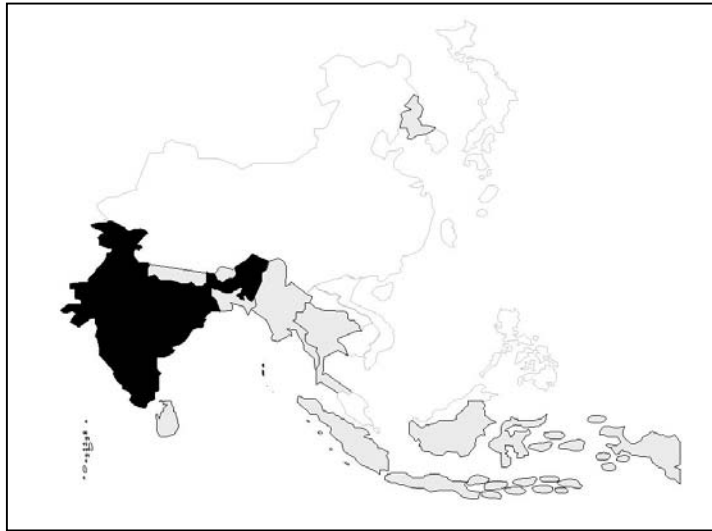


# **COUNTRY HEALTH PROFILE**

**INDIA**



*The boundaries shown on the above map do not imply official endorsement or acceptance by the World Health Organization.*

## **SECTION 1: TRENDS IN POLICY DEVELOPMENT**

India is currently in the process of developing a new national health policy (NHP-2001). The existing national health policy (NHP) was adopted in 1983. Its main focus was the formulation of an integrated and comprehensive approach towards future development of health services, appropriately supported by medical education and research, with special emphasis on PHC and related support services. During the 7th five-year plan (FYP), there was considerable achievement in terms of establishment of a health infrastructure, especially in rural areas. The 8th FYP (1992-97) identified "human development" as its main focus, with health and population control listed as two of six priority objectives. It was emphasized that health facilities must reach the entire population by the end of the 8th plan. The plan also identified peoples' initiative and participation as a key element. With the enactment of the 73rd Constitutional Amendment Act (1992), Panchayati Raj Institutions (PRIs) were revitalized and a process of democratic decentralization ushered in, with similar provisions made for urban local bodies, municipalities and nargapalikas.

Recognizing the importance of sustainable development, a national conservation strategy and a policy statement on environment and development were formulated in 1992 to bring environmental considerations into the developmental process. Linkages were drawn between poverty, population growth and the environment. The NHP identified nutrition as a problem needing urgent attention and in 1993 a national nutrition policy was formulated with long and short-term strategies.

The vertically structured family welfare programme needed to be replaced by a more democratic, decentralized alternative. In 1994 a draft national population policy was submitted to parliament as well as a revised report in 1996. It advocated a holistic, multisectoral approach towards population stabilization, with no targets for specific contraceptive methods except for achieving a national average total fertility rate (TFR) of 2.1 by the year 2010. This has resulted in a radical shift in implementation from centrally fixed targets to a target-free dispensation through a decentralized, participatory approach. A Population and Social Development Commission was also established in support of the population policy.

India has accepted the recommendations of the ICPD (1994) and has also ratified various international conventions for securing equal rights for women. Following the World Summit on Survival, Protection and Development of Children in 1990, India formulated a Plan of Action for Children in 1992 with actions that directly and indirectly affect child health.

Despite the commitment to HFA, enormous health problems still need to be addressed. While overall mortality has declined considerably, living standards are still among the poorest in the world. The major constraints facing the health sector are lack of resources, lack of an integrated multisectoral approach, insufficient IEC support, poor involvement of NGOs, inadequate laboratory services, a manually operated health management information system (HMIS), poor disease surveillance and response systems, and the heavy investments needed in dealing with noncommunicable diseases. The problems of gender disparity still manifest themselves in various forms, as evidenced by the declining female to male population ratio, social stereotyping, violence at the domestic and social level, and continuing open discrimination against the girl child, adolescent girls and women.

Thus the period after the last National Health Plan was announced in 1983 has seen major developments in India. There has been an increase in mortality through 'life-style' diseases- diabetes, cancer and cardiovascular diseases. The increase in life expectancy has increased the requirement for geriatric care. Similarly, the increasing burden of trauma cases is also a significant public health problem. The changed circumstances relating to the health sector of the country since 1983 have generated a situation in which the government has undertaken steps to formulate a new policy framework as the National Health Policy-2001.

The draft NHP-2001 attempts to set out a new policy framework for the accelerated achievement of Public health goals in the socio-economic circumstances currently prevailing in the country.

## **SECTION 2: TRENDS IN SOCIOECONOMIC DEVELOPMENT**

### **2.1 Economic trends**

Gross national product (GNP) per capita increased from Indian Rs. 6340 in 1991/92 to Rs. 13,193 in 1997/98. The annual growth rate of the GNP increased from 0.5% in 1991/92 to 7.0% in 1995/96, but declined to 4% in 2000/2001. The percentage of poor in rural areas increased from 20.5 in 1991/92 to 22.9 in 1992/93 and to 37.3% in 1993/94. Since the early 1990s, overall economic growth has been faster. The situation regarding balance of payments has strengthened considerably, and the central government's fiscal deficit as a proportion of the gross domestic product (GDP) has declined significantly.

### **2.2 Demographic trends**

The crude birth rate (CBR) declined from 29.5 in 1991 to 26.1 in 1999, while the crude death rate (CDR) declined from 9.8 to 8.7 per 1000 population over the same period. The total fertility rate (TFR) decreased from 3.6 in 1991 to 2.85 in 1996-98. The annual population growth rate declined from 1.97 in 1991 to 1.74 in 1999. The population, however, continues to grow, as the decline in the birth rate is not as rapid as the decline in the death rate. Due to the increase in life expectancy at birth (58.7 in 1990 to over 62 in 2001), the number of elderly persons in the population is now increasing, for which specific health facilities will need to be provided. Urban migration over the last decade has resulted in the rapid growth of urban slums, with ad hoc provisions for health care if any. Within the 9th plan steps are proposed to improve urban PHC.

### **2.3 Social trends**

From the 2001 population census, the literacy rate for males is 75.85% and for females is 54.16%. The changing economic situation created by urbanization, industrialization and new economic liberalization has transformed the Indian social structure and values from a traditionally agrarian economy to a modern industrial order. The emerging nuclear family is exposed to severe economic and social constraints and changes. The traditional mechanisms for social security and adjustment in times of crisis and conflict are fast disappearing. This transformation has resulted in the creation of several social problems for individuals and groups such as older persons, the disabled, drug addicts, street children, child labor, HIV-infected populations, etc. There has also been increased violence - individually as well as collectively - especially towards women and young girls, which has

assumed a national dimension. The problem of drug abuse is no more confined to a particular section of society but has infiltrated all strata. The large uncontrolled influx of rural migrants to urban areas in search of better earnings and job opportunities leaves them totally vulnerable, particularly the children of these migrant families. The negative influence of the electronic media appears to have resulted in an increase in juvenile delinquency, vagrancy, robberies, murders and kidnappings.

There is a plethora of social legislation to safeguard the interest of persons in distress and to deal with the various social problems. Many of the acts have been amended in recent years to give them more teeth in terms of their effectiveness. However, there are wide gaps in the implementation of these acts with regard to coverage, quality and content, which affect social development and the well being of the people. The 9th FYP envisages a more holistic approach to these social problems, with strategies aimed at specific target groups and/or problems.

## **2.4 Food supply and nutritional status**

The proportion of newborns weighing less than 2500 grams at birth was reported as 23% in 1995/96. The proportion of children under 3 years whose weight-for-age was less than minus 2 SD below the median was 47% (1998/99). It is estimated that 200 million people are exposed to the risk of iodine deficiency disorders (IDDs) and that 63 million suffer from goitre. Surveys conducted in 275 districts have revealed that 235 districts are endemic for IDD. In 1991, 87.5% of pregnant women were found to be anaemic (haemoglobin < 11g/dl). The National Institute of Nutrition in Hyderabad reported that 56% of children under five years of age had iron deficiency anaemia. The contribution of vitamin A deficiency to blindness was estimated to be 2% in 1975 and 0.04% in 1990.

A national IDD control programme was launched in 1992, which covers all states and union territories. The strategy is the use of iodated salt and all aspects of programme implementation are being addressed.

Anaemia contributed to 20% of maternal deaths in 1991. An intervention programme that commenced in 1992 prioritized pregnant women for iron and folic acid administration. During 1994/95, 85.8% of pregnant women were covered with the recommended daily dose of iron folate tablets.

The most susceptible group for vitamin A deficiency blindness is preschool children. The child survival programme seeks to administer five doses of vitamin A to all children under three years. During 1994/95, 72.6% of infants and 54.8% of 1-2 year old children were administered vitamin A.

Other actions include the Integrated Child Development Service (ICDS) programme that provides a package of services to 54 million beneficiaries comprising preschool children, pregnant women and lactating mothers, and the mid-day meal programme for primary school children. The following goals have been set to be achieved by the year 2000: reduction by 50% of moderate and severe protein-energy malnutrition (PEM) in preschool children, reduction of low birth weight to less than 10%, elimination of blindness due to vitamin A, reduction of iron deficiency anaemia among pregnant women to 25%, and reduction of IDDs to less than 10% in endemic districts.

## **2.5 Lifestyle**

The proportion of males 15 years and over who were regular smokers in the 1980s has been estimated at 32-74% (rural) and 46-63% (urban), and females 20-50% (rural) and 2-16% (urban). Currently there is an increasing trend in smoking among youth. Other significant changes in lifestyles relate to lack of physical activity among the affluent, increased use of fast foods, substance abuse, and violence, particularly against young women and children. The government has taken action to promote healthy lifestyles through sports, health education, setting up of no smoking zones, legislation banning smoking in public places, and establishing drug detoxification centers. A major constraint is the government revenue derived from tobacco, sponsorship of activities, especially sports events by tobacco companies, and high-pressure advertising.

## **SECTION 3: HEALTH AND ENVIRONMENT**

### **3.1 General protection of the environment**

Due to an increase in unplanned urbanization and industrialization, the environment has deteriorated significantly. Pollution from a wide variety of emissions, such as from automobiles and industrial activities, has reached critical levels in many urban and industrial areas, causing respiratory, ocular and other health problems. Monitoring of the urban environment in selected cities in recent years by the pollution control authority has identified 21 critically polluted areas in the country.

Agricultural activities including widespread use of fertilizers, pesticides and weed killers also alter the environment and create health hazards. Water stagnation and the consequent multiplication of vectors has increased the risk of vector-borne diseases. The risk associated with disposal of hospital wastes has added to the overall unhealthy situation.

India is a party to the UN Conference on Environment and Development (UNCED) held in 1992. In the same year, a national conservation strategy and a policy statement on environment were formulated. The policy addresses issues related to sustainable development including health. Thrust has also been given to management of hazardous waste, adoption of clean technologies by industries, establishment of effluent treatment plants, criteria for environmentally friendly products, phasing out of ozone depleting substances, and creating mass awareness programmes.

A very far-reaching notification by the Ministry of Environment and Forests gazetted in 1994 makes it obligatory for almost all development projects to conduct an environmental impact assessment study which has to be evaluated by an impact assessment agency. A Government constituted group at the highest level has identified six priority programme areas, namely urban low cost sanitation, urban waste water management, urban solid waste management including hospital waste management, rural environmental sanitation, industrial waste management and air pollution control, and strengthening of health surveillance and support services. These areas have been addressed in the Dayal Committee Report that forms the basis for a comprehensive national programme on sanitation and environmental hygiene.

There are many constitutional provisions and laws pertaining to the environment and its protection and improvement. However, the level of enforcement has been extremely poor. Besides, there is no comprehensive legislation on environment and health. In view of the

current situation and the Dayal Committee Report, it was proposed that action be taken by the concerned ministries/departments to prioritize the areas and activities that should be included in the 9th plan. During the 9th FYP the Ministry has proposed the following actions:

1. Strengthen environmental health and health risk assessment in the country. A division of environmental health will be established in the Department of Health for this purpose.
2. Establish a hospital waste management programme.
3. Initiate drinking water quality surveillance as a part of disease surveillance.

### **3.2 Water supply and sanitation**

The proportion of the population with safe drinking water available at home or with reasonable access was 92.6% in 1998/99 for urban areas and 72.3% for rural areas. The proportion of the population with adequate excreta disposal facilities was 80.7% in 1998/99 in urban areas and 18.9 in rural areas.

At the time of formulation of the 8th plan, it was estimated that with regard to water there were about 3000 hard-core 'no source' villages out of a list of 'problem' villages numbering 162,000. Besides this, about 150,000 villages were only partially covered. Regarding urban water supply, the service levels are far below desired norms. During the mid 90s, an accelerated urban water supply programme was initiated for towns having less than 20,000 population. The provision of hygienic sanitation facilities through conventional sewage and on-site low cost sanitation has not been given priority. Though the 8th plan envisaged conversion of all existing dry latrines, the final result is nowhere near the target.

The main constraints with regard to water supply are inadequate maintenance of rural water systems, lack of finances and poor community involvement. Most municipalities do not have any system for monitoring the quality of water, with contamination causing episodes of water-borne diseases even in metro cities like Delhi and Calcutta. Most of the people in rural areas are not aware of the health and environmental benefits of improved sanitation. Future actions include phasing of the rural water supply programme, more financial support from the state finance commissions, more responsibilities given to local bodies and village panchayats, water supply and sanitation agencies to have full autonomy in declaring tariffs, improving manpower and equipment support to municipal authorities, and creating public awareness regarding safe water and sanitation.

## **SECTION 4: HEALTH RESOURCES**

### **4.1 Human resources for health**

The available data regarding health personnel show a national total of 503,900 physicians giving a ratio of 5.2 per 10,000 population. The number of registered nurse/midwives totaled 607,376. The number of medical colleges has increased significantly over the past decades with the standard of medical education of undergraduates and postgraduates maintained at a high level. The National Institute of Health and Family Welfare (NIHFW) is involved in providing in-service training for all categories of health and family welfare personnel. The curriculum for graduate medical education has recently been revised to provide integrated teaching and more practical learning, as well as greater

opportunities for acquisition of skills. The importance of social factors in relation to problems of health and disease are emphasized and a community-based approach is also included in the training. The main constraints are the shortage of funds, particularly for government institutions imparting medical education, and the problem of deployment of medical personnel to rural areas due to inadequate facilities to meet personal and professional needs.

Vacancies continue to exist in the posts of laboratory technicians, radiographers and other paraprofessionals which have serious service implications, particularly for programmes like malaria and tuberculosis. The ratio of nurses to doctors is also below the optimum. Other constraints include the low priority given to in-service training, inadequate staffing of training institutions, quality concerns among trainers, and inadequate facilities in training institutions. As for future actions, the central council for Health and Family Welfare suggested in 1993 that an Educational Commission in Health Sciences be set up to oversee, coordinate and support activities in this area. An omnibus council was also proposed to cover a range of paramedical personnel.

## **4.2 Financial resources for health**

For the period 1998, the total health expenditure as a percentage of the GDP was 5.1%. Public expenditure on health was 18% of the total expenditure on health. The total government health expenditure as a percentage of the total government expenditure was 5.6%.

Though India was committed to achieve HFA by the year 2000, the range and complexities of health issues have also been substantial. On the one hand the government has been struggling to combat communicable diseases while on the other having to cope with noncommunicable diseases like diabetes, cancer, cardiovascular diseases, etc.

In the constitutional provisions, health is primarily a state subject. States/union territories account for 76.26% of the 8th plan health sector outlay as compared to 23.74% from the center. To augment the resources for health care, earmarked outlays are provided to state governments under the Minimum Needs Programme (MNP) with the explicit stipulation that these funds cannot be diverted elsewhere, and in case of diversion the central plan assistance to state governments will stand proportionately reduced. The family welfare/family-planning programme has been a 100% centrally sponsored scheme from its inception. The financial outlay has also been increasing over the successive five-year plan periods. In the 1996/97 budget, the allocation for health was increased by 21.6%. Efforts have also been made to mobilize resources through various international organizations and UN agencies. The government has encouraged the involvement of private agencies in secondary and tertiary levels of health care.

Financial resources have been a major constraint to developing the primary and secondary levels of health care which are mainly provided by the government. Dependence solely on government resources has been another constraint. For the future, the possibility of moving from strictly government-administered institutions to autonomous institutions or even to joint sector enterprises are options that are being discussed.

### **4.3 Physical infrastructure**

Since early 1990s, the emphasis has been towards consolidation and operationalization, rather than on major expansion of the infrastructure. For this purpose, the following targets have been set:

- (a) One subcentre staffed by a trained female health worker and a male health worker for a population of 5000 in the plains and a population of 3000 in hilly and tribal areas. As of 1998, 137,006 subcentres had been established.
- (b) One primary health center (PHC) staffed by a medical officer and other paramedical staff for a population of 30,000 in the plains and a population of 20,000 in hilly, tribal and backward areas. A PHC center supervises six subcentres. As of 1998, 23,179 PHCs had been established.
- (c) One community health center (CHC) or an upgraded PHC with 30 beds and basic specialities covering a population of 80,000 to 120,000. The CHC acts as a referral center for four PHCs. Up to 1998, 2913 CHCs had been established.

Urban family welfare centres (FWCs) have been set up to provide family welfare/family planning services. In all, 1529 urban FWCs are functioning (1996). The status of the infrastructure to deliver primary health care appears to be satisfactory but actual programme implementation needs a lot of improvement. Constraints include deficiency of skilled personnel, lack of basic facilities and simple equipment, etc. Also, staff shortages continue to plague the services at all levels. A substantial part of the physical infrastructure has still to be completed. A major factor has been that approved estimates/norms for construction have not kept abreast with the rising estimates of actual construction costs. More than one-quarter of the population now live in urban areas, with about 40-50% of those in the metropolitan and large cities living in urban slums, with primary health care provided by health posts. Very often these health posts are outside slum areas, making access difficult. They also lack basic drugs, equipment and technical support. Consolidation, with attention to specific health needs of the community, will underpin future actions.

### **4.4 Essential drugs and other supplies**

No study has been done to assess the availability of essential drugs in remote facilities. The government, in consultation with the states and relevant agencies, has developed a national essential drugs list comprising over 300 drugs classified for use at the different levels of health care. This list serves as a guide to procuring agencies in central and state governments. The drugs available in India as compared to those in other countries are considered cost effective and there is a price control on 78 essential drugs. Budgetary constraints do come in the way of essential drug availability in the public sector. Work is in progress to bring out a compendium on the rational use of essential drugs.

### **4.5 International partnerships in health**

Various international organizations and UN agencies have continued to provide significant technical and material assistance which has had a positive impact. The various agencies include WHO, World Bank, UNICEF, UNFPA, USAID, Japanese Assistance, ODA (UK), SIDA, NORAD, DANIDA and German assistance. A National Institute of

Biologicals has been set up as an autonomous organization, with funding from the Government of India, the Japanese and USAID.

## **SECTION 5: DEVELOPMENT OF THE HEALTH SYSTEM**

### **5.1 Health policies and strategies**

The health sector in India is characterized by: (i) a government sector that provides publicly financed and managed curative and preventive health services from primary to tertiary level, throughout the country and free of cost to the consumer (these account for about 18% of the overall health spending and 0.9% of the GDP), and (ii) a fee-levying private sector that plays a dominant role in the provision of individual curative care through ambulatory services and accounts for about 82% of the overall health expenditure and 4.2% of the GDP. Nationwide health care utilization rates show that private health services are directed mainly at providing primary health care and financed from private resources, which could place a disproportionate burden on the poor.

The provision of health care by the public sector is a responsibility shared by state, central and local governments, although it is effectively a state responsibility in terms of service delivery. State and local governments incur about three-quarters and the center about one-quarter of public spending on health. The responsibility for health is at three levels. First, health is primarily a state responsibility. Second, the center is responsible for health services in union territories without a legislature and is also responsible for developing and monitoring national standards and regulations, linking the states with funding agencies, and sponsoring numerous schemes for implementation by state governments. Third, both the center and the states have a joint responsibility for programmes listed under the concurrent list. Goals and strategies for the public sector in health care are established through a consultative process involving all levels of government through the Central Council for Health and Family Welfare.

The outcomes from meetings of the Central Council for Health and Family Welfare have provided a thrust to various sub sectors within the health sector. The private and voluntary sectors have emerged as an important arm of the health sector. From 1 April 1996 a change has been effected in the family welfare services with targets for contraceptive methods being replaced by a target-free approach. A huge campaign to eradicate poliomyelitis through pulse polio immunization (PPI) was initiated in 1995. The traditional system of medicine is now playing a more significant role due to escalating costs of health care. State health systems/projects have been formulated to improve efficiency in the allocation and use of health resources through policy and institutional development. Specific efforts have been made to consolidate and strengthen the PHC infrastructure, under the minimum needs programme, by providing enhanced assistance to regions with severe health problems, supporting voluntary organizations, improving IEC activities, etc. The convergence of services to provide a holistic approach to population control has also been promoted. In March 1995 a separate Department of Indian System of Medicine and Homeopathy (ISM & H) was created within the Ministry of Health and Family Welfare.

## 5.2 Intersectoral cooperation

In order to meet current needs and emerging challenges, a number of working groups were constituted in 1996 to comprehensively review the existing health situation in its totality. The following areas are included: communicable diseases, health systems and biomedical research development, ISM & H, child development, environmental health, health education and IEC, women's development, and requirements for supportive and diagnostic services in primary, secondary and tertiary care.

Consultations have also been held with NGOs. Two other committees have been constituted, namely an expert committee to comprehensively review the public health system in the country and the National Mission on Environmental Health and Sanitation. The recommendations of these consultations have been discussed by the concerned ministries and were to be submitted as proposals for the 9th FYP.

The active promotion of the *panchayati raj* (local administration) system from the village to the district is a measure directed towards ensuring intersectoral collaboration. Specific health areas that have effectively made use of intersectoral collaboration include malaria control, AIDS control programme, blindness control, nutrition, and water and sanitation to name a few.

## 5.3 Organization of the health system

The focus of the 8th plan has been to improve access to health care for the underserved and underprivileged segments of society, through consolidation and operationalization of the health infrastructure at all levels with emphasis on primary health care. In view of the high maternal mortality, upgrading of existing maternal health facilities and establishing first referral units (FRUs) have been prioritized. Many states have initiated major projects to upgrade their health services with assistance from funding agencies. Andhra Pradesh is implementing a Health Systems Project with World Bank assistance, and the states of Karnataka, West Bengal and Punjab are to follow. In support of Safe Motherhood, priority central assistance has been provided to establish FRUs in all 213 districts in six states where the maternal mortality is two to three times more than the national average. States in India have only recently begun to address issues relating to the organization of their health systems. Their capacity to bring about key policy reforms is still lacking. A substantial proportion of specialist posts in CHCs are vacant, and thus affects the functioning of first referral units. Other constraints relate to shortage of paramedical staff, support staff and inadequate involvement of NGOs.

## 5.4 Managerial process

The process has been initiated for decentralization of authority to the various levels to enable decision making at the right time. Besides this, the *panchayati raj* bodies are also being revitalized. Training facilities for health management are being augmented with the NIFHW playing a pivotal role. A consortium of institutions dealing with health management has also been formed. As a further step towards managerial process development, the NIFHW is making efforts to strengthen institutions all over the country, including State Institutes of Health and Family Welfare. A postgraduate certificate course in hospital management through distance learning is in its second year. Through various fellowship programmes, health personnel are being oriented towards newer developments in the field of

management and management processes. Networking has also been established between the Nuffield Institute of Health in the UK and NIFHW towards strengthening managerial processes. A recurring constraint has been the appointment of officials to managerial positions who do not have any managerial training or experience.

## **5.5 Health information system**

In pursuance of the national health policy for the establishment of an efficient and effective management information system, a computer-compatible health management information system (HMIS version 2.0) has been designed in collaboration with participating states, the national information center (NIC) and WHO. The system is being implemented in phases. The first phase, involving 13 states/union territories (UTs) commenced in 1992-93 and is at present operational in two states with others in the process of implementation. In addition, each of the disease control programmes has its independent MIS, e.g. the National Programme for Control of Blindness, the National Leprosy Eradication Programme, the AIDS programme, tuberculosis control programme, etc.

Obligations under the International Health Regulations continue to be observed. Morbidity and mortality data in respect of internationally quarantinable diseases (including cholera) are received by CBHI each week. Based on information received, weekly epidemiological reports are prepared and sent to WHO. Surveillance of the principal communicable diseases other than those covered by the international health regulations is also maintained and reported monthly. Health condition reports giving morbidity and mortality data are received annually from states and UTs according to the ICD-9 classification. At present, the states need to be helped to augment their infrastructure facilities for computerization of data.

## **5.6 Community action**

The concept of community participation is contained in national health policy. The broad areas of community participation at grass roots level are seen in the village health services scheme, the *Anganwadi* scheme of ICDS, and the formation of village level committees. Community action has also been successfully used in disease control programmes such as malaria and in areas such as the provision and maintenance of drinking water schemes and sanitation. The main constraint to community action is the low priority given to health by the community in contrast to schemes that provide direct financial benefit.

## **5.7 Emergency preparedness**

Floods in India affect about 30 million people annually and drought about 50 million. Coastal areas experience two or three tropical cyclones of varying intensity each year. The Himalayan regions are prone to earthquakes. A Health Sector Emergency Preparedness and Response Programme has been in place since 1980. Crisis management groups have been used since 1980 and are constituted at national, state and district levels. In the Ministry of Health and Family Welfare, the Emergency Medical Relief Division is the responsible technical unit.

With WHO collaboration, emergency preparedness and response programmes in the health sector have resulted in: (a) preparation of a comprehensive health sector contingency plan at national level, (b) institutionalization of health sector disaster preparedness in seven

national institutes, (c) training activities at institutional and state levels, (d) surveys, case studies and research projects, and (e) publication of books relevant to emergency preparedness. Limited studies have shown the need to improve competencies of grass root level functionaries in disaster prone areas, as well as to strengthen monitoring of activities. From 1995 the following activities are envisaged: transfer of expertise from national to state level institutions, training of target groups including translation of materials into the local languages, strengthening local infrastructure including stockpiling of essential supplies, disease control monitoring and surveillance, and operational research.

## **5.8 Health research and technology**

India has a long history of biomedical research including health systems research. In several instances research results have directly influenced programme policies or led to modifications in programme strategies. Among the many research institutions, the Indian Council of Medical Research (ICMR), established in 1911, is the lead agency.

In the 8th FYP (1992-1997), ICMR attempted to consolidate significant leads in priority or "thrust" areas that were identified by various scientific expert groups. These areas included emerging health problems like HIV/AIDS, other important communicable diseases like tuberculosis, leprosy, diarrhoeal diseases, malaria, filariasis, Japanese encephalitis, etc., noncommunicable diseases like cancer, cardiovascular diseases, metabolic disorders, etc., contraception, MCH and nutrition.

Efforts have been made to develop a bibliographic database on HSR. With WHO support, nearly 400 HSR studies have been abstracted and a database was developed by the NIHF in 1996.

It is important that research findings have an application in the community. There is a need to sensitize policy makers and administrators about the importance of research and its managerial and programmatic uses. Financial resources also need to be improved. Dissemination of research findings and their utilization for identifying strategies to solve problems have not been up to the desired level.

## **SECTION 6: HEALTH SERVICES**

### **6.1 Health education and promotion**

Health education and promotion has been an integral component of all national health and family welfare programmes. The IEC approach uses a community-based strategy. Interpersonal communication at grass roots level is being strengthened by establishing women's health organizations (*Mahila Swasthya Sangh* - MSS) in villages. By 1995-96, 74,000 MSSs had been established. Funds were earmarked for setting up IEC bureaus in eight states in 1995-96. Training of frontline workers and field functionaries in various departments is being strengthened. The sensitization of local leaders is implemented through orientation training camps.

National health programmes are supported with health education and promotion strategies and activities specifically designed to suit programme needs. Such national programmes include those for leprosy eradication, tuberculosis control, malaria eradication,

and HIV/AIDS control, as well as the national iodine deficiency disorder programme and the environmental health and sanitation programme.

Interministerial committees at central and state levels meet periodically to review the progress of health education activities. NGOs and other professional organizations have joined with government agencies all around the country to improve health education. The media division of the CHEB has been strengthened to support media promotion activities as well as materials production.

## **6.2 Maternal and child health/family planning**

The proportion of pregnant women attended by trained personnel in 1995/96 was reported to be 65.1%. The proportion of deliveries in 1995/96 attended by trained personnel (including trained TBAs) in the urban sector was 73.5% and in the rural sector 33.5%. The proportion of women of childbearing age using family planning in 1998/99 was 48.2%. The crude birth rate (CBR) was 26.1 per 1000 population (1999) and the infant mortality rate (IMR) for were and 68.0 per 1000 live births (1994-98).

There are wide interstate differences in achievements of health and family planning indicators. Any change in these indicators is dependent on the performance of four states (Bihar, Rajasthan, Madhya Pradesh and Uttar Pradesh). With regard to population growth, unless these states improve their family planning performance, the national growth rate will not change significantly.

High priority has been given to MCH since 1985. The success achieved with EPI is likely to have made a significant contribution to the reduction in the infant mortality rate from 95 in 1987 to 68 per 1000 live births in 1994-98. Perinatal mortality and stillbirth rates remain high, with only a marginal decline in the last decade.

Several socioeconomic variables as well as technical and operational shortcomings constitute the main constraints. Though services are being strengthened and community education promoted, there is a lack of complete involvement by the people. Better coordination with NGOs, professional health organizations, private practitioners and the like is needed if better results are to be achieved.

For future action, a result-oriented action plan has been evolved in consultation between the center, states and UTs. The key features are improving the quality of outreach services, having a differential strategy for poorly performing districts as based on CBR, increasing coverage of younger couples, introducing newer and better quality contraceptives, strengthening family welfare schemes in urban areas, especially slum pockets, revitalizing training for health staff, IEC to focus on quality of life issues and interpersonal communication, and improving intersectoral coordination at all levels.

After four decades, the importance of a holistic multisectoral approach to population stabilization has been realized. A draft revised National Population Policy based on a holistic approach was placed before parliament in 1996. With a view to regulate and prevent the misuse of modern prenatal diagnostic techniques, legislation was passed in parliament in 1994. To ensure strong political commitment to curbing population growth, the 79th Constitution Amendment Bill seeks to incorporate promotion of population control and a small family norm, with an added clause enjoining all citizens to promote and adopt a small family norm. The bill also proposes to add an additional schedule, under which a person

shall be disqualified from being elected to hold office as a member of either house of parliament or in a state legislature if he/she has more than two children - but is not to take place with retrospective effect.

### **6.3 Immunization**

The proportion of infants reaching their first birthday who were fully immunized according to national immunization policies in 2001 was 49.0%. By individual vaccines the coverage in 1998/99 was as follows: DPT3 52.1% OPV3 59.2%, measles vaccine 41.7%, and BCG 69.1%. Percentage of pregnant women who received two doses of TT was 66.8% (1995/96). As a result of the immunization programme, the incidence of polio and neonatal tetanus have declined significantly. The strategies to maintain and improve coverage include outreach immunization sessions, intensification in high risk areas, national immunization days (NIDs) and mop-up rounds, strengthening surveillance, intensifying IEC and training, maintaining vaccines and essential supplies, and improving supervision and monitoring. WHO recommended strategies are being followed with regard to achieving the goal of polio eradication, neonatal tetanus elimination and measles control.

### **6.4 Prevention and control of locally endemic diseases**

The incidence of malaria remained around 2 million cases per year during 1984-1992. In 1997, 2.7 million and in 1999, 2.3 million cases were reported. The incidence of *P. falciparum* is increasing and reached to 50% in 1999. For filariasis, present estimates indicate that about 420 million people live in endemic areas. There are 206 control units, 198 clinics and 27 survey units. Visceral leishmaniasis, which reappeared in Bihar in the 1970s, is now endemic in 30 districts in Bihar and 9 districts in West Bengal. In 1996 there were 20,466 cases and 260 deaths reported. Japanese encephalitis (JE), though not a major public health problem, has over time been reported from as many as 24 states/UTs during one year, with an estimated 378 million people at risk. Dengue, dengue haemorrhagic fever (DHF) and dengue shock syndrome, all caused by the dengue virus, have been prevalent in India in almost all major urban areas, with periodic outbreaks of dengue fever and DHF. All four serotypes have been detected, and guidelines for prevention and control have been issued to all states.

An expert committee drew up a malaria action programme in 1995. A key strategy is the implementation of short and long term measures in selected high risk areas, high powered boards to expedite intersectoral cooperation, community involvement in antimalarial activities with intensified IEC, and capacity building at the central and grass roots levels through training. The progress of filariasis control is constantly under review and a strategy of selective treatment, vector control and IEC is being implemented. A revised strategy of mass drug administration has been initiated in some districts in Tamil Nadu and Maharashtra states. In view of the seriousness of visceral leishmaniasis, the government has accorded high priority for its control. Strategies involve early diagnosis and treatment of patients and interruption of transmission by DDT spraying.

### **6.5 Treatment of common diseases and injuries**

The national tuberculosis control programme has not achieved the desired results. In 1992 the programme was reviewed and a revised control programme formulated with short

term course chemotherapy using the DOTS strategy. The problem of protein-energy malnutrition (PEM) and micronutrient deficiency disorders are quite significant and are being dealt with through a number of national programmes with well defined goals. Diarrhoeal diseases, which are still a major cause of morbidity and mortality in infants and children, are being addressed through the promotion of exclusive breast-feeding, good child feeding practices, and the timely use of ORT during episodes of diarrhoea. Acute respiratory infections (ARIs) are a leading cause of death due to pneumonia in children under five years. A strategy aimed at early recognition of the signs of pneumonia and timely referral has been very effective in reducing mortality. HIV/AIDS is predicted to be a major problem in India. A total of 22,529 seropositive cases were reported up to March 1996, but this number does not convey the actual magnitude of the problem. Almost 4 million HIV cases are estimated as of June 2000. Of the noncommunicable diseases, cancer and cardiovascular diseases are emerging as major health concerns that will require considerable financial resources for case management.

## **SECTION 7: TRENDS IN HEALTH STATUS**

### **7.1 Life expectancy**

For the period 1996-2001, the life expectancy at birth is estimated to be 62.36 years for males and 63.39 years for females. In 1991 the sex ratio was 927 females per 1000 males which increased to 933 in 2001. To ensure the continued improvement in life expectancy, the health care delivery infrastructure is being expanded, MCH care is being improved, specific programmes such as the expanded programme on immunization (EPI), introduction of oral rehydration therapy (ORT), etc. are being strengthened, and efforts are continuing to contain locally endemic diseases. There is also an increased thrust in other development and poverty alleviation programmes. The main constraints are the diverse population groups, low literacy and income levels, and sociocultural beliefs and practices which adversely affect health.

### **7.2 Mortality**

The infant mortality rate (IMR) was reported to be 68 per 1000 live births in 1994-98 and the maternal mortality ratio (MMR) for 1998 was estimated at 407 per 100,000 live births. Estimates for 1996 of the number of deaths per year in children under five years from diarrhoeal diseases was 840,000, from acute respiratory infections 600,000 and from measles 330,000. Deaths from malaria were reported to be 1061 (1995) and 1057 (1999), cardiovascular diseases 2,386,000 (1990), traffic accidents 45,670 (1993), and work accidents 543 (1993). Between 1986 and 1999 the crude death rate (CDR) declined from 11.1 to 8.7 per 1000 population. Between 1980 and 1998 the IMR declined from 114 to 68, the leading causes of death being diseases of circulatory system, infections and parasitic diseases, injury, poisoning, perinatal conditions, and diseases of respiratory system. The number of reported accidental deaths in 1993 was 11,125 and 80,000 in 1998. The main constraints are low literacy and income levels, sociocultural beliefs and practices, and suboptimal utilization of health facilities.

### **7.3 Morbidity**

The number of reported cases of the following diseases were: leprosy 560,000 (2000), malaria 2,276,788 (1999), measles 26,986 (1991), neonatal tetanus 1896 (1995), polio 142

(2000/2001), and tuberculosis 1,223,127 (1999). The vaccine-preventable diseases (referred to in Section 6) have declined significantly since implementation of the EPI. In India about 14 million people are estimated to be suffering from active tuberculosis and about 0.5 million die of the disease each year. Currently, short term chemotherapy using DOTS has been introduced and accessibility to tuberculosis treatment centres improved. The prevalence of leprosy has declined from about 39 per 10,000 population in 1985 to about 7 per 10,000 in 1995 and further down to 3.7 in 2000. The spectacular reduction in this disease has been due to the new regimen of multidrug therapy. The number of new cases detected annually has, however, remained more or less the same, at about 0.5 million.

## **7.4 Disability**

Disability prevalence rates per 100,000 population estimated in 1994 are as follows: physical disability 3574, visual disability 827, hearing 806, speech 510, and locomotor disability 2041. The incidence rates per 100,000 population of these disabilities are: physical 173, visual 45, hearing 27, speech 10 and locomotor disability 105 (national sample survey).

The main cause of blindness is cataract (80.1%), with about 6.5 million (2000) persons blind due to cataract. The national blindness control programme is centrally sponsored with a four-pronged strategy to strengthen service delivery, develop human resources, promote outreach activities and develop institutional capacity.

Due to changing lifestyles, mental disorders are likely to increase in the future. The total number of mental disorders treated in specialized mental hospitals was 48,396 in 1991 and 38,323 in 1992. The majority of cases have been diagnosed as suffering from psychosis (85.7%).

## **SECTION 8: OUTLOOK FOR THE FUTURE**

### **8.1 Overall assessment and strategic issues**

Mortality rates, especially the CDR, IMR and to some extent the MMR, have shown a declining trend. There has been an improvement in the expectation of life at birth for both males and females. The vaccine-preventable diseases have started to decline. Guinea-worm disease has been eradicated and leprosy shows a declining trend. Tuberculosis is still a persistent public health problem, but the new short term chemotherapy and DOTS strategy offer some promise. Together with the persistence of communicable diseases, noncommunicable diseases are also emerging as public health problems. The population growth rate though declining, continues to be alarmingly high, with some very populous states continuing to have high birth rates. Socioeconomic and sociocultural factors, the diversity among states, and low literacy remain major constraints.

With regard to health policy, there are well formulated policy guidelines for health, nutrition, education, children, etc. which provide an overall framework for health and development. Health is a state subject and the decentralization envisaged under the Panchayat Raj Act may provide greater opportunities for community participation in development.

The outlay in the health and health-related sectors has been increasing over the five year plan periods, but as a percentage of the total outlay has remained constant over the years.

The health care delivery system has expanded, but issues such as consolidation of existing infrastructure and quality need to be given more attention. Though there is an upward trend in economic growth (except for certain period 2000/2001), reducing the gap between the haves and the have-nots is a major challenge. Various international organizations and UN agencies continue to provide significant material and technical assistance for health and family welfare programmes.

## **8.2 Futures vision**

The goal is to achieve optimal health for the people, which would allow them to lead socially and economically productive lives and be in keeping with the principles of the HFA strategy. The health care system envisaged would have a public-private mix, with the latter encouraged to take a greater share of secondary and tertiary health care services. The National Conservation Strategy and Policy Statement on Environment and Development (1992) aims at ensuring that the demands on the environment do not exceed its carrying capacity for the present as well as for future generations.

## **8.3 Proposed strategies**

- (a) Enhancing equity for health: Making health services and facilities accessible and available to the people, especially the underprivileged, through the regionalization of health services, rational transfer policies, incentives and career development opportunities, and minimizing inter and intrastate differences.
- (b) Strengthening of health promotion and protection: Development of an integrated education and health promotion programme with locally relevant content, implementation of an integrated noncommunicable disease control programme (9th FYP), strengthening of intersectoral coordination for implementing preventive and promotive health in an integrated and comprehensive manner, and strict and effective enforcement of available legislation relating to health and the environment.
- (c) Strengthening the health sector through partnerships in health development: This includes public and private sector involvement, better use of indigenous systems of medicine, etc.
- (d) Developing and strengthening specific health programmes.
- (e) Developing and using appropriate health technology.
- (f) Strengthening international partnerships for health.

### Country Reported Data on Health Indicators

Indicator	Latest available data	Year	Source	Remarks
<b>Population and Vital Statistics</b>				
Total population (in millions)	1,027	2001	1	Census results
Population density (persons per sq km)	324	2001	1	Census results
Sex ratio (females per 1000 males)	933	2001	1	Census results
Population under 15 years (%)	35.6	1998	2	
Population 65 years and above (%)	4.1	1998	2	
Crude birth rate (per 1000 population)	26.1	1999	3	
Crude death rate (per 1000 population)	8.7	1999	3	
Annual population growth rate (%)	1.74	1999	3	Natural growth
Total fertility rate (per woman)	2.85	1996-98	4	
Urban population (%)	26.13	1991	5	Census results
<b>Socioeconomic Situation</b>				
Net national product per capita:				
At current prices	Rs 13,193	1997/98	5	
At 1993-94 prices	Rs 9,660	1997/98	5	
Llteracy rate (%): Total	65.38	2001	1	For population of age 7 years and above
Male	75.85	2001	1	
Female	54.16	2001	1	
Prevalence of low birth weight (weight <2500 grams at birth) (%): Total	23	1995-96	4	
Urban	21	1995-96	4	
Rural	24	1995-96	4	
Prevalence of underweight (weight-for-age) in children <3 years of age (%)	47.0	1998-99	4	
Prevalence of stunting (height-for-age) in children <3 years of age (%)	45.5	1998-99	4	
Prevalence of wasting (weight-for-height) in children <3 years of age (%)	15.5	1998-99	4	
<b>Environment</b>				
Population with safe drinking water available in the home or with reasonable access (%)	Total	77.9	1998-99	4
	Urban	92.6	1998-99	4
	Rural	72.3	1998-99	4
<i>(piped or hand pump)</i>				

Indicator	Latest available data	Year	Source	Remarks	
Population with adequate excreta disposal facilities available (%) <i>(population with toilet/latrine facility)</i>	Total Urban Rural	36.0 80.7 18.9	1998-99 1998-99 1998-99	4 4 4	
<b>Health Resources</b>					
<i>Facilities</i>					
Number of hospital beds	665,639	1998	5	As of 1/1/1998 } For hospitals } only	
Population per hospital bed	1,451	1998	5		
Hospital beds per 10,000 population	6.9	1998	5		
Number of health centres:					
(a) Sub-centres	137,006	1998	5		
(b) Primary health centres	23,179	1998	5		
(c) Community health centres	2,913	1998	5		
<i>Human resources</i>					
Number of physicians	503,900	1998	5	Registered Computed value	
Population per physician	1,916	1998	5		
Physicians per 10,000 population	5.2	1998	5		
General nurse midwives	607,376	1997	5	} Registered	
Auxiliary nurse midwives/health workers	301,691	1997	5		
<i>Budgetary resources</i>					
Total Expenditure on Health (THE) as % of Gross Domestic Product (GDP)	5.1 %	1998	6		
Public Expenditure on Health (PHE) as % of Total Expenditure on Health (THE)	18.0 %	1998	6		
Private Expenditure on Health (PvtHE) as % of Total Expenditure on Health (THE)	82.0 %	1998	6		
Public Expenditure on Health (PHE) as % of General Government Expenditure (GGE)	5.6 %	1998	6		
Social Security Expenditure on Health (SSHE) as % of Public Expenditure on Health (PHE)	...	1998	6		
Tax funded Health Expenditure (TaxFHE) as % of Public Expenditure on Health (PHE)	96.4	1998	6		
External Resources for Health (Ext Res HE) as % of Public Expenditure on Health (PHE)	3.6	1998	6		

Indicator	Latest available data	Year	Source	Remarks
Private Insurance for Health Risks (Pvt ins HE) as % of Private Expenditure on Health (PvtHE)	...	1998	6	
Out-of-Pocket Spending on Health (OOPS) as % of Private Expenditure on Health (PvtHE)	97.3 %	1998	6	
Per capita Total Expenditure on Health (THE) at official Exchange rate (X-Rate per US\$)	22	1998	6	
Per capita Public Expenditure on Health (PHE) at official Exchange rate (X-Rate per US\$)	4	1998	6	
Per capita Total Expenditure on Health (THE) in international dollars (int'l \$)	110	1998	6	
Per capita Public Expenditure on Health (PHE) in international dollars (int'l \$)	20	1998	6	
<b>Health Services</b>				
Pregnant women attended by trained personnel during pregnancy (%)	Total	65.1	1995-96	4
	Urban	85.6	1995-96	4
	Rural	59.3	1995-96	4
Deliveries attended by trained personnel (%)	Total	42.3	1995-96	4
	Urban	73.5	1995-96	4
	Rural	33.5	1995-96	4
Women of childbearing age using family planning (%)		48.2	1998-99	4
Eligible population (i.e. infants reaching their first birthday) that has been fully immunized according to national immunization policies		34.5	1998-99	4
		49.0	2001	7
				As of Oct 2001
Infants reaching their first birthday that have been fully immunized against diphtheria, tetanus, and whooping cough (%)		52.1	1998-99	4
Infants reaching their first birthday that have been fully immunized against poliomyelitis (%)		59.2	1998-99	4

Indicator	Latest available data	Year	Source	Remarks
Infants reaching their first birthday that have been fully immunized against measles (%)	41.7	1998-99	4	
Infants reaching their first birthday that have been fully immunized against tuberculosis (%)	69.1	1998-99	4	
Women that have been immunized with tetanus toxoid (TT) during pregnancy (%)	66.8	1995-96	4	
<b>Health Status</b>				
Life expectancy at birth (years):				Projected values
Male	62.36	1996-2001	5	
Female	63.39	1996-2001	5	
Infant mortality rate (per 1000 live births)	68	1994-98	4	
Under-five mortality rate (per 1000 live births)	95	1994-98	4	
Maternal mortality ratio (per 100,000 live births)	407	1998	8	

- Sources:**
1. India, *Census of India 2001 : Provisional Population totals*, March 2001
  2. India, *Sample Registration System, Statistical Report 1998*, October 2000
  3. India, *Sample Registration System, SRS Bulletin*, April 2001
  4. India, *National Family Health Survey (NFHS-2), 1998-99*, October 2000
  5. India, *Health Information of India 1997 & 1998*, July 2000
  6. Adapted from "WHO Geneva, *The World Health Report 2001 : Mental Health, New Understanding, New Hope*", October 2001
  7. India, Press briefing by the Minister of Health, 23 October 2001
  8. India, *Sample Registration System, SRS Bulletin*, April 2000