceptives are being provided at the appropriate time.

2.10.44 There are massive inter-state differences in couple protection rate and CBR. In states like Bihar, the couple protection rate is low and birth rate is high. In Punjab, couple protection rate is high. Kerala, Tamil Nadu and Andhra Pradesh have achieved substantially lower CBR even while couple protection rate was lower than that of Punjab. (Figure 2.10.9). Age and parity at the time of accepting contraception as well as continuation





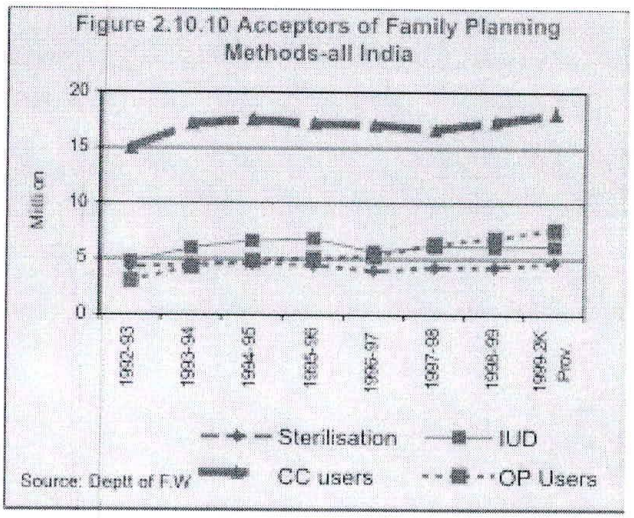
rates of spacing methods are critical factors that influence the relationship between couple protection rate and CBR. The high acceptance of tubectomy in younger women with two or three children in Tamil Nadu and Kerala and the higher use of spacing methods even among older women with three or more children in Punjab may account for the differences in the couple protection rate and CBR between these states.

2.10.45 Over the years there has been a fall in birth rate in all the states and among all segments of population, but the rate of reduction in the birth rate is higher in some states. Data from 2001 Census and SRS 2000 indicate that:

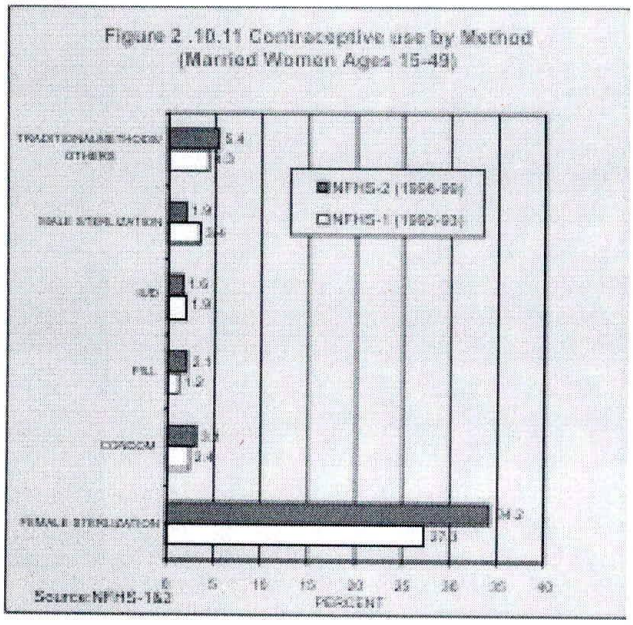
- ☒ eleven states/Union Territories with 11.3 per cent of the population have CBR of below 20;
- ☒ twelve states/Union Territories with 38.6 per cent of the population have CBR between 20 and 25;
- ☒ seven states with 14.4. per cent of the population have CBR between 25 and 30;
- ☒ five states with 35.7 per cent of the population have CBR of more than 30 per 1,000 population.

There is an urgent need to meet all the needs for contraception in the populous states with high birth rate.

2.10.46 Data from service reports during the Ninth Plan period indicate that there has been a decline in acceptors of all types of contraception in the initial years of the Plan, as compared to the level of acceptance in 1994-95. Subsequently, from 1998-99 the decline has been reversed except in the case of IUD (Figure 2.10.10).



2.10.47 The NFHS 1 and 2 provided nation-wide data on contraceptive prevalence in 1992-93 and 1998-99. Data from the survey (Figure 2.10.11) indicate that contrary to the performance figures available from the service reports of the Department of Family Welfare, there has been a substantial increase in the sterilisation and oral contraceptive acceptance in the country. Only



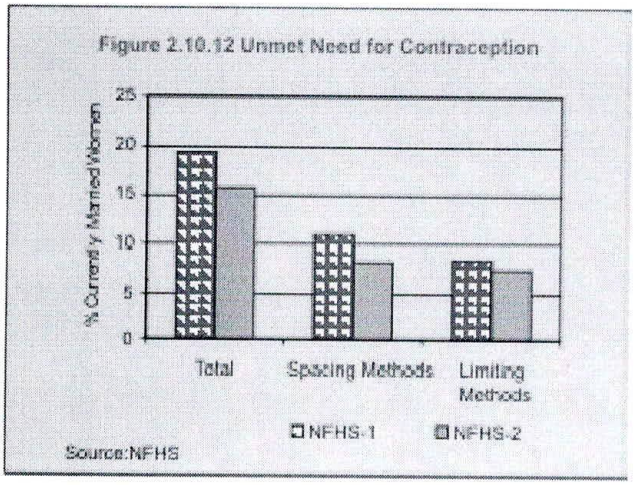
IUD and vasectomy use has shown a decline. The improvement in couple protection rate explains the steady decline in the CBR during the 1990s reported by the SRS. The differences in couple protection rate data from service reports of the Department of Family Welfare and NFHS may partly be due to:

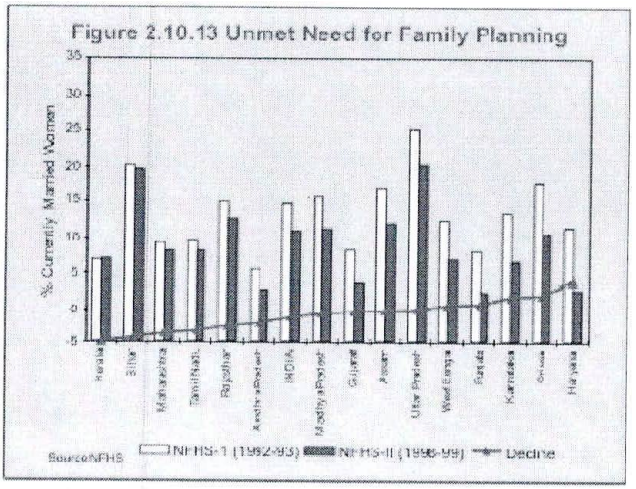
- a reduction in the earlier over reporting which was done in an attempt to show that targets have been met; and
- incomplete reporting due to changes in service reporting formats during the current period.

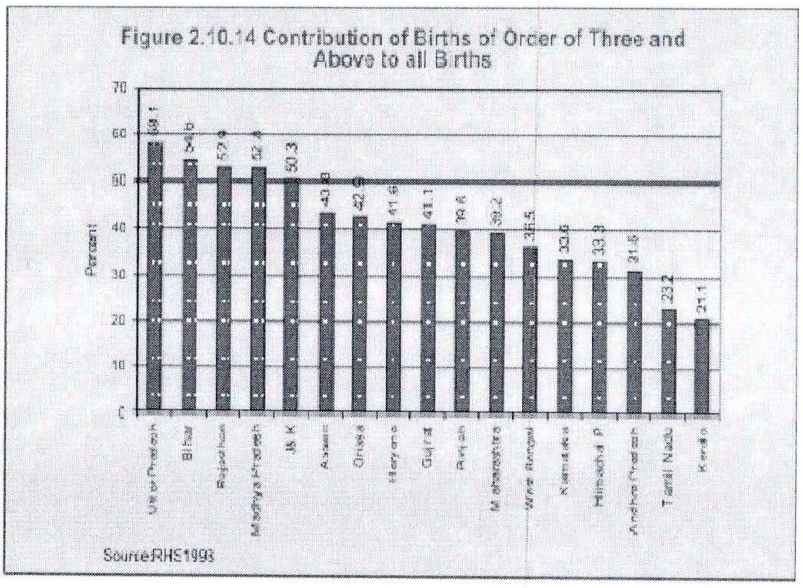
2.10.48 The data from in-built independent surveys and coverage evaluations within the National Family Welfare Programme have been reassuring in that their findings show that there has been no deterioration in the contraceptive prevalence in the 1990s. However, the coverage figures under service reporting for spacing methods, antenatal care and immunisation are still substantially higher than the coverage reported by evaluations. This over reporting needs to be corrected so that service reporting provides a reliable indication of progress achieved in the programme. The narrowing of the gap in coverage figures between the service and evaluation reports can be used as a new indicator for the quality in programme monitoring.

Unmet Need for Contraception

2.10.49 NFHS 1 and 2 (Figure 2.10.12) clearly indicate that there is still substantial unmet need for both terminal methods and spacing methods in all states (Figure 2.10.13). There are inter-state differences in the magnitude of unmet need for contraception. It is imperative that all the unmet needs are fully met within the Tenth Plan period and a substantial reduction in unwanted pregnancy is achieved. Making a balanced presentation of advantages and disadvantages of methods, improving counselling, quality of services and follow up care will enable couples to make appropriate choices regarding contraception, increase couple protection rates and continuation rates and enable the country to achieve the goal of replacement level of fertility by 2010.







Monitoring Birth Order

2.10.50 Monitoring reported birth order is an easy method of observing the progress towards achievement of replacement level of fertility. Currently, birth order of three or more account for nearly half of all births. There are massive inter-state and inter-district differences in the contribution of different birth orders (Table2.10.3 and Figure 2.10.14). Based on this information, district-specific differential strategies can be evolved to improve contraceptive prevalence rates, increase inter-birth intervals and reduce higher order of births.

Table 2.10.3
Inter-district variations

(Birth order three or more as percentage of total births)

	No of districts
<20%	27
20-40%	165
>40%	313

Source: RHS (Rapid Household survey 1998)

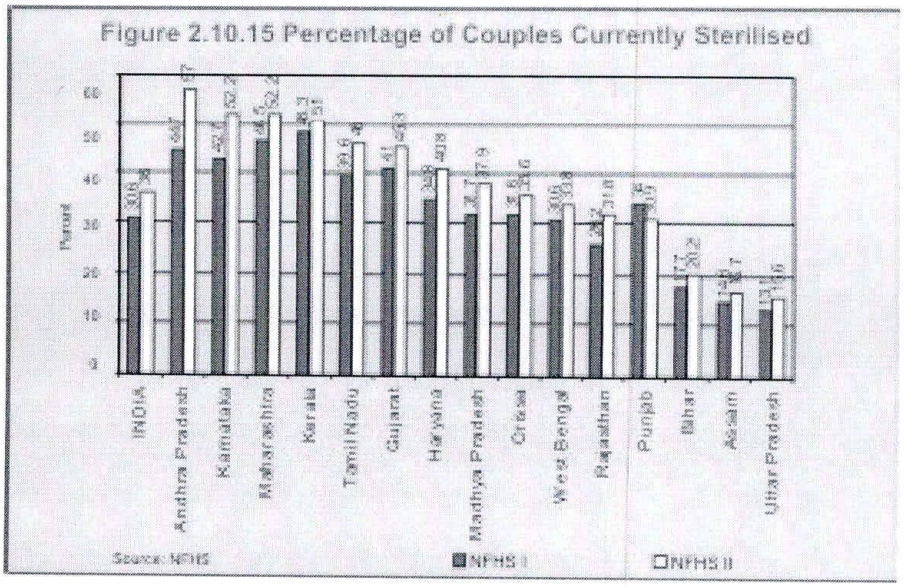
Terminal Methods of Contraception

2.10.51 Sterilisation has been the most widely used method of contraception in all states. Currently, age at marriage is very low and a majority of the women complete their families during their early 20s. In the current Indian milieu of stable marriages, sterilisation is the most appropriate method of contraception for such couples. There are substantial differences between states and between districts in proportion of eligible couples who have adopted terminal methods of contraception (Table 2.10.4). The 1990s saw some increase in the per centage of currently sterilised persons in all states except Punjab. However, the per centage of women undergoing sterilisation is very low in Assam, Bihar and Uttar Pradesh. (Figure 2.10.15). A majority of women in these states opt for sterilisation after bearing three or more children. Improving access to safe, good quality tubectomy/ vasectomy services through RCH camps in CHCs/PHCs may be the most viable and sustainable strategy for meeting the unmet need for sterilisation in these states.

Table 2.10.4
Inter-district variations in the percentage of eligible couple sterilised

	No. of districts
>50	75
40-49	101
30-39	106
<30	223

Source : RHS1998-99

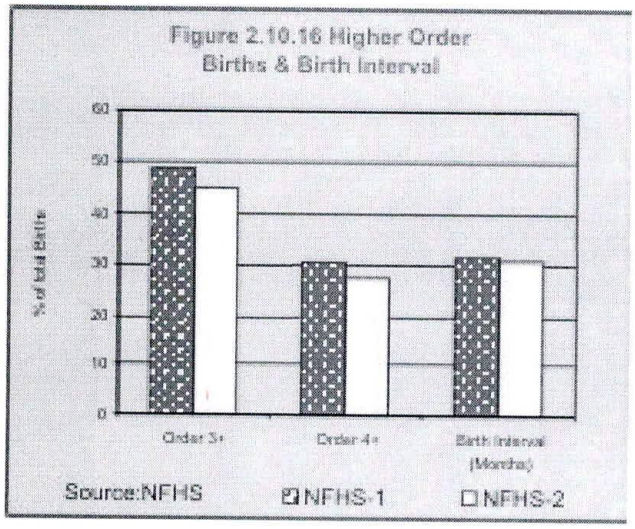


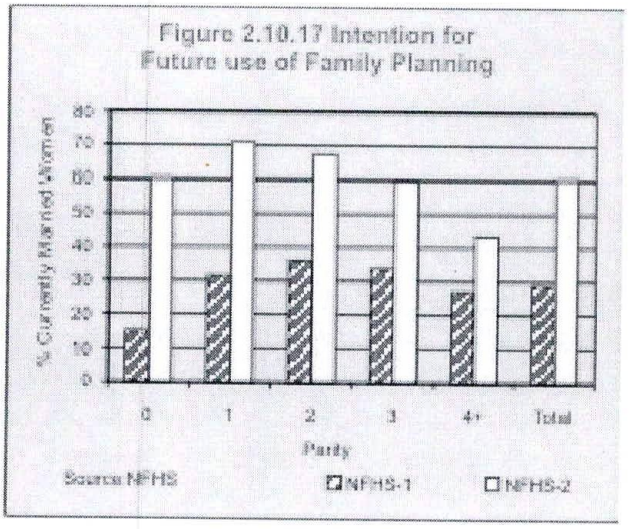
Emerging Needs for Spacing Methods

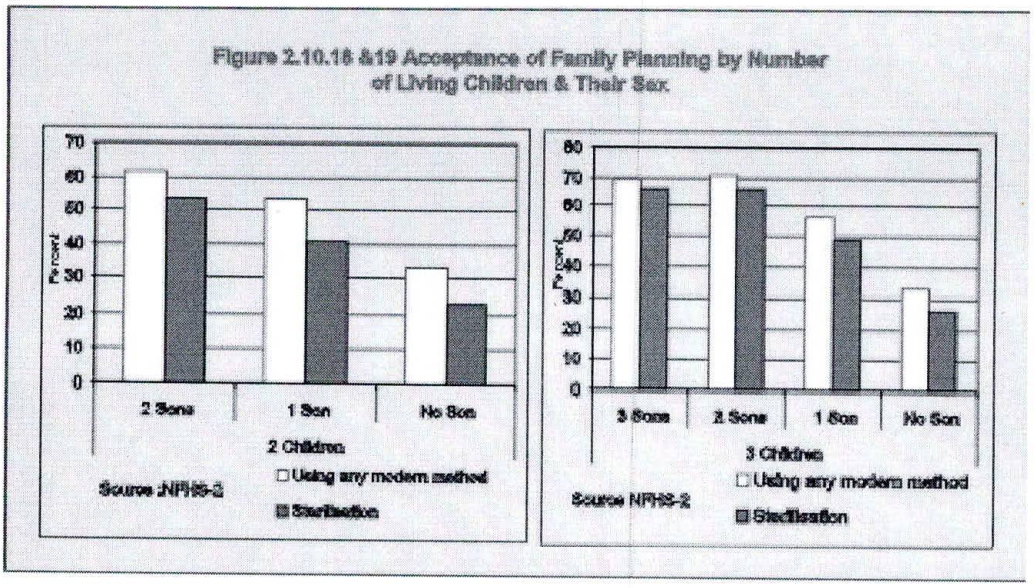
2.10.52 Data from NFHS clearly shows that in spite of the low use of spacing methods, the mean inter-birth interval is about 30 months. (Figure 2.10.16) This is because of universal prolonged breast-feeding. Exclusive breast feeding during the first six months offers substantial protection against pregnancy. However, once supplements are introduced to breast-fed infants, the contraceptive effect of lactation wanes. The introduction of appropriate contraception at this time will ensure adequate spacing between births and prevent deterioration in maternal and infant nutrition due to too early advent of the next pregnancy. Data from NFHS 2 has also shown that there is an emerging need for contraception before first birth. (Figure 2.10.17) This has to be fully met during the Tenth Plan.

Gender–Bias And Acceptance of Contraception

2.10.53 Data from NFHS showed that the preference for a son influenced the acceptance of permanent as well as temporary methods of contraception (Figures 2.10.18 - 19). It is important that appropriate steps are taken by all concerned sectors to minimise and eliminate gender-bias which reduces contraceptive acceptance among those with girl children.

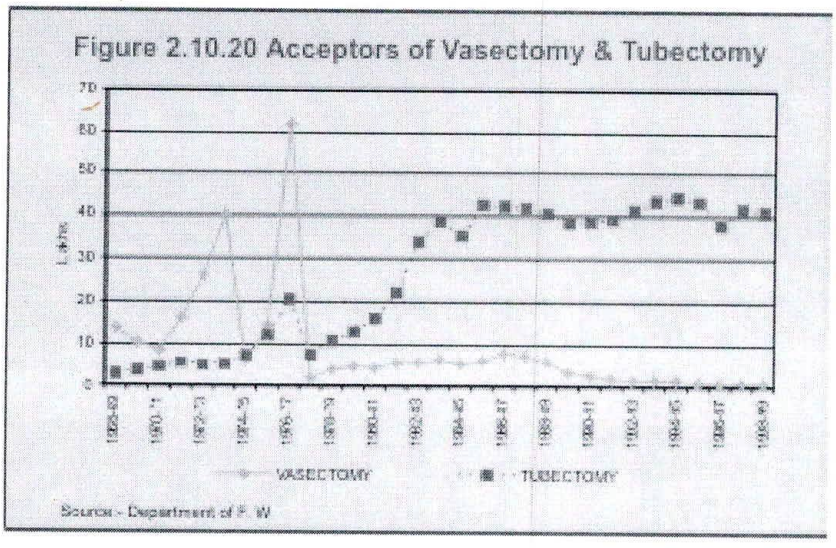






Men's Participation in Planned Parenthood

2.10.54 Men play an important role in determining education and employment status, age at marriage, family formation pattern, access to and utilisation of health and family welfare services for women and children. Their active co-operation is essential for the prevention and control of STI/RTI. In condom users, consistent and correct use is an essential pre-requisite for prevention of STI as well as pregnancy. Vasectomy was the most widely used terminal method of contraception in the 1960s and 1970s but since then there has been a steep decline in its use (Figure 2.10.20). It is essential that efforts to re-popularise vasectomy are intensified. Ample data exists to show that vasectomy is safer than tubectomy. Every effort will be made to repopularise vasectomy by improving access to vasectomy services. These services (conventional or no-scalpel) will be made readily available to all at convenient times as an outpatient procedure in all primary, secondary and tertiary care institutions. Follow up care will be provided to all taking into account the existing time constraints and the conveniences of men. Efforts will be made to seek men's active participation in improving utilization of funds provided for emergency transport and ensuring that women and children reach appropriate centers where emergency services are available. Their cooperation will be sought in improving



antenatal, child health and immunization care as well as compliance with referrals. Over the next five years efforts will be made to ensure men's participation in every facet of planned parenthood activities.

Tenth Plan Strategy for Meeting the Felt Needs for Contraception

2.10.55 Tenth Plan strategy to meet all the felt needs for contraception would include:

In all districts

- ☒ counselling and balanced presentation of the advantages and disadvantages of all available methods of contraception to enable the family to make the right choice;
- ☒ improve access to good quality contra-ceptive care services in the vicinity of their residences;
- ☒ good follow up care.

In states/districts where birth order of three or more accounts for over 40 per cent of the births:

- ☒ ensure ready access to tubectomy/vasec-tomy by sending doctors, if necessary, from CHCs/ district hospitals to PHCs/CHCs on fixed days.

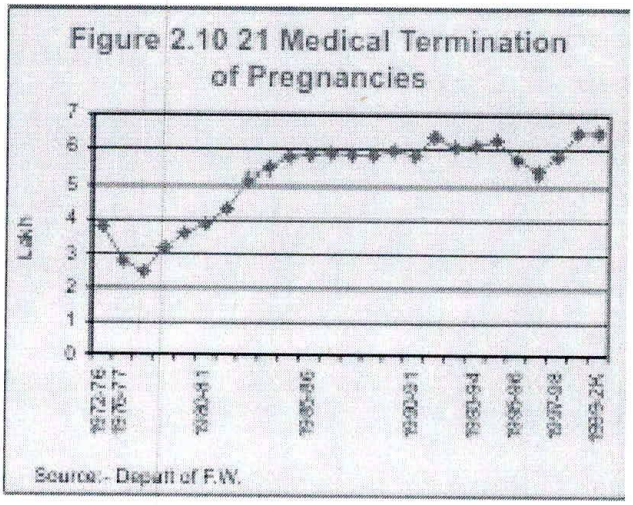
In states/districts where birth order of two or less accounts for over 60 per cent of the births

- ☒ meet the unmet needs for spacing methods on a priority basis and also continue to provide terminal methods.

MANAGEMENT OF UNWANTED PREGNANCY

2.10.56 It is estimated that in 1998, about 9 per cent of maternal deaths were due to unsafe abortions. Available service data on MTPs indicate that following an initial rise in early 1980s, the number of reported MTP's hovered around 0.5– 0.7 million in the 1990s(Figure-2.10.21). The estimated number of illegal induced abortions in the country is in the range of four to six million. There has not been any substantial decline in the estimated number of illegal abortions, reported morbidity due to illegal abortions or share of illegal abortions as the cause of maternal mortality. The management of unwanted pregnancy through early and safe MTP services as envisaged under the MTP Act is an important component of the ongoing RCH programme.

Figure 2.10 21 Medical Termination of Pregnancies



2.10.57 During the Ninth Plan efforts were made to:

- ☒ improve access to family planning services and reduce the number of unwanted pregnancies;
- ☒ cater to the demand for MTP;
- ☒ improve access to safe abortion services by training physicians in MTP and recognising and strengthening institutions providing these safe abortion services; and
- ☒ decentralise registration of institutions to the district level.

2.10.58 In spite of these efforts, there has not been any increase in terms of coverage, number of MTPs reported and reduction in the number of women suffering adverse health consequences of illegal induced abortions.

2.10.59 Tenth Plan strategies for reducing morbidity due to induced abortion include:

- reducing the number of pregnancies by fully meeting the felt but unmet needs for contraception;
- improving access to safe MTP services through:
  - ensuring the availability of MTP services in all institutions where there is a qualified gynaecologist and adequate infrastructure;
  - decentralising registration of MTP clinics to district level;
  - simplifying the regulations for reporting of MTP;
  - training physicians working in well-equipped institutions in the government, private and voluntary sector in MTP so that they also can provide safe abortion services;
  - providing manual vacuum aspiration (MVA) syringes in recognised MTP centers where there is a trained physician but no vacuum aspiration machine;
  - using MVA for performing MTP in CHC/ PHC , when a gynaecologist visits the CHCs/PHCs on a fixed day; and
  - exploring the feasibility and safety of introducing non-surgical methods of MTP in medical college hospitals and extending the service in a phased manner to district hospitals.
- Ensuring that women do accept appropriate contraception at the time of MTP to prevent unwanted pregnancy requiring a repeat MTP.

MATERNAL HEALTH

2.10.60 The prevailing high rates of maternal morbidity and mortality have always been a source of concern, and antenatal and intrapartum care aimed at reducing these have been components of the National Family Welfare programme since its inception. Although data on state/district-specific maternal morbidity/ mortality is not available, available figures from the SRS and the Survey of Causes of Death provide sufficient information on mortality rates and causes of death so that rational programmes could be evolved to combat major health problems in women. In the 1990s, the SRS and the NFHS 1&2 provided independent data to assess the impact of ongoing programmes on maternal mortality. During the 1990s, there has not been any decline in MMR and more than 100,000 women continue to die each year due to pregnancy-related causes. (Table 2.10.5)

Table 2.10.5

Maternal Mortality Ratio

	1992-93	1997	1998
RGI (Sample Registration Scheme)	NA	408	407
National Family Health	424*	-	540*

*Differences are not statistically significant

Source : RGI and NFHS 1& 2

2.10.61 Data from SRS indicate that the major causes of maternal mortality continue to be unsafe abortions, antepartum and post-partum haemorrhage, anaemia, obstructed labour, hypertensive disorders and post-partum sepsis. There has been no major change in the causes of maternal mortality over years(Table 2.10.6).

Table 2.10.6

Causes of maternal death (%)

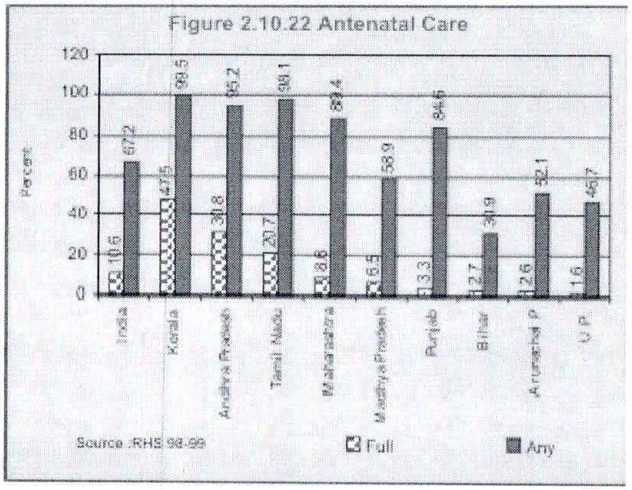
Haemorrhage	30
Anaemia	19
Sepsis	16
Obstructed labor	10
Abortion	8
Toxemia	8
Others	8

Source: Survey of Causes of Death 1998

Deaths due to abortion can be prevented by increasing access to safe abortion services. Deaths due to anaemia, obstructed labour, hypertensive disorders and sepsis can be prevented by improving the access of essential obstetric care, universal screening for detection of obstetric problems, referral and timely treatment of complications of pregnancy, promoting institutional delivery and postnatal care. Emergency obstetric services will help saving lives of women with haemorrhage during pregnancy or complications during deliveries. The Ninth Plan envisaged universal screening of all pregnant women, identification of women with health problems, problems during pregnancy and appropriate management including referral to centres where appropriate care is available. This, however, has not been operationalised; highest priority will be accorded to operationalise this during the Tenth Plan.

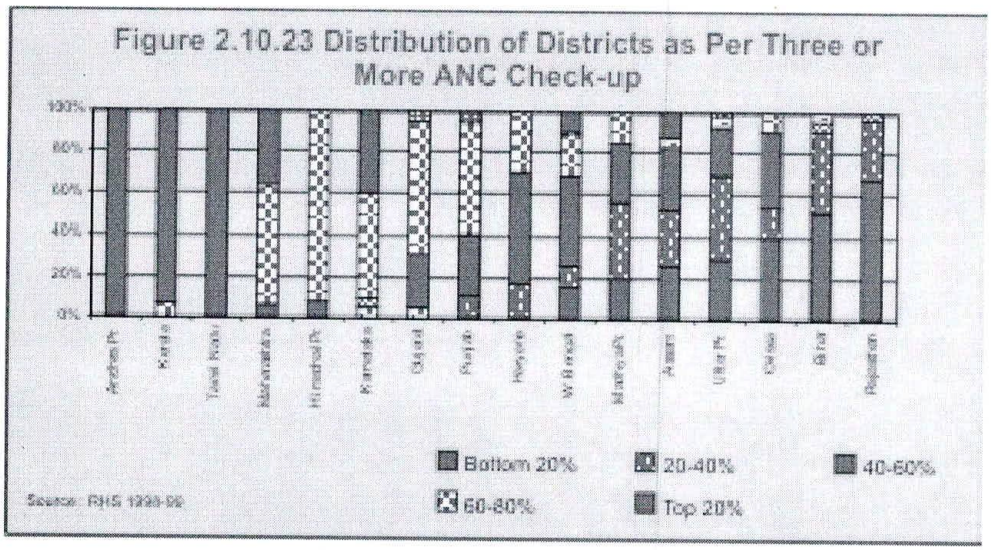
2.10.62 During the Tenth Plan, every effort will be made to:

- ensure 100 per cent registration of pregnancies, deaths and births so that reliable state/district-level estimates of MMR are available on a sustainable basis; and
- improve ascertainment of the cause of death through SRS and hospital records so that it becomes possible to assess time trends and changes in causes of maternal mortality.



Antenatal Care

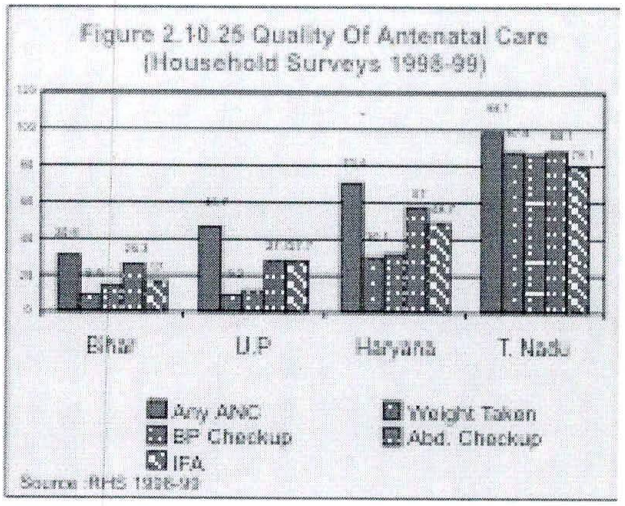
2.10.63 Under the RCH programmes, efforts were made to improve the coverage, content and quality of antenatal care in order to achieve substantial reduction in maternal and perinatal morbidity and mortality. Data from the rapid household Survey (RHS), 1998-1999 indicate that at the national level, 67.2 per cent pregnant women received at least one check-up but only 10.6 per cent had three antenatal checkups. Antenatal coverage in populous states with poor health indices such as Uttar Pradesh, Bihar and Madhya Pradesh are very low (Figure-2.10.22). Antenatal coverage was good in almost all districts of Andhra Pradesh, Tamil Nadu and Kerala. Surprisingly, most districts in Punjab reported very low coverage. (Figure 2.10.23)



Antenatal Care

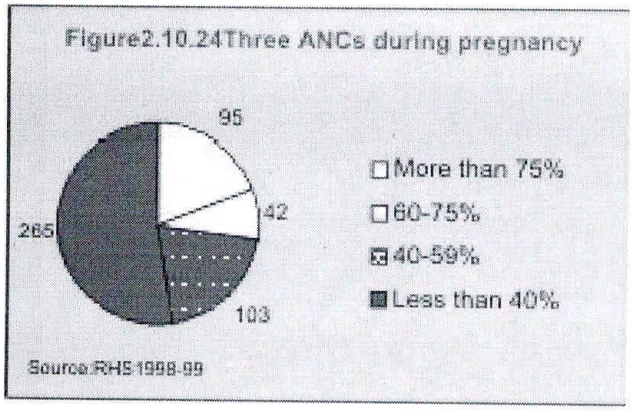
- ☒ Early registration of pregnancy (12-16 weeks).
- ☒ Minimum three ante-natal check-ups.
- ☒ Screening all pregnant women for major health, nutritional and obstetric problems.
- ☒ Identification of women with health problems/complications, providing prompt and effective treatment including referral wherever required.
- ☒ Universal coverage of all pregnant women with TT immunisation.
- ☒ Screening for anaemia ; providing iron folic acid tablets for prevention of anemia; providing appropriate treatment for anemia.
- ☒ Advice on food, nutrition and rest.
- ☒ Promotion of institutional delivery/safe deliveries by trained personnel; advising institutional delivery for those with health/ obstetric problems .

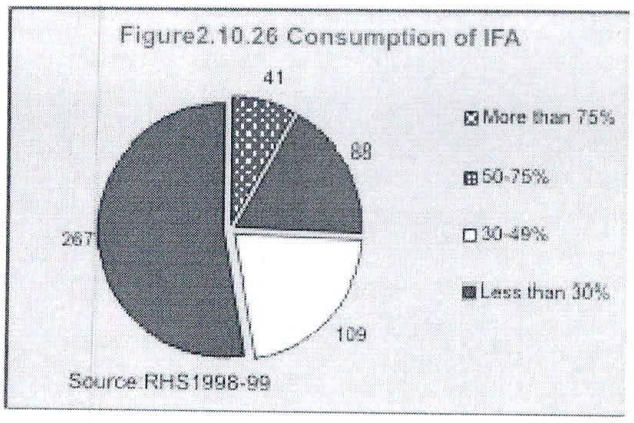
2.10.64 RHS data clearly indicates that only in 95 districts more than 75 per cent women had three antenatal visits during pregnancy. In as many as 265 districts, less than 40 per cent of the women had three antenatal visits (Figure-2.10.24). In Uttar Pradesh and Bihar, the content and quality of antenatal care was poor as compared to Haryana and Tamil Nadu. Universal screening of pregnant women using appropriate antenatal care is essential for the detection of problems and risk factors during pregnancy and referral to appropriate facility for treatment. (Figure 2.10.25)



2.10.65 The problem of poor screening is aggravated by the fact that referral linkages for the management of problems are also poor in these states and, as a result, both maternal/perinatal morbidity and mortality continue to be high.

2.10.66 Anaemia is a major cause of maternal mortality in India. The Ninth Plan envisaged universal screening for anaemia in pregnant women and appropriate iron folate treatment. This is yet to be operationalised. In none of the states screening for anaemia was included as a component of antenatal care. RHS data indicated that less than 30 per cent pregnant women had taken iron folic acid tablets in 267 districts (Figure 2.10.26). During the Tenth Plan, every effort will be made to fully operationalise the Ninth Plan strategy for prevention and management of anaemia.





Problems In Antenatal Care

- ☒ training of health personnel in antenatal screening, risk identification and referral had been very slow;
- ☒ inadequate coverage under essential obstetric care;
- ☒ poor content and quality of antenatal screening, lack of systematic recording of findings; poor referral system; referrals not honoured;
- ☒ lack of screening and gatekeeper function and reverse referrals leading to over crowding in hospitals;
- ☒ lack of emergency obstetric services – at CHCs/FRUs.

Tenth Plan Strategy for Improving Maternal Health

2.10.67 The initiatives taken under the RCH programmes to provide essential obstetric care to all women will be continued during the Tenth Plan. Training to upgrade the skills of health care providers and improve the content and quality of antenatal care, will be completed expeditiously so that they follow the protocol for screening all pregnant women to identify those with problems. The auxiliary nurse midwife (ANM) is the key person in the screening of pregnant women and she will be given the necessary skill up gradation training and equipment. In order to ensure screening and two way referrals becomes a standard practice, it is essential to ensure that findings are recorded in a standard format in an antenatal card which is retained by the woman who takes it with her where ever she gets referred to. For this purpose an antenatal card was designed and tested in some states during the Ninth Plan. It is essential that these cards, with suitable modifications, if necessary, are made available to all states. The ANM will work closely with the anganwadi worker and will conduct maternal and child health clinics in anganwadis on specified days according to her advance tour programme. She will be the gatekeeper whose referrals will be honoured at PHCs/CHCs. In states where there are inadequate number of ANMs, there is need to strengthen the existing ANM schools. In states/districts with heavy work load/difficulty in transport or communication, additional ANMs may be recruited on a contractual basis, in order to meet all the unmet needs for maternal health.

2.10.68 The CHC/FRU is the critical institution which provides emergency obstetric care and plays a vital role in the referral system. The reported gaps in the number of CHCs/FRUs will be filled by appropriately reorganising the subdivisional hospitals, post-partum centres and block-level PHCs. The required number of core specialists will be posted through appropriate redeployment of the manpower; wherever adequate number of specialists are not available, hiring them on a contractual or part-time basis can also be considered. In order to strengthen the capability of CHCs/FRUs in antenatal and intrapartum care, states can take up training of one of the staff nurses in CHC so that there is someone who has specialised in midwifery available to provide care. Over the next five years, efforts will be made to improve the Emergency Obstetric Care in all CHCs in a phased manner , by ensuring that these CHCs have well equipped operation theatre, access to banked blood, qualified obstetricians, paediatricians and anaesthetists.

2.10.69 In view of the massive differences between districts in the availability and access to essential and emergency obstetric services, and in maternal health indices, the following differential strategies will be adopted for achieving incremental improvement in essential and emergency obstetric care during the Tenth Plan.

In all districts:

- ☒ awareness generation to ensure universal screening of pregnant women; identification of women with problems;
- ☒ manage/refer women with complications to appropriate institution for care;
- ☒ 100 per cent coverage for tetanus toxoid (TT) immunisation;

- screening for and treatment of anaemia;
- provide information on:
  - nearest PHC where women with problems can seek a doctor's advice;
  - nearest FRU with obstetricians and facilities where women with obstetric emergency can seek admission; and
  - how to access the emergency transport system.

In better performing districts focus on:

- improvement in universal coverage and content and quality of antenatal care to enable very early identification of women with any antenatal problems;
- referral of those with problems to CHC/FRU for care.

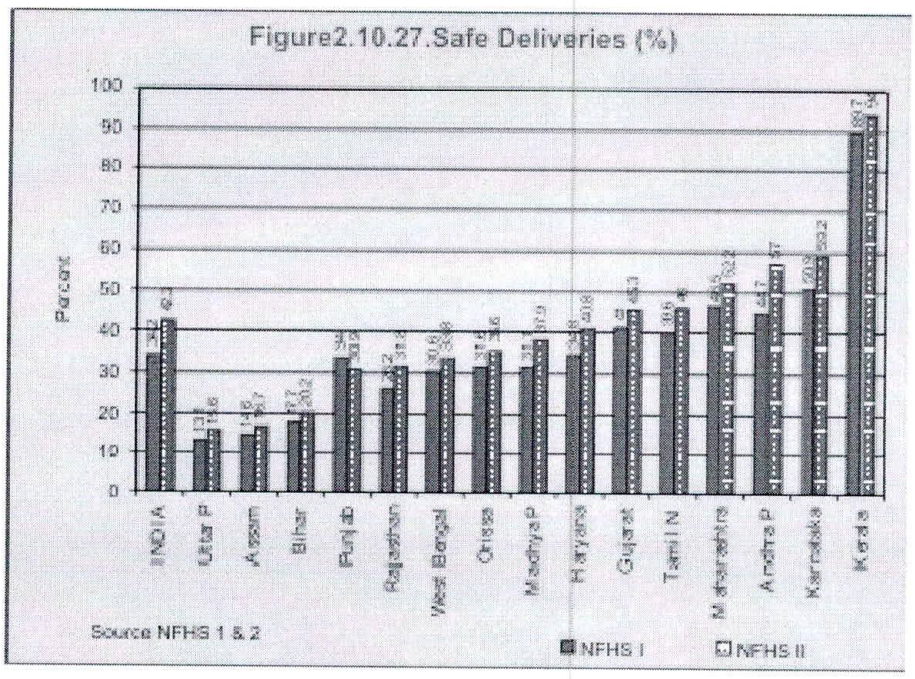
In poorly performing districts, the focus will be on:

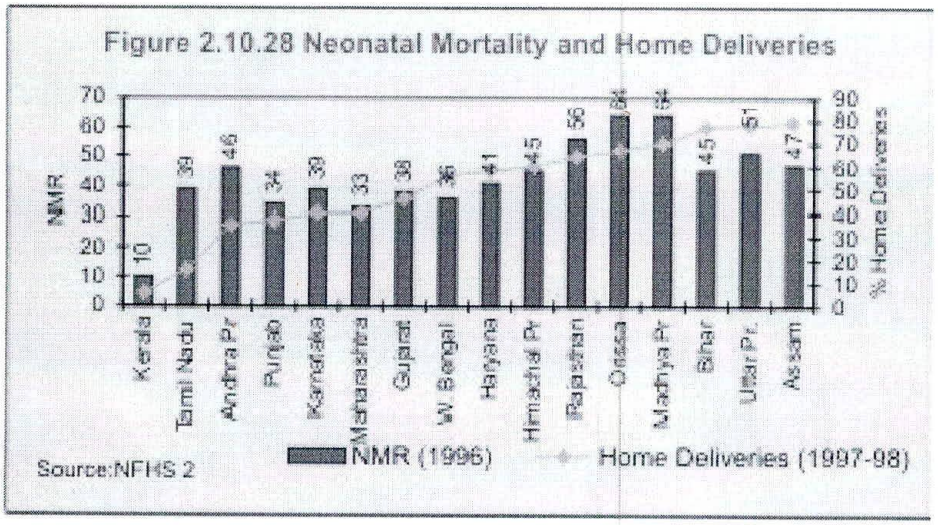
- improving coverage for antenatal screening by an ANM providing antenatal care at least thrice during pregnancy;
- building up a system of RCH camps in PHCs/CHCs on specific days throughout the year when doctors/specialists will be available to examine women with problems and provide treatment/referral.

Delivery Care

2.10.70 During the Ninth Plan, it was envisaged that efforts will be made to promote institutional deliveries both in the urban and rural areas. Simultaneously, in districts where a majority of the deliveries were taking place at home, efforts were made to train the traditional birth attendants (TBAs) through an intensive Dai Training Programme and to increase the availability of disposable delivery kits. The available data from the NFHS-1 and 2 and RHS-1998 suggest that there has been some improvement in institutional deliveries, especially in states like Tamil Nadu and Andhra Pradesh (Figure2.10.27). However, there are a large number of districts in many states where the situation with regard to safe deliveries is far from satisfactory.

2.10.71 In states like Kerala, over 90 per cent of deliveries are in institutions and neonatal mortality rates are very low.However, neonatal mortality is high in states like Uttar Pradesh, where the majority of deliveries occur at home and are conducted by untrained persons. Efforts to train TBAs and provide





them with disposable delivery kits have not resulted in substantial decline in the maternal morbidity or neonatal mortality rates. (Figure2.10.28). Data from NFHS-2 showed that even though there has been a steep increase in institutional deliveries in Tamil Nadu and Andhra Pradesh, there has been no commensurate decline in neonatal mortality, indicating the need to improve the quality of intrapartum and neonatal care for those coming for institutional deliveries.

2.10.72 Women with problems like anaemia, malpresentations, suspected cephalopelvic disproportion , hypertensive disorders of pregnancy and gestational diabetes mellitus should not deliver at home. Screening all women during pregnancy to detect those with such problems and referring them at the appropriate time to pre-designated institutions for management and safe delivery will substantially reduce maternal and perinatal morbidity and mortality. The mechanism for screening, as well as referral, will have to be streamlined during the Tenth Plan period. Easy-to-follow protocols for referral will have to be developed and made available to all health care providers. If home delivery is anticipated in low risk cases, provision has to be made for aseptic delivery by trained persons. The TBAs will be trained to recognise women with complications and those in labour longer than 12 hours and refer them to hospitals for delivery. This strategy is expected to result in some reduction in maternal and neonatal deaths and pave the way for good antenatal care and safe institutional deliveries at a later date.

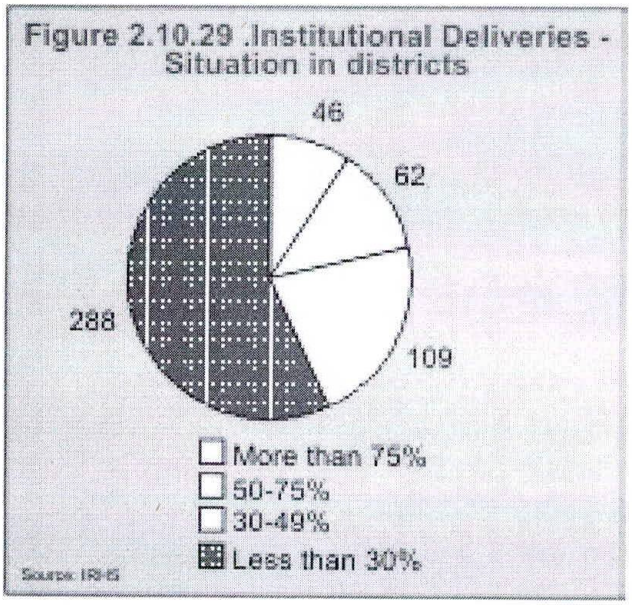
2.10.73 Unpredictable complications can arise even during apparently normal labour and rapid transportation of these women to hospital for emergency obstetric care is essential. In order to assist families in arranging transport to centres where emergency care is provided, the Department of Family Welfare provided funds which will be available at the village level. Panchayats, NGOs and women's organisations and men in villages will play an important role in ensuring that optimum use is made of this fund and timely transport saves life. In the postpartum period, early detection and management of infections, support for breast feeding and nutrition counseling will receive due attention.

Tenth Plan Strategy to Improve Delivery Care

2.10.74 In view of the massive differences between states/districts in the proportion of institutional deliveries (Figures 2.10.29) and neonatal mortality rates, a differential strategy to achieve incremental improvement in maternal and neonatal care will be taken up during Tenth Plan.

In all districts

- ✉ efforts will be made to identify women with complications during pregnancy through



antenatal check up and refer them to appropriate institution for safe delivery.

In districts with low institutional delivery, attempt will be made to:

- ✉ screen all women in the last four weeks of pregnancy and ensure that those with complications deliver in institutions;
- ✉ train TBAs in clean delivery;
- ✉ train TBAs to recognise problems that arise during labour and refer those women to hospitals;
- ✉ ensure that referrals are honoured; and
- ✉ build up community support for transport of women with problems to functional FRUs.

In districts with high institutional delivery, efforts will be made to:

- ✉ improve the quality of services available;
- ✉ address problems and needs of the women in labour seeking institutional deliveries;
- ✉ aim at universal institutional delivery by making institutions people friendly; and
- ✉ perform medical audit for monitoring progressive improvement in quality of care.

2.10.75 Specific efforts will made to strengthen FRUs/CHCs/district hospitals to provide emergency obstetric care for all referred cases. The attempt will be to:

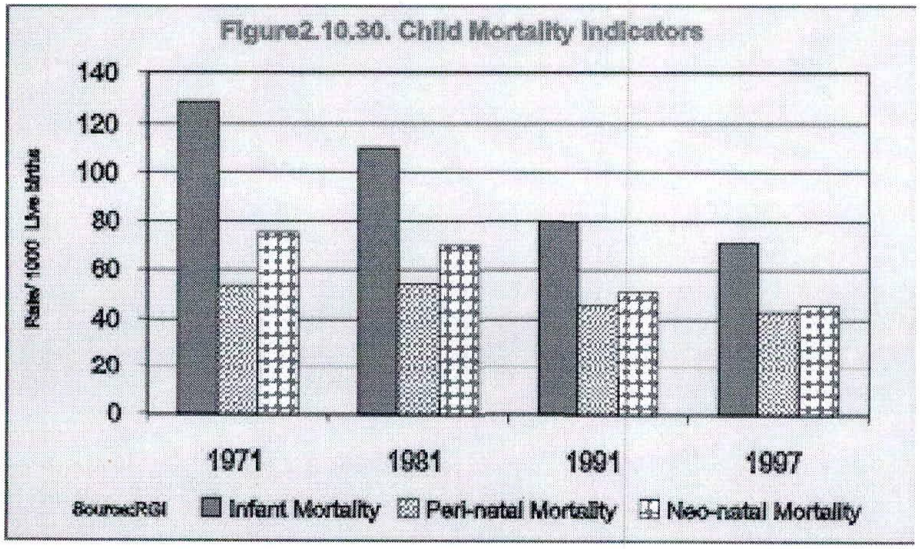
- ✉ operationalise adequate number of FRUs/ CHCs by posting specialists in obstetrics, gynaecology/pediatrics in institutions where infrastructure is available;
- ✉ provide for funding specialists on contract/part-time basis, if necessary, so that care is available when needed; and
- ✉ improve access to anesthetists and banked blood.

CHILD HEALTH

2.10.76 Infant and under-five mortality rates are excellent indicators of the health status of children. In India there is no system for collection and analysis of data on morbidity during childhood. In the absence of this, available mortality data and analysis of causes of death have been utilised for drawing up priority interventions for improving child health. Ongoing major intervention programmes in child health include:

- ✉ essential new born care;
- ✉ immunization to prevent morbidity and mortality due to vaccine preventable diseases;
- ✉ food and micro-nutrient supplementation programmes aimed at improving the nutritional status;
- ✉ programmes for reducing mortality due to acute respiratory infection (ARI) and diarrhoea.

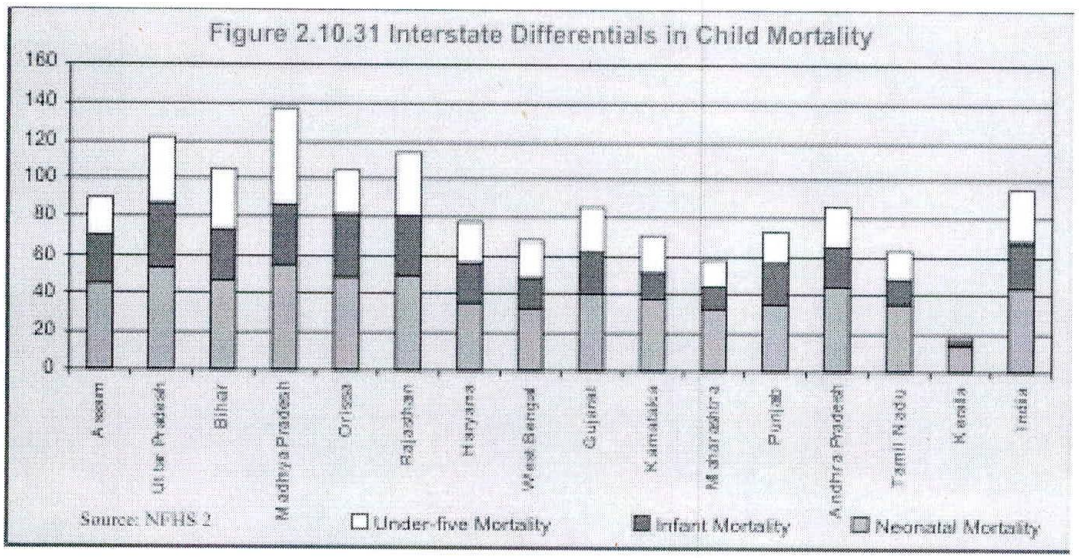
2.10.77 Improved access to immunisation, health care and nutrition programmes have resulted in substantial decline in IMR between 1950-1990. However, it is a matter of concern that the decline in perinatal and neonatal mortality has been very slow (Figure-2.10.30). IMR has remained unaltered in the1990s. There are substantial differences between states in neonatal, infant and under- five mortality



rates(Figure-2.10.31). Higher under-five mortality rates in girls persist, indicating gender bias in child rearing practices Over the last three decades there has not been any substantial change in the major causes of deaths during infancy and childhood.

Inter-Relationship between IMR and CBR

2.10.78 Access to family welfare services and contraceptive care is a critical determinant of infant mortality and birth rate. In spite of the fact that health and contraceptive care are provided by the same personnel, the decline in these indices do not always go hand in hand. There are massive inter-state and intra-state differences in birth rates and IMR. In spite of a relatively high IMR, states like Tamil Nadu and Andhra Pradesh have achieved a steep decline in fertility. In states/districts where fertility has declined without a commensurate decline in IMR, there should be a focussed, area-specific situation analysis and intervention to reduce IMR. For this, reliable district-specific data on birth rates and IMR must be available on an annual basis. This can be achieved only though 100 per cent recording of birth and death and collation and analysis of this data at the district level. Such a system would also enable continuous monitoring of the impact of the intervention and mid-course corrections. In order to achieve this, strengthening of the CRS will be given priority during the Tenth Plan period.



Child Health Interventions During the Ninth Plan

2.10.79 Under the RCH programme, comprehensive integrated interventions to improve child health were initiated to address each of the major factors contributing to high IMR and under five mortality.

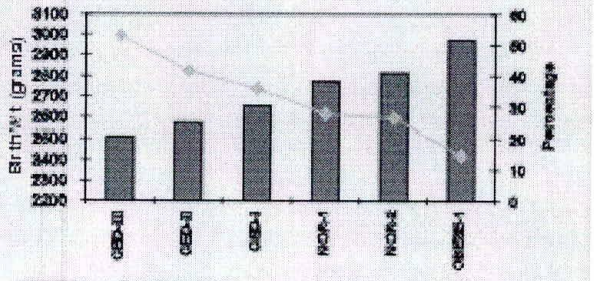
Components of child health care include :

- Essential newborn care
- Immunisation
- Nutrition:
  - exclusive breast-feeding for six months
  - timely introduction of complementary feeding.
  - detection and management of growth faltering.
  - massive dose Vitamin-A supplementation.
  - iron supplementation, if needed.
- Early detection and appropriate management of:
  - acute respiratory infections;
  - diarrhoea.
  - other infections.

Essential New Born Care

2.10.80 India has the dubious distinction of having a very high prevalence of low birth weight. Currently nation-wide data on birth weight in different states and districts is not available because a majority of births occur at home and these infants are not weighed soon after birth. Estimates based on available data from institutional deliveries and smaller community- based studies suggest that nearly one-third of all Indian infants weigh less than 2.5 kg at birth. There are differences between states and between economic groups, with incidence of low birth rate being the highest among the low income groups. There has hardly been any change in birth weight trends in the past three decades. A gender difference has been noted in mean birth weights, with female infants tending to weigh lesser than male infants.

Figure 2.10.32 Birth Weight of Infants and Maternal Nutrition



Source: Nutrition News, 1991 LBW: Birth Weight < 2500g

2.10.81 Birth weight is influenced by the nutritional and health status of the mother. There is a good correlation between birth weights and the body mass index (BMI) of the mother (Figure-2.10.32). A significant reduction in birth weight has been observed in anaemic women and the low birth weight rate doubles when Hb levels fall below 8 gms/dl. Some factors, which have significant influence on birth weight, such as the parent's build, are not amenable to short term corrective interventions. On the other hand, factors like anaemia, pregnancy induced hypertension and low maternal weight gain during pregnancy can be corrected and could result in substantial reduction both in pre-term births and birth of small for dates neonates. During the Tenth Plan, efforts will be made to identify women with these problems by ensuring universal antenatal screening; provision of appropriate management including referral services for those with problems may result in improvement in birth weight.

2.10.82 The experience of states like Kerala, Pondicherry and Goa have shown that it is possible to achieve substantial decline in IMR and child mortality rates without any significant improvement in birth weight and reduction in the number of infants born weighing below 2.5 kg.

2.10.83 Available data suggests that only 10 to 15 per cent of all births occur before 37 weeks (pre-term births), about 20 to 25 per cent infants weigh less than 2.5 kg but are mature and thrive under normal care even at home. If all the new born babies weighing below 2.5 kg are considered as being at risk and are sent to hospitals for care, hospitals will get over crowded. Studies conducted over the last three decades have shown that the neo-natal and

infant mortality rates steeply increase only when birth weight falls below 2.2 kg or infants are premature. During the Tenth Plan priority will be accorded to weighing all neonates at or soon after birth and ensuring referral of preterm/ <2.2 kg neonates to the centers where appropriate care could be provided.

2.10.84 During the last three decades efforts were made through antenatal care to reduce low birth weight because:

- it is closely linked to infant (especially neonatal) mortality;
- developing countries have the highest rates of low birth rate;
- developing countries cannot afford the technologies for intensive neonatal care needed to reduce mortality among infants with low birth rate.

- During the last three decades there has not been any major reduction in the proportion of low birth weight babies.
- In most states there has been substantial reduction in IMR even though there is no change in birth weight.
- Reduction in low birth weight is not an essential prerequisite for reduction in IMR.

2.10.85 During the Tenth Plan every effort will be made to:

- screen pregnant women for under-nutrition and anaemia and provide appropriate interventions;
- advise at-risk individuals to have delivery in institutions, which can provide optimal intrapartum and neonatal care and improve neonatal survival;
- have the anganwadi worker check the birth weight of babies as soon after delivery as possible in all home deliveries and refer those neonates with birth weight less that 2.2 kg to hospitals where there is a pediatrician available;
- if these interventions are fully operationalised it will be possible to achieve substantial reduction in the neonatal mortality rate within a short period.

Operationalisation of New Born Care

2.10.86 Two-thirds of all the neonatal deaths occur in the first seven days after birth (Table 2.10.7). The major causes of neonatal deaths are premature birth, asphyxia and sepsis. (Table 2.10.8). If neonates requiring care are identified and referred to an appropriate facility where they can be effectively treated and it will be possible to achieve substantial decline in neonatal mortality.

Table 2.10.7
Components of IMR

	%
Early neonatal mortality	48
Late neonatal morality	17
Post neonatal mortality	35

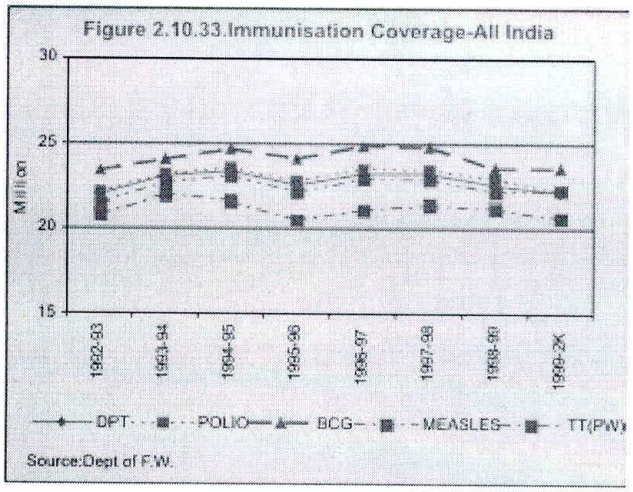
Source: SRS '1996

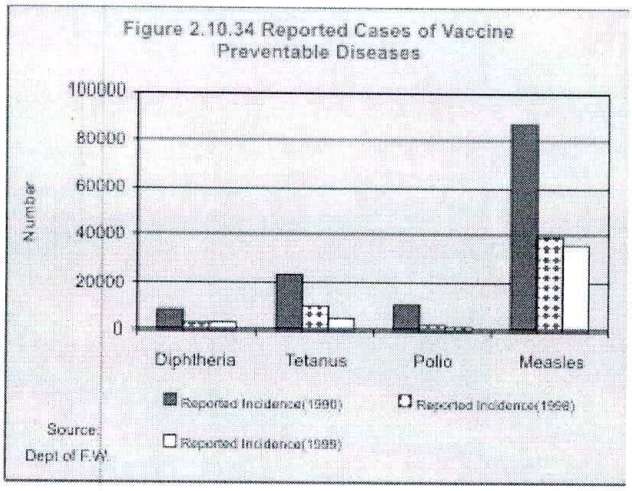
Table 2.10.8
Causes of neonatal deaths(%)

Sepsis	52
Asphyxia	20
Prematurity	15
Others	13

Source: RGI

2.10.87 In order to accelerate the decline of IMR, essential newborn care was included as an intervention under the RCH programme. Equipment for essential newborn care was supplied to districts; training was provided for medical officers and other staff at the district hospitals and medical colleges to improve content, quality and coverage of essential newborn care. Operationalisation of newborn care facilities at the primary health care level was initiated in collaboration with the National Neo-natology Forum (NNF). Department of Family Welfare and the ICMR are funding research studies on the feasibility and effectiveness of community-based new born care in reducing neonatal mortality in settings where access to primary health care institutions are not adequate. The focus during





the Tenth Plan will be to operationalise the appropriate essential new born care in all settings so that there is substantial reduction in the early neonatal mortality both in institutional deliveries and home deliveries.

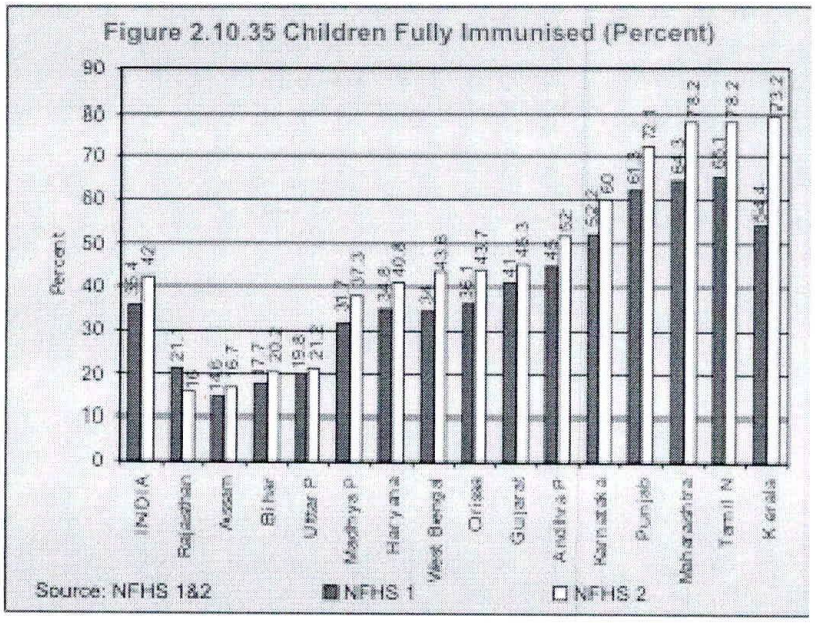
Immunisation

2.10.88 The Universal immunization program which was taken up in 1986 as a National Technology Mission, became a part of the Child Survival and Safe Motherhood (CSSM) programme in 1992 and the RCH programme in 1997. Under the programme, infants are immunised against tuberculosis, diphtheria, pertussis, poliomyelitis, measles and tetanus. Reported immunization Coverage during the nineties is shown in Figure 2.10.33. The National Health Policy, 1983, set the goal of universal immunisation against these six vaccines preventable diseases by 2000 , this has not been achieved. However, reported cases of vaccine preventable diseases have declined over the same period (Figure 2.10.34).

2.10.89 Data from NFHS indicate that there has not been any decline in the immunisation coverage in the 1990s. However, none of the states have achieved coverage levels of over 80 per cent; coverage level in states like Bihar, Uttar Pradesh and Rajasthan were very low (Figure2.10.35). The drop-out rates between the first, second and third doses of oral polio vaccine and DPT have been very high in most states. Lower coverage of around 20 per cent is reported for measles as compared to other vaccines. One of the main reasons for not achieving 100 per cent routine immunisation, is the focus on campaign mode programmes in health and family welfare. The Department of Family Welfare has now taken up a scheme for strengthening of routine immunisation. A pilot project on Hepatitis B immunisation has also been initiated.

2.10.90 The Tenth Plan will concentrate on :

- achieving hundred per cent coverage for the six vaccine preventable diseases;
- elimination of polio and neonatal tetanus;
- strengthening routine immunisation programmes and discouraging campaign mode operations which interfere with routine services;
- greater involvement of the private sector;
- improving awareness through all channels of communication;
- improving the quality of care, ensuring injection safety using appropriate, sustainable technology;
- correcting the over-reporting of coverage.
- evaluating on-going pilot projects on the introduction of Hepatitis B vaccine, including those where the vaccine costs are borne by the parents;
- exploring appropriate sustainable models of providing newer vaccines without over-burdening the system and programme including charging actual costs for the newer vaccines from people above the poverty line;



- expanding on-going polio surveillance to cover all vaccine preventable diseases in a phased manner.

Pulse Polio Immunisation

2.10.91 Under the Pulse Polio initiative, launched in 1995-96, all children under five years of age are to be administered two doses of oral polio vaccine in December and January every year until polio is eliminated. Coverage under the programme has been reported to be over 90 per cent in all states, with over 120 million children taking the vaccine every year. However, it is a matter of concern that over the last five years coverage under routine immunisation has not improved. There are sections of the population who escape both routine immunisation and the pulse polio immunisation. As a result, through there has been a substantial decline in the number of polio cases, this was not sufficient to enable the country to achieve zero polio incidence by 2000.

2.10.92 Confirmed polio cases reported in the last four years is shown in Table 2.10.9. Uttar Pradesh and Bihar account for most of the reported cases. Mop-up immunization is being undertaken following detection of wild poliovirus, including areas with clusters of polio compatible cases and in areas of continued poliovirus transmission. The sub-national immunisation days (SNID) and national immunisation days (NIDs) are being conducted using the combined fixed posts and house-to-house approach in all states. Special efforts are being made to achieve high routine and campaign coverage in under-served communities and remind families about the need for routine immunisation during the pulse polio immunisation campaigns.

2.10.93 The medical goal of polio eradication is to prevent paralytic illness due to polioviruses by the elimination of wild poliovirus so that children need not be immunised perpetually. India will probably achieve zero incidence of polio by 2004. If there are no more cases over the next three years, the country will be declared polio free. When this is achieved, steps will have to be taken to ensure that the disease does not return, by continuing to ensure 100% coverage under routine immunisation for another decade.

Table 2.10.9
No of Polio Cases

Year	No. of cases of confirmed polio
1998	1931
1999	1126
2000	265
2001	268

Source : Dept. of FW

2.10.94 The oral polio vaccine contains live attenuated virus. Recent experiences in Egypt, the Dominican Republic and Haiti have shown that the vaccine-derived viruses can become neuro-virulent and transmissible. Such mutant viruses have caused outbreaks of polio in areas where there was a decline in immunisation coverage. Several countries that have eradicated polio have shifted to injectable killed polio vaccine after elimination of the disease. India, along with other South-Asian countries, may have to consider all these options and prepare appropriate strategies during the Tenth Plan.

Infections in Children

2.10.95 Data from NFHS-2 indicates that 30 per cent of children below three years of age had fever during the two weeks preceding the survey, 19 per cent had symptoms of ARI and another 19 per cent had diarrhoea. About two-thirds of the children who had symptoms of ARI or diarrhoea were taken to a health facility or health-care provider. Knowledge of the appropriate treatment of diarrhoea remains low.

Diarrheal Disease Control Programme

2.10.96 Diarrhoea is one of the leading causes of death among children. Most of these deaths are due to dehydration caused due to frequent passage of stools and can be prevented by the timely and adequate replacement of fluids. The Oral rehydration programme was started in 1986-87 in order to prevent such deaths. Health education aimed at the rapid recognition and appropriate management of diarrhoea has been a major component of the CSSM and RCH program.

2.10.97 The use of fluids available at home and oral rehydration solution (ORS) has resulted in a substantial decline in the mortality associated with diarrhoea, from an estimated one million to 1.5 million children every year prior to 1985 to 600,000 to 700,000 deaths in 1996. In order to further improve access to ORS, 150 packets of ORS are provided as part of the Drug Kit-A, two of which are supplied to all the sub-centres every year under the RCH programme. In addition, social marketing and supply of ORS through the public distribution system are being taken up in some states. However RHS data indicate that ORS was used in more than 50 per cent of cases of diarrhoea in only nine districts (Table 2.10.10). Improving access to and utilisation of home available fluids/ORS for the effective management of diarrhoea will receive priority attention during the Tenth Plan as an inexpensive and effective tool to reduce IMR/under-five mortality.

Table 2.10.10
Children with Diarrhoea
(Percentage treated with ORS)

Percent	Districts
>50	9
25-49	82
<25	413

Source : RHS 1998-99

Control of Acute Respiratory Infections

2.10.98 Pneumonia accounts for around 30 per cent of under five deaths in the country. Under the RCH programme, co-trimoxazole tablets are supplied to each sub-centre in the country as part of Drug Kit-A. Mothers and community members are being informed about the symptoms of ARI, which would require antibiotic treatment or referral. Training of health care personnel in the early diagnosis of ARI and appropriate treatment, including referral, as envisaged under the RCH programme has not yet been completed. This will receive immediate attention during the Tenth Plan period.

Tenth Plan Strategy for Improving Child Health

2.10.99 In view of the substantial differences in the IMR and neonatal mortality rates between states and between districts, a differential strategy will be adopted during the Tenth Plan. Wherever district-specific data is available from CRS, district-specific strategy will be adopted. State-specific strategy will be evolved when such disaggregated data is not available. In states/districts with a high IMR and where early neonatal mortality is less than 50 per cent of the IMR, the focus will initially be on improving post-neonatal mortality. In districts/states

where the IMR is relatively low, and early neonatal mortality accounts for more than 50 per cent of the IMR, the focus will be on antenatal, intra partum and neonatal care.

2.10.100 The strategy adopted for all districts will have the following elements:

At Birth

- ☒ essential new born care.
- ☒ weighing at birth and referring pre-term babies and neonates weighing less than 2.2 kg to institutions where a paediatrician is available.

Nutrition Interventions

- ☒ promote exclusive breast-feeding upto six months.
- ☒ introduce semi-solid supplements in the sixth month.
- ☒ screen all children to identify those with severe grades of under-nutrition and treat them.
- ☒ administer massive dose of vitamin A supplements according to schedule.
- ☒ administer iron-folate supplements, if needed.

Health Interventions

- ☒ universal immunisation against the six vaccine preventable diseases.
- ☒ early detection and management of ARI/ diarrhoea.

Use of District-wise Data Generated by CRS for Planning and Monitoring the National Family Welfare Programme

2.10.101 There are huge inter-state and inter-district variations in the access to health care and health indices of women and children. During the Tenth Plan, efforts are being made to rapidly improve the health indices by increasing the availability and utilisation of health care facilities. In order to respond to the changing needs at district level the Department of Family Welfare has introduced decentralised district- based planning and programme implementation, based on district-wise indicators. The data base needed for this can be made available in a sustained fashion only through 100 per cent registration of births and deaths and building up the capacity for data analysis. This task will be taken up on a priority basis during the Tenth Plan.

2.10.102 The country is yet to ensure 100 per cent registration of births and deaths. Available information with the RGI's office indicates that till the mid 1990s, over 90 per cent of all births and deaths are registered in states like Kerala, Tamil Nadu, Delhi, Punjab and Gujarat. Steps have also been initiated in these states to collect, collate and report these data at the PHC/district level on a yearly basis. These data should be used at the district-level for PHC-based planning of RCH care as well as evaluation of the coverage and impact. In districts where vital registration is over 70 per cent, efforts are being stepped up to ensure that over 90 per cent of births and deaths are reported so that an independent data base is available for planning as well as impact evaluation of PHC-based RCH care. The goal of 100 per cent registration of births and deaths is expected to be achieved by the end of the Tenth Plan.

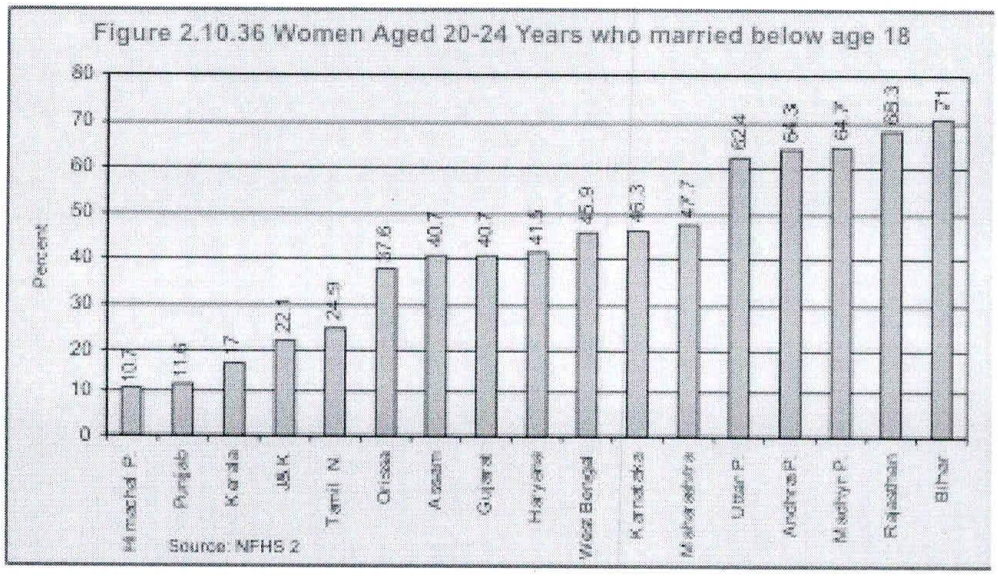
Health Care for Adolescents

2.10.103 The 1990s witnessed a rapid increase in the adolescent population, a trend that will continue over the next two decades. Under the RCH programme an effort was made to address

Ninth Plan strategy for adolescent health care

- ☒ Efforts to educate the girl, her parents and the community on the need to delay marriage.
- ☒ Programmes for the early detection and effective management of nutritional (under-nutrition, anaemia) and health (infections, menstrual disorders) problems in adolescent girls.
- ☒ Appropriate antenatal care to high risk adolescent pregnant girls.

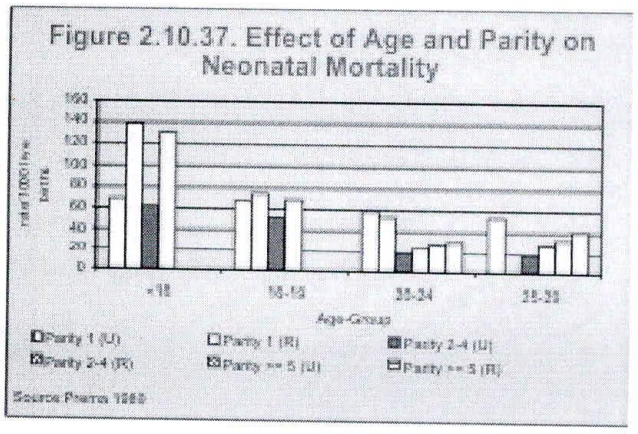
Inter-sectoral coordination between RCH and KSY programmes is being strengthened in blocks where ICDS centres have an adolescent care programme.

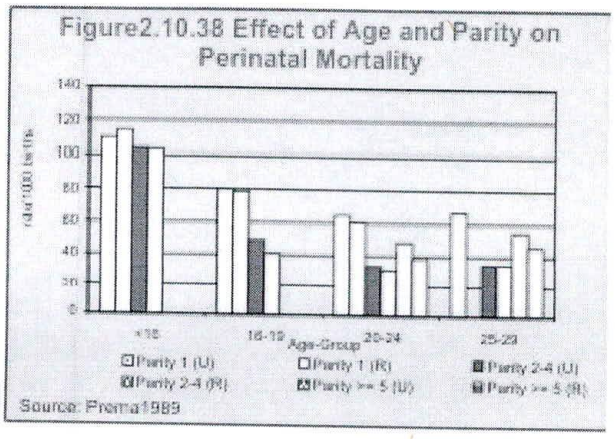


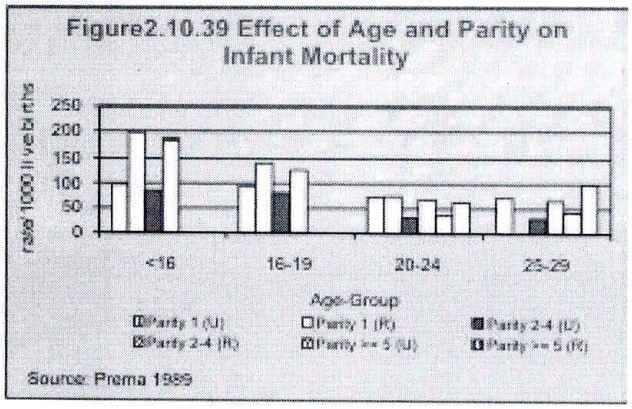
some of the the health care needs of adolescents. The Department of Women and Child Development has initiated the Kishori Shakti Yojana (KSY) in selected blocks. Specialized counselling and IEC material to be provided through NGOs, is being prepared. However, coverage under all these programmes has been very low.

2.10.104 Data from NFHS 2 indicate that median age at marriage of girls in India is 16 years and 61 per cent of all girls were married before they were 18 years. The mean age at first birth is 19.2 years. There are massive inter-state differences in proportion of girls who got married before 18 years (Figure2.10.36). Under-nutrition, anaemia and poor antenatal care lead not only to increased morbidity in the mother but also to high incidence of low birth weight and perinatal mortality. Poor child-rearing practices add to the morbidity and under-nutrition in infants, thus perpetuating the inter-generational cycle of under-nutrition an ill health. Appropriate nutrition and health education, for all adolescents, advocacy for delay in age at marriage, optimum health and nutrition interventions during pregnancy in adolescents are some of the inter-sectoral initiatives to break this vicious cycle.

2.10.105 In view of the high prevalence of teenage marriages, in depth investigations have been carried out to document the adverse consequences, of teenage conception in the Indian setting. Data from Indian studies indicate that pregnancy in the early teens before 16 years is associated with an adverse effect on maternal nutrition, birth weight and survival of the offspring. The extra nutritional requirements of pregnancy coming close after the nutritional requirements for adolescent growth spurt might be the major factor responsible for the observed poor nutritional status of girls who conceived before they are 16 years of age.







2.10.106 Lower maternal body weight, lower pregnancy weight gain, and higher prevalence of anemia and possibly pregnancy-induced hypertension among girls who conceived before they were 16 might account for the observed lower mean birth weight and higher perinatal, neonatal and infant mortality rate in these groups, both in urban and rural areas (Figures 2.10.37, 38 and 39). The higher low-birth weight rates, obvious deficiencies in child-rearing practices of these young girls, and poor availability and utilization of health care services, especially in rural areas, account for the high infant mortality rates.

2.10.107 Undoubtedly, there is a very urgent need to create awareness regarding adverse consequences of early teenage conception and to mobilize social support for strict implementation of laws regarding age at marriage. As and when pregnancies occur in early teenage, these girls should be considered as a very high-risk group and provided with adequate nutritional and health care; their infants should also receive appropriate health care. The health personnel should be sensitized to the needs of this very vulnerable group who are unlikely to seek or utilize available health care that they urgently require.In addition to appropriate education to delay age at marriage, the Tenth Plan will take up nutrition and health interventions to promote optimum health and nutrition in adolescent girls. While adolescent health care will have to be the focus in states where the age at marriage is increasing, effective antenatal and intra-partum care will remain the focus in a majority of the states where teenage pregnancies are common.

Nutrition

2.10.108 The importance of maternal nutrition in determining obstetric outcomes and child nutrition as a determinant of the survival and health of children is well known. The current status and proposed interventions for improving maternal and child nutrition are dealt with in the section under Nutrition.

RTI and STI

2.10.109 It has long been recognised that RTI and STI are common problems in women in the reproductive age group. During the last two decades, there has been resurgence of interest in the detection and management of RTI/STI. This is partly because clinicians have access to accurate tests for aetiological diagnosis and, are in a position to provide prompt, appropriate treatment for many RTIs/STIs and prevent the long-term health consequences of these infections. The other reasons for the increased focus on RTI/STI are:

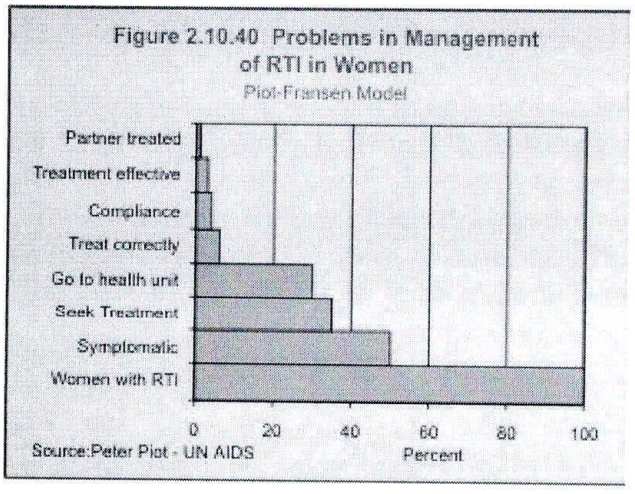
- ☒ doctors are seeing a large number of patients belonging to a wider spectrum of age (adolescents, women in the reproductive age group and elderly women), and socio-economic strata seeking care for RTI;
- ☒ with the availability of antibiotics for treatment of RTI/STI and contraceptives for preventing pregnancy, there has been an increasing prevalence of multi-partner sex and an inevitable increase in RTI/STI;
- ☒ in spite of the increasing availability of specific tests for diagnosis and efforts to prescribe appropriate antibiotics, antibiotic resistance is increasing, leading to poor response to therapy and recurrence of infection; and
- ☒ available data from research studies suggest that the risk of transmission of HIV infection is increased by RTI.

2.10.110 The importance of prevention, early detection and treatment of RTI/STI is well-recognised. Reliable, easy-to-perform tests for accurate diagnosis are readily available. Most of the

infections still respond to commonly-used antibiotics and chemotherapeutic agents. The management of common lower reproductive tract infection has been included as a component of RCH care; these services are to be provided through the existing primary health care infrastructure. The Department of Family Welfare has provided the necessary drugs and funds to fill gaps in laboratory technician in PHCs/CHCs. However, the training of health care personnel in RTI diagnosis and management has been inadequate in most states. The Department of Family Welfare has coordinated its efforts with the National AIDS Control Organisation (NACO) so that the latter provides the input for diagnosis and management of RTI/STI at the district level and above.

2.10.111 It is important to recognise that there are problems in the current programmes for management of RTI. The Piot and Fransen model of RTI/STI management graphically sums up the problems in treatment of RTI. (Figure 2.10.40.). The model shows that about 40 per cent of women have RTI/STI at any given time but only 1 per cent complete full treatment of both partners even under optimal conditions. It is, therefore, hardly surprising that in spite of all the current efforts to improve treatment of RTI/STI patients, gynaecologists and public health professionals feel that there has not been any substantial improvement in the situation over the last decade. However, it is important to persist with health education, providing ready access to diagnostic facilities and appropriate treatment.

Figure 2.10.40 Problems in Management of RTI in Women



Infertility

2.10.112 It is estimated that between 5 and 10 per cent of couples are infertile. While provision of contraceptive advice and care to all couples in the reproductive age group is important, it is equally essential that couples who do not have children have access to essential clinical examination, investigation, management and counseling. The focus at the CHC level will be to identify infertile couples and undertake clinical examination to detect the obvious causes of infertility, carry out preliminary investigations such as sperm count, diagnostic curettage and tubal patency testing. Depending upon the findings, the couples may then be referred to centres with appropriate facilities for diagnosis and management. By carrying out simple diagnostic procedures at the primary health care institutions, it is possible to reduce the number of couples requiring referral. Initial screening at the primary health care level and subsequent referral is a cost-effective method for the management of infertility both for the health care system and for those requiring such services.

Gynaecological Disorders

2.10.113 Women suffer from a variety of common gynaecological problems including menstrual dysfunctions at peri-menarchal and peri-menopausal age. Prolapse uterus of varying degrees is yet another major problem in parous women. Facilities for diagnosis of these are available at district hospitals or tertiary care centres. During the Tenth Plan period, the CHCs with a gynaecologist will start providing requisite diagnostic and curative services. The PHCs and CHCs will refer women requiring surgery to district hospitals or tertiary care centres. Cervical cancer is one of the most common malignancies in India accounting for over one-third of all malignancies in women. It can readily be diagnosed at the PHCs and CHCs. Early diagnosis of Stage I and Stage II and referral to places where radiotherapy is available will result in rapid decline in the morbidity and mortality associated with cancer cervix in the near future.

Access to RCH Services

2.10.114 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 (Figures 2.10.41 and 2.10.42).

2.10.115 During the Tenth Plan, every effort will 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 are evolving and evaluating various options for reducing the financial burden of hospitalisation on the poor.

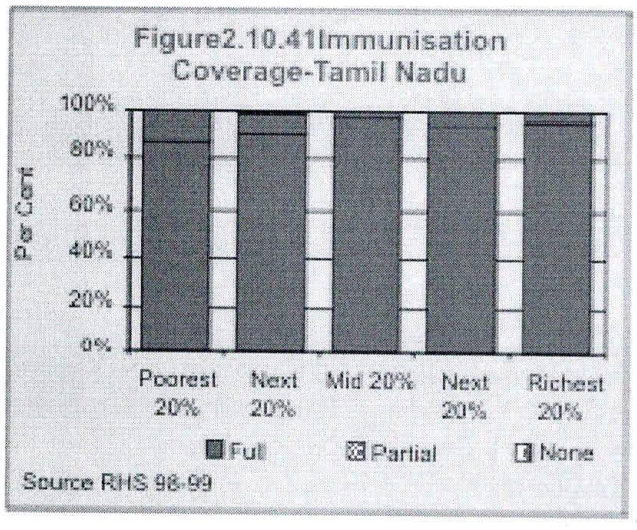
Logistic Support

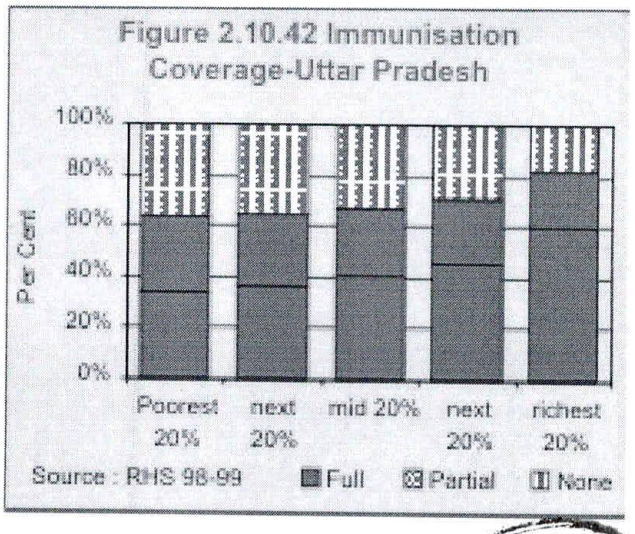
Ninth Plan strategy

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

2.10.116 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.

2.10.117 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 will be created in each state which will manage warehouses at the regional level for each cluster of five to eight districts. These warehouses will receive an indent from each hospital in the area and will ensure delivery of





supplies within 15 days through a contracted transporter. To ensure efficiency, the state government agency will be paid only on the basis of a per centage of supplies it handles. The logistics project has already been initiated in some states.

2.10.118 During the Tenth Plan, efforts will 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 will be monitored and appropriate mid-course corrections initiated.

Private Sector Participation in RCH

2.10.119 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.

2.10.120 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 will 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.

Role of NGOs/Voluntary Organisations in the Family Welfare Programme

2.10.121 The National Population Policy 2000 envisages increasing role of NGOs/voluntary organisations in building up awareness about and advocacy for RCH interventions and also in improving community participation. Until recently, only a small number of NGOs were getting funding from the Department of Family Welfare, because a majority of them did not have adequate technical knowledge and the skills required. In an attempt to increase NGOs participation, the Department involved several well-established NGOs such as the Family Planning Association of India and Voluntary Health Association of India in selecting, training, assisting and monitoring of smaller, field-level NGOs for carrying out the following functions:

- ⊠ advocacy for maternal child health interventions;
- ⊠ promotion of small healthy family;
- ⊠ improving community participation;
- ⊠ counselling and motivating adolescents to delay the age at marriage, young couples to delay first pregnancy and couples with two children to limit their families by the use of appropriate contraceptive methods;
- ⊠ act as a link between the community and health care providers.

2.10.122 Currently, the Department of Family Welfare funds 97 mother NGOs(larger NGOs looking after smaller ones) covering 412 districts and over 800 NGOs. These NGOs cover all districts in ten states. However, states with high fertility and mortality rates still have a large number of districts without any NGO presence.The state governments have also been trying to involve NGOs in providing services, or by adopting a PHC. The results have been mixed; these experiments need to be carefully monitored.

2.10.123 During the Tenth Plan, NGOs will have a major role in promoting community participation in the following areas:

- ✉ gender sensitivity and advocacy regarding providing adequate care for the girl child;
- ✉ baby-friendly hospital initiatives and promotion of exclusive breast-feeding for six months; advocacy for the introduction of semi-solids at the right time;
- ✉ social marketing of contraceptives, ensuring easy availability of ORS/social marketing of ORS;
- ✉ sensitising the community regarding the adverse consequences of sex determination and sex selective abortions.

2.10.124 The Department of Family Welfare has also proposed that the NGOs who have adequate expertise and experience may participate in RCH service delivery. The interventions undertaken by the NGOs will be independently assessed at the end of the project period; funding will be dependent upon mid-term evaluation based on specific benchmarks. Efforts will be made to improve networking between the NGOs, state/district administration as well as PRIs.

Role of Industries and other Organisations

2.10.125 Governmental efforts alone will not be sufficient to achieve the desired goals of the family welfare programme. The organised industrial sector provides health/family welfare services to about 14 per cent of the country's population. Industry can improve acceptance of 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 underserved 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.

2.10.126 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. During the Ninth Plan period, family welfare projects have been undertaken in the unorganised and semi-organised sectors in Tamil Nadu, plantation workers in West Bengal, beedi workers in Uttar Pradesh, and milk producers in Gujarat. The lessons learnt from these projects will be utilisied to improve access to family welfare services.

2.10.127 During the Tenth Plan, attempts will be made to enhance the quality and coverage of 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.

Initiatives to Address the Needs of Under-served Population

2.10.128 Access to health care is poorer in states like Uttar Pradesh, Madhya Pradesh, Bihar and Rajasthan. The Empowered Action Group (EAG) constituted by the Department of Family Welfare in 2001 reviews the available infrastructure, performance of the health system and health indices and suggests steps for improving access to health care so that there is a rapid decline in fertility and mortality. During the Tenth Plan, special efforts will be made to upgrade the capacity of the health system in these states/districts 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 the National Population Policy are to be achieved because these states contribute to over 50 per cent of the country's mortality and fertility.

2.10.129 The tribal population (except in the north-eastern states) faces immense problems in accessing essential health care services and have poor health indices. The Department of Family Welfare has already initiated several programmes

focusing on meeting the health care needs of the tribal population. These will be continued during the Tenth Plan. Special efforts will be made to address the health needs through area-specific programmes and increasing the involvement of NGOs and the tribal community in all activities.

2.10.130 The urban slum population has been shown to have poor maternal and child health indices. In many slums, immunisation coverage is very low and children are undernourished. The Department of Family Welfare and the 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 India Population Project (IPP) V, VIII and Urban RCH Pilot Projects have built up the capacities of the urban health system in several cities. Efforts to rationalise urban health care and improve efficiency so that reproductive care needs of urban population are fully met within the available infrastructure will be continued during the Tenth Plan period.

Strategies for Increasing Efficiency

2.10.131 A vast infrastructure for the 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 poorly because of :

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

All the states have initiated health sector reforms aimed at improving the functional status of the health system, These are discussed in the chapter on Health.

2.10.132 Under the RCH programme, the Department of Family Welfare has invested heavily in training programme managers in managerial aspects for the effective implementation of the programme including decentralised district-based planning, implementation, monitoring and mid-course corrections. Skill upgradation of all categories of health care professionals and para-professionals is envisaged for improving the quality of screening and management of persons with complications, including referral as and when required. It is expected that the training programme will be completed soon and will promote effective functioning of the infrastructure and improve efficiency. These efforts will continue during the Tenth Plan period.

2.10.133 Though all states have shown some improvement in access to health care and in health and demographic indices, the rate of change has been very slow in some states. Efforts during the Ninth Plan to provide more funds to these states to upgrade infrastructure and manpower, and making schemes more flexible to enable private and voluntary sector participation has not been effective in improving access to services. During the Tenth Plan, efforts will 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. The first link in such a chain will be the village-based workers who will liaise between the people and health functionaries and ensure utilisation of available facilities. The PRIs will participate in the planning of programmes and assist in the implementation and monitoring. The ANM will administer vaccines, screen infants, children and pregnant women, identify and refer the at-risk persons to appropriate institutions. The medical officer at the PHC will 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 the CHCs will provide appropriate emergency care and care for referred patients,

participate in the development of the CHC-based RCH programmes, monitor the activities and initiate mid-course corrections. If this pattern of functioning is followed, the community, the link worker and the health functionaries will be performing the tasks that they are best suited for and the implementation of the programme will improve.

Involvement of PRI in Family Welfare Programme

2.10.134 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 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.

2.10.135 The real challenge of the Family Welfare Programme 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 will 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 will 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 will 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.

Intersectoral Coordination

2.10.136 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.

2.10.137 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.

2.10.138 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 of age 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.

2.10.139 The anganwadi worker can assist the ANM in organising health check ups of women and children and immunisation in the anganwadi. She will act as depot holder for iron and folic acids tablets, ORS, condoms and disposable delivery kits. She will 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. Intersectoral co-ordination with Department of Health and Department of ISM & H are discussed under respective chapters, co-ordination with Department of Women and Child Development for improving nutritional status are in the chapter of Food and Nutrition Security.

Research and Development

2.10.140 The ICMR is the nodal research agency for funding basic, clinical and operational research in contraception and maternal and child health. In addition, the Council for Scientific and Industrial Research (CSIR), Delhi, Department of Biotechnology (DBT) and the Department of Science and Technology (DST) fund research pertaining to the Family Welfare Programme. The National Committee for Research in Human Reproduction under the Chairmanship of the Secretary, Department of Family Welfare assists in drawing up priority areas of research and ensuring that there is no unnecessary duplication of research activities. Some of the

major institutions carrying out research in this area include the National Institute for Research in Reproductive Health, Mumbai, the National Institute of Nutrition, Hyderabad, the National Institute of Health and Family Welfare, New Delhi and the Central Drug Research Institute, Lucknow. The ICMR undertakes clinical and operational research studies through a network of Human Reproduction Research Centres (HRRCs) in medical colleges. The International Institute of Population Studies, Mumbai, and a network of 18 Population Research Centres conduct studies on different aspects of the Family Welfare Programme and undertake demographic surveys.

2.10.141 Under the RCH programme the Department of Family Welfare has constituted an expert committee for research in reproductive health and contraceptions under modern system of medicine and ISM&H to examine and recommend proposals that require funding. In addition, the Department is making efforts for the creation and support of an appropriate institutional mechanism to test and ensure the quality of products utilised in the programme.

2.10.142 Priority areas of research during the Tenth Plan are:

Basic and Clinical Research

- development of newer technology for contraceptive drugs and devices in modern system of medicines, including immunological methods for fertility regulation;
- examining the safety and efficacy of ISM&H products;
- identification and characterisation of genes/ gene products and detailing their functional role in reproduction and health of women and children;
- development and testing of new drug delivery systems for contraceptive steroids;
- safety and efficacy studies on newer vaso-occlusive methods, spermicides based on plant products such as neem oil and saponins and other plant-based substances;
- clinical studies on the use of emergency contraception and non-surgical methods of MTP;
- diagnosis and management of RTI/STI;
- innovative methods for improving neonatal care at the primary health care level, including assessment of simple methods for the diagnosis and management of sepsis, asphyxia and hypothermia in new born babies;
- studies on the prevention, detection and management of infections in children; and
- early detection and management of obstetric problems.

Demographic/Operational Research

- ongoing demographic transition and its consequences;
- continuation rates and effectiveness of contraceptives under actual programme conditions;
- operational research to provide integrated delivery of health, nutrition and family welfare services at the village level through the existing infrastructure and manpower;
- testing of the relationship between couple protection rate and CBR and between the reduction of IMR and reduction in birth rate in states in different levels of demographic transition;
- improving access to safe abortion services;
- research aimed at detection, prevention and management of RTI/STI in different levels of health care; and
- socio-behavioural research to improve community participation in increased utilisation of family welfare services;

Monitoring and Evaluation

2.10.143 The recommendation of NDC Sub-Committee on Population for the creation of district-

level databases on quality, coverage and impact indicators for monitoring the programme was implemented during the Ninth Plan period. The following systems are being used for monitoring and evaluation of programmes in the Family Welfare Programme:

- reports from state and implementation agencies;
- Sample Registration System and Population Census;
- Rapid Household Surveys;
- large-scale surveys - NFHS, sample surveys by the NSSO and area-specific surveys by the Population Research Centres;
- other specific surveys by national and international agencies.

2.10.144 The Department of Family Welfare has constituted regional evaluation teams which carry out regular verifications and validate the data on the acceptance of various contraceptives. These evaluation teams can be used to obtain vital data on failure rates, continuation rates and complications associated with different family planning methods. RHS data about the progress on programme interventions as well as its impact are being used to identify district-specific problems and rectify them. To assess the availability and the utilisation of facilities in various health institutions, facility surveys were conducted in 101 districts during 1998-99 and deficiencies found are being brought to the notice of the states and districts concerned. The format for monitoring the process and quality indicators under the RCH programme have been developed and sent to all the states. These may be operationalised during the Tenth Plan and the information generated used for mid-course corrections.

2.10.145 The substantial investments made in evaluation during the 1990s have increased awareness about the need for concurrent impact evaluation. During the Tenth Plan, efforts will be made to consolidate the gain by putting in place a sustainable system of evaluation at the district level in the form of CRS and district surveys. Efforts will also be made to reduce duplication of efforts through appropriate intersectoral coordination .

Reorganisation of Family Welfare Infrastructure

2.10.146 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 posts 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 set up training institutions for pre/in-service training of personnel. All these activities were being funded through Plan funds.

2.10.147 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 their funding should be taken over by the state department of Health. States will take over the responsibility of funding staff of post partum centres and rural family welfare centres from 1st April 2002.

2.10.148 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 has been done from 1st 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.

Zero Based Budgeting

2.10.149 In the past, the Family Welfare Programme has been considered as a single centrally sponsored scheme. As a result, the heads of funding were functional viz. Personnel, Services, Supplies, Transport, Area Development etc. All ongoing programmes including maternal and child health and immunisation, received inputs from these functional heads. In the Ninth Plan, major projects like RCH, pulse polio immunisation and strengthening of routine immunisation were added as schemes with large outlays. The Planning Commission and the Department of Family Welfare carried out an exercise to rationalize the schemes. A revised scheme-wise listing was evolved where, schemes for strengthening of infrastructure, area development project, training, research, programme related activities for contraception, immuninsation, maternal health, child health and nutrition were identified as specific schemes. After this, a zero based budgeting effort was taken up and schemes were identified for convergence, weeding out and transfer to the states. The summary of the zero based budgeting exercise is given in the Table-2.10.11. The scheme- wise outlays and anticipated expenditure during the Ninth Plan are given in Annexure-2.10.2. Yearwise outlay, R.E., and actual expenditure for the Ninth Plan is given in Table 2.10.12.

Path Ahead and Goals Set

2.10.150 Reduction in fertility, mortality and population growth rate are major objectives of the Tenth Plan. These will be achieved through meeting all the felt needs for health care of women and children. The focus will be on improving access to services to meet the health care needs of women and children by:

- a decentralised area-specific approach to planning, implementation and monitoring of the performance and effective mid-course corrections;
- differential strategy to achieve incremental improvement in performance in all states/ districts;
- special efforts to improve access to and utilisation of the services in states/districts with high mortality and/or fertility rates;

Table-2.10.11

Zero Based Budgeting 2001

Category	No. of Schemes	Outlay for Ninth Plan (Rs. crore)	Anticipated expenditure during Ninth Plan (Rs. Crore)
Schemes to be transferred to the states	3	2,080.00	2,198.00
Schemes to be merged and retained	11/40	7,640.20	7,398.39
Schemes to be weeded out	8	185.85	31.25
Schemes to be retained	43	5,213.95	4,961.33
Total	94	15,120.00	14,588.97
Total No. of schemes to be continued in the Tenth Plan	54	12,854.15	12,359.72

Table 2.10.12

Outlays, RE and expenditure during the Ninth Plan

(Rs in Crores)

Year	B.E.	R.E.	Actual Expenditure
1997-98	1829.35	1829.35	1822.00
1998-99	2489.35	2253.00	2342.75
1999-2000	2920.00	3120.00	3099.76
2000-01	3520.00	3200.00	3090.11
2001-02	4210.00	3700.00	3596.63
Total	14968.70	14102.35	13951.25

- filling the critical gaps, especially in CHCs, in existing infrastructure through appropriate reorganisation and restructuring of the primary health care infrastructure;
- ensuring that post of specialists in CHCs do not remain vacant; upgrading skills and redeploying existing manpower to fill other critical gaps;
- streamlining the functioning of the primary health care system in urban and rural areas; providing good quality integrated RCH services at the primary, secondary and tertiary care levels and improving referral services;
- providing adequate supply of essential drugs, diagnostics and vaccines; improving the logistics of supply;
- well coordinated activities for delivery of services by public, private and voluntary sectors to improve coverage;
- involvement of PRIs in planning, monitoring and mid-course correction of the programme at the local level;
- involvement of industry in the organised and unorganised sectors, agriculture workers and labour representatives in improving access to RCH services;
- effective use of social marketing to improve access to simple over the counter (OTC) products such as ORT and condoms;
- effective IEC and motivation programmes; and
- effective inter-sectoral coordination.

2.10.151 Tenth Plan envisages reduction in IMR to 45 /1,000 by 2007 and 28/1,000 by 2012, reduction in MMR to 2/1000 live births by 2007 and 1/1,000 live births by 2012 and reduction in decadal growth rate of the population between 2001-2011 to16.2. The steep reduction in mortality and fertility envisaged are technically feasible within the existing infrastructure and manpower as has been demonstrated in several states/districts. It is imperative that the goals set are achieved within the time frame as these goals are essential prerequisites for improving the quality of life and human development. In view of the massive differences in the availability and utilsation of health services and health indices of the population, a differential strategy is envisaged so that there is incremental improvement in all districts. This, in turn, is expected to result in substantial improvement in state and national indices and enable the country to achieve the goals set for the Tenth Plan. Annexure 2.10.1 provides information of present status (as indicated by NFHS-2 and SRS) of process and impact indicators, the goals set for these in the National Health Policy 1983 (for 2000), Ninth Plan (for 2002), Tenth Plan and National Population Policy 2000 (for 2010). Statewise goals have been shown in Annexure 2.10.3. Tenth Plan scheme wise outlays for Department of Family Welfare are in Annexure 2.10.2 and Appendix.

Annexure 2.10.1

Indicator	Present Status	Goals			
		NHP-1983	Ninth Plan	Tenth Plan	NPP 2000
Target Year		**2000**	**2002**	**2007**	**2010**
Crude Birth Rate	25.8 SRS (2000)	21	24	21	21
Total Fertility Rate	2.85*	2.3	2.9	2.3	2.1
Couple Protection Rate (%)	46.2 Dept. of F.W. (2000)	60	51	65	Meet all needs
Maternal Mortality Ratio	540*	Below 200	300	200	Below 100
Perinatal Mortality Rate	-	30-35	-	-	-
Neo Natal Mortality Rate	43.4*	-	35	26	-
Infant Mortality Rate	68 SRS (2000)	Below 60	56	45	below 30
Under five Mortality Rate	94.9*	-	-	-	-
% immunished against 6 VPD (%)	42*	85	65	100	100
- Measles	51*				
- DPT	55*				
- Polio	63*				
- BCG	72*				
Ante-natal care (ANC)					
- % at least 3 ANC	43.8*	100	90	90	100
- % received IFA for 3 or 4 months	47.5*			100	100
- % received two doses of TT	66.8*		95	100	100
Deliveries					
Institutional Deliveries (%)	33.6*	-	35	80	80
Deliveries by trained health personnel & TBA (%)	42.3*	100	45	-	100
Prevalence of low birth weight (%)	30 (Estimated)	10	-	-	-

* ***Source :*** NFHS-2

Annexure 2.10.2

Outlays for Deptt. of Family Welfare

(Rs. in crore)

IX Plan	X Plan	Name of Scheme	Ninth Plan Approved Outlay	Ninth Plan Sum of Annual Outlay	Ninth Plan Ant. Expdt.	Approved Outlay Tenth Plan	Approved Outlay Annual Plan 2002-03
	A	**INFRASTRUCTURE MAINTENANCE**	**6231.90**	**6654.85**	**7506.17**	**12645.64**	**2303.00**
1		Rural Family Welfare Centres	1500.00	1600.00	1600.36		
2	1	Sub-Centres	2200.00	2346.00	2344.60	9663.00	1809.00
3	2	Urban FW Services	250.00	307.00	305.69	580.00	122.00
4	3	Direction & Administration	671.90	541.00	465.25	1100.00	200.00
5		Post Partum Centres	530.00	560.00	557.94		
6		Village Health Guides Scheme	50.00	40.00	39.70		
7	4	Logistics Improvement	80.00	51.85	4.84	90.00	10.00
	5	Contractual Services/ Consultancies	Included in RCH		Included in RCH	1212.64	162.00
8		ANM (Part of Sub-Centres)					
9		Additional ANMs/PHNs/Lab. Technicians					
10		SM Consultant					
11		Aneasthetist					
12		Other Exp. (State/National level Consultants/ Contingency)					
13		Arrears	950.00	1209.00	2187.79		
	B	**INFRASTRUCTURE DEVELOPMENT**	**1050.00**	**1202.35**	**915.76**	**2412.00**	**364.20**
14	6	Area Projects (IPP Projects)	800.00	820.00	637.79	987.00	74.80
15	7	Social Marketing Area Projects		82.35	6.42	25.00	10.00
16	8	USAID Assisted Area Project	250.00	300.00	271.55	400.00	59.40
17	9	Other Externally Aided Infrastructure Development Projects	Included in RCH			Included in RCH	
18	10	EC Assisted SIP Project	Included in RCH		Included in RCH	1000.00	220.00
	C	**TRANSPORT**	**150.0**	**250.50**	**250.65**	**378.00**	**113.00**
19	11	Maintainence of vehicle already available				303.00	98.00
20	12	Supply of Mopeds to ANMs				75.00	15.00
	D	**TRAINING**	**257.35**	**301.28**	**289.29**	**521.00**	**99.60**
21	13	Basic Training for ANM/LHVs	150.00	181.40	182.07	350.00	67.00
22	14	Maintenance & Strengthening of HFWTCs	40.00	48.06	46.94	70.00	14.00
23	15	Basic Training for MPWs Worker (Male)	35.00	37.90	35.76	50.00	10.00
24	16	Strenthening of Basic Training schools				10.00	2.00
25	17	F.W. Training and Res. Centre, Bombay	5.00	5.00	2.53	10.00	1.50
26	18	NIHFW, New Delhi	21.00	21.35	14.52	20.00	3.15
27	19	IIPS, Mumbai	5.70	6.90	6.83	10.00	1.70

Annexure 2.10.2 (Contd/-)

28	20	Assistance to I.M.A.	0.65	0.67	0.64	1.00	0.25
	E	**RESEARCH**	**96.00**	**107.00**	**96.58**	**159.50**	**30.30**
29	21	Population Research Centres	35.00	33.00	22.47	45.00	8.00
30	22	CDRI, Lucknow	8.00	8.00	8.00	12.00	2.30
31	23	ICMR and IRR	53.00	66.00	66.11	100.00	20.00
32	24	Other Research Projects				2.50	0.00
	F	**CONTRACEPTION**	**1541.50**	**1578.70**	**1458.35**	**2727.50**	**483.50**
	25	Free distribution of contraceptives	460.00	491.30	436.83	1045.00	184.00
33		Conventional Contraceptives	265.00	310.00	286.20	800.00	
34		Oral Contraceptives	80.00	78.40	65.66	130.00	
35		IUD	115.00	102.90	84.97	115.00	
36		New Methods					
	26	Social marketing of contraceptives	400.00	428.70	407.40	660.00	115.00
37		Conventional Contraceptives		360.85	339.04	550.00	
38		Oral Contraceptives		67.85	68.36	110.00	
	27	Sterilization	680.20	653.80	610.26	1002.00	180.50
39		Sterilization Beds	8.60	8.60	8.79	12.00	
40		Sterilsation and IUD insertion	600.00	575.00	534.22	900.00	
41		Supply /Procurement of Laparascopes	70.00	68.00	66.75	90.00	
42		Recanalization	1.60	2.20	0.50		
43	28	Testing Facilities	1.30	1.90	1.24	2.50	0.50
	29	Role of Men in Planned Parenthood	Included in RCH	3.00	2.62	18.00	3.50
44		No Scalpel Vasectomy		3.00	2.62	8.00	
45		Other Innovative Schemes *(Male Participation)*				10.00	
	G	**REPRODUCTIVE & CHILD HEALTH**	**5150.00**	**4423.30**	**3753.49**	**6333.86**	**1174.20**
	30	Immunisation	Included in RCH	Included in RCH	Included in RCH	1410.00	226.00
46		Procurement of Vacccines for Routine Immunisation				850.00	
47		Cold Chain					
		(a) Cold Chain Maintenance				35.00	
		(b) Cold Chain Equipment				200.00	
48		Surveillence against VPDs					
49		Other Vaccines *(Hepatitis B)*				325.00	
50	31	Routine Immunisation Strengthening	Included in RCH	Included in RCH	Included in RCH	17.86	10.00
51	32	Pulse Polio	Included in RCH	Included in RCH	Included in RCH	1450.00	400.00
		(a) OPV				870.00	240.00
		(b) Operating cost				580.00	160.00

Annexure 2.10.2 (Contd/-)

	33	Child Health	Included in RCH	Included in RCH	Included in RCH	20.00	1.00
52		Essential New Born care *(Home based neonatal care)*				20.00	
53		Diarheal Diseases - Prevention/Treatment					
54		ARI-Prevention/Treatment					
	34	NUTRITION	Included in RCH	Included in RCH	Included in RCH	Included in RCH	Included in RCH
55		Vitamin-A Programme					
56	35	Adolescent Health	Included in RCH	Included in RCH	Included in RCH	50.00	3.00
	36	Maternal Health	Included in RCH	Included in RCH	Included in RCH	1384.00	254.00
57		Ante-natal care					
58		Nutritional Anaemia *(Anaemia Control & De-worming)*				30.00	
59		Home Delivery Care					
		(a) Community based midwives				30.00	
		(b) Dais Training				40.00	
60		Dais Kits *(Drugs, Kits & Equipments)*					
		(a) Drug Kits/FRU Drugs/PHC Drugs/RTI Drugs				704.00	
		(b) MTP/RTI/STI Equipment/Kit/IUD Kit				350.00	
		(c) Equipment for Blood Storage & Lab. Equipment				10.00	
		(d) Needles & Syringes				125.00	
		(e) Neo-Natal Equipment				20.00	
61		Promoting Institutional Deliveries					
		(a) 24 Hour Delivery				25.00	
		(b) Operationalising FRUs for Emergency Obs. & NN Care				50.00	
62	37	MTP Services (Manual Vac. Aspirator for safe abortion)	Included in RCH	Included in RCH	Included in RCH	4.00	1.20
63	38	RTI/ STI prevention and management	Included in RCH	Included in RCH	Included in RCH	35.00	2.00
	39	Other RCH Interventions and services	Included in RCH	Included in RCH	Included in RCH	730.00	122.00
64		Referral Transport				15.00	
65		Out reach Services				130.00	
66		RCH Camps				95.00	
67		Civil Works				350.00	
68		Research (In RCH Activities)				40.00	
69		MIS				90.00	
70		Expdt. At Headquarters				10.00	
71	40	NGOs and SCOVA	Included in RCH	Included in RCH	Included in RCH	130.00	22.00

Annexure 2.10.2 (Concld/-)

	41	Training	Included in RCH	Included	Included in RCH	328.00	53.00
72		RCH Training				265.00	
73		Training of ISM&H				15.00	
74		Training of AWW				48.00	
75	42	Tribal Projects	Included in RCH	Included in RCH	Included in RCH		
76	43	Urban Slums Projects	Included in RCH	Included in RCH	Included in RCH	700.00	5.00
77	44	District Projects	Included in RCH	Included in RCH	Included in RCH	75.00	75.00
78	45	Other Projects under RCH	Included in RCH	Included in RCH	Included in RCH		
	H.	**OTHER FAMILY WELFARE PROGRAMMES**	**643.25**	**450.72**	**318.68**	**1900.50**	**355.90**
79	46	Maternity Benefit Scheme	Transferred from M/o Rural Development	80.00	80.00	500.00	90.0
80	47	Information, Education and Communication	170.00	184.80	160.91	489.50	84.70
		Non-RCH					
		RCH					
81	48	Travel of Experts/Conferences /Meetings etc.	16.10	15.35	2.15	7.00	1.50
82	49	International Contribution	6.30	6.99	6.33	9.00	1.70
83	50	Empowered Action Group		30.00	30.00	250.00	50.00
84	51	Community Incentive Scheme		30.00	5.00	300.00	60.00
85	52	Family Welfare Link Health Insurance Plan		0.01	0.01	250.00	50.00
86	53	Policy Seminars		3.00	3.00	20.00	3.00
87	54	Other Initiatives	265.00	0.03	0.03	75.00	15.00
88		Strengthening of Rural Family Welfare Centres under National Human Development Initiative	Included in Sub-centres (scheme 2)	20.00	Included in Sub-centres (scheme 2)		
89		Other Offices under Direction & Administration	28.10	29.60	29.02		
90		ISM Institutions	7.00	5.02	1.39		
91		Regional Institute of MCH	0.75	0.60	0.31		
92		Hindustan Latex Limited	1.90	1.72	0.13		
93		Family Welfare Counsellor Scheme	1.00	1.00	0.00		
94		School Health Scheme	147.10	42.60	0.40		
	55	Additional RCH activities in the Tenth Plan				25.00	0.30
	56	Other New Initiatives				22.00	6.00
		GRAND TOTAL	**15120.00**	**14968.70**	**14588.97**	**27125.00**	**4930.00**

Annexure-2.10.3

Sl. No.	Name of State/UT	Couple Protection Rate				Crude Birth rate		Total Fertility Rate		Infant Mortality Rate		Neo Natal Mortality Rate		Safe Delivery		Ante Natal Care (3 ANCs)	
		Current Level (Average of NFHS,RHS)		Expected Level 2007													
		By Ster.	Spacing (Modern)	Permanent	Spacing (Modern)	Current level SRS 2000	Expected Level 2007	Current level SRS 1998	Expected Level 2007	Current level SRS 2000	Expected Level 2007	Current level NFHS-2	Expected Level 2007	Current level NFHS-2	Expected Level 2007	Current level NFHS-2	Expected Level 2007
	INDIA	**35.5**	**8.0**	**50.0**	**15.0**	**25.8**	**21**	**3.2**	**2.3**	**68**	**45**	**43.4**	**26**	**42.3**	**80**	**43.8**	**90**
I.	MAJOR STATES																
1	Andhra Pr	57.4	1.4	65.0	10.0	21.3	17	2.4	1.8	65	42	43.8	22	65.2	90	80.1	95
2	Assam	15.1	12.5	35.0	16.9	26.9	22	3.2	2.3	75	50	44.6	30	21.4	55	30.8	80
3	Bihar	20.7	2.2	30.0	10.0	31.9	24	4.3	2.8	62	45	46.5	25	23.4	70	17.8	80
4	Chattisgarh	38.0	5.0	45.0	10.0	26.7	22	NA	2.6	79	50	54.9	38	65.9	95	28.1	85
5	Gujarat	44.0	8.8	60.0	21.2	25.2	20	3.0	2.1	62	40	39.6	22	53.5	80	60.2	95
6	Haryana	40.1	12.9	56.3	26.0	26.9	22	3.3	2.2	67	40	34.9	23	42	80	37.4	95
7	Jharkhand	21.0	2.0	30.0	10.0	26.5	22	NA	2.6	70	50	46.5	35	42.4	60	17.8	80
8	Karnataka	52.5	4.8	60.0	12.7	22.0	20	2.4	2.0	57	40	37.1	21	59.1	85	71.4	95
9	Kerala	50.7	6.3	60.0	10.7	17.9	15	1.8	1.6	14	9	13.8	5	94	100	98.3	100
10	Madhya Pr	38.0	5.1	55.0	17.0	31.2	23	3.9	2.6	88	58	54.9	30	29.7	70	28.1	85
11	Maharashtra	51.4	7.7	66.0	14.9	20.9	17	2.7	2.1	48	34	32	20	59.4	95	65.4	98
12	Orissa	34.8	5.1	55.0	12.9	24.3	21	2.9	2.2	96	68	48.6	35	33.4	70	47.3	90
13	Punjab	31.0	22.8	55.0	30.0	21.5	18	2.6	2.1	52	35	34.3	15	62.6	90	57	95
14	Rajasthan	37.1	6.2	45.0	15.5	31.2	22	4.1	2.7	79	50	49.5	30	35.8	70	22.9	80
15	Tamil Nadu	45.8	4.4	60.0	12.0	19.2	16	2.0	1.7	51	30	34.8	20	83.8	100	91.4	100
16	Uttar Pr	14.9	7.0	35.0	21.0	32.8	24	4.6	2.7	83	58	53.6	35	22.4	75	14.9	80
17	West Bengal	32.9	13.5	50.0	19.4	20.6	17	2.4	2.1	51	38	31.9	25	44.2	80	57	95
II.	SMALLER STATES																
1	Arunachal Pr	18.4	15.0	30.0	20.8	22.3	20	2.8	2.4	44	40	41.8	30	31.9	65	40.5	80
2	Goa	28.6	8.9	45.0	12.4	14.3	12	1.8	1.5	23	9	31.2	20	29.7	75	95.7	100
3	Himachal Pr	51.5	10.1	65.0	19.6	22.1	20	2.4	2.0	60	35	22.1	15	40.2	80	60.9	85
4	J & K	30.3	14.1	40.0	18.5	19.6	17	NA	2.0	50	40	40.3	30	23.4	75	66	80
5	Manipur	12.8	9.8	30.0	15.8	18.3	16	2.4	2.0	23	20	18.6	10	53.9	85	54.4	80
6	Meghalaya	8.6	8.0	30.0	10.8	28.5	23	4.0	2.6	58	50	50.7	40	20.6	50	31.3	80
7	Mizoram	42.3	10.0	56.8	15.5	16.9	16	NA	2.0	21	19	18.8	12	67.5	90	75.8	90
8	Nagaland	12.3	10.7	30.0	14.1	NA	15	1.5	1.5	NA	32	20.1	15	32.8	60	23.1	85
9	Sikkim	23.9	20.2	31.3	28.5	21.8	17	2.5	2.1	49	45	26.3	20	35.1	60	42.6	85
10	Tripura	20.0	20.0	30.0	36.4	16.5	16	3.9	2.6	41	35			48.3	60	51	85
11	Uttaranchal	30.0	10.0	40.0	18.2	20.2	18	NA	2.0	50	40	53.6	30	22.4	80	19.6	80
III.	UNION TERRITORIES																
1	A&N Islands	44.7	13.6	50.0	15.0	19.1	15	1.9	1.7	23	22			71.3	80	92.3	100
2	Chandigarh	21.1	35.9	40.0	35.0	17.5	14	2.1	1.9	28	25			71.2	80	73	85
3	D&N Haveli	29.7	5.7	35.0	10.0	34.9	23	3.5	2.8	58	50			27.6	60	74.6	85
4	Daman & Diu	44.4	6.3	50.0	10.0	23.7	16	2.5	2.1	48	45			70.6	85	80.7	90
5	Delhi	28.7	33.6	40.0	30.0	20.3	16	1.6	1.6	32	25	29.5	20	73.7	85	68.2	85
6	Lakshadweep	7.4	4.1	30.0	10.0	26.1	20	2.8	2.4	27	25			74.1	85	98.3	100
7	Pondicherry	50.6	6.2	65.0	10.0	17.8	16	1.8	1.6	23	20			93.4	100	95.8	100