INDIA

National Health System Profile

1. TRENDS IN POLICY DEVELOPMENT

Although the National Health Policy (NHP) in India was not framed until 1983, India has built up a vast health infrastructure and initiated several national health programmes over last five decades in government, voluntary and private sectors under the guidance and direction of various committees (Bore, Mudaliar, Kartar Singh, Srivastava), the Constitution, the Planning Commission, the Central Council of Health and Family Welfare, and Consultative Committees attached to the Ministry of Health and Family Welfare. The period after 1983 witnessed several major developments in the polices impacting the health sector - adoption of National Health Policy in 1983, 73rd and 74th Constitutional Amendments in 1992, National Nutrition Policy in 1993, National Health Policy in 2002, National Policy on Indian System of Medicine and Homeopathy in 2002, Drug Policy in 2002, introduction of Universal Health Insurance schemes for the poor in 2003, and inclusion of health in Common Minimum Programme of the UPA Government in 2004.

The first National Health Policy in 1983 aimed to achieve the goal of `Health for All' by 2000 AD, through the provision of comprehensive primary healthcare services. It stressed the creation of an infrastructure for primary healthcare; close co-ordination with health-related services and activities (like nutrition, drinking water supply and sanitation); the active involvement and participation of voluntary organisations; the provision of essential drugs and vaccines; qualitative improvement in health and family planning services; the provision of adequate training; and medical research aimed at the common health problems of the people. The main objective of the revised National Health Policy, 2002 is to achieve an acceptable standard of good health among the general population of the country and has set goals to be achieved by the year 2015. The major policy prescriptions are as follows:

- Increase public expenditure from 0.9 percent to 2 percent by 2010.
- Increase allocation of public health investment in the order of 55 percent for the primary health sector; 35 percent and 10 percent to secondary and tertiary sectors respectively.
- Gradual convergence of all health programmes, except the ones (such as TB, Malaria, HIV/AIDS, RCH), which need to be continued till moderate levels of prevalence are reached.
- Need to levy user charges for certain secondary and tertiary public health services, for those who can afford to pay.
- Mandatory two year rural posting before awarding the graduate medical degree.
- Decentralising the implementation of health programmes to local self governing bodies by 2005.
- Setting up of Medical Grants Commission for funding new Government Medical and Dental colleges.
- Promoting public health discipline.
- Establishing two-tier urban healthcare system - Primary Health Centre for a population of one lakh and Government General Hospital.

- Increase in Government funded health research to a level of 2 percent of the total health spending by 2010.
- Appreciation of the role of private sector in health, and enactment of legislation by 2003 for regulating private clinical establishments.
- Formulation of procedures for accreditation of public and private health facilities.
- Co-option of NGOs in national disease control programmes.
- Promotion of tele medicine in tertiary healthcare sector.
- Full operationalisation of National Disease Surveillance Network by 2005.
- Notification of contemporary code of medical ethics by Medical Council of India.
- Encouraging setting up of private insurance instruments to bring secondary and tertiary sectors into its purview.
- Promotion of medical services for overseas users.
- Encouragement and promotion of Indian System of Medicine.

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Through the 73rd and 74th Constitutional Amendment Acts (1992), the local bodies (Municipalities and Panchayat) have been assigned 29 development activities, which have a direct and indirect bearing on health. These include health and sanitation (covering hospitals, PHCs and dispensaries), family welfare, drinking water, women and child development, the public distribution system and poverty alleviation programmes.

The Common Minimum Programme announced by the UPA government in 2004 has proposed to raise public spending on health to at least 2-3 percent of the Gross Domestic Product (GDP) over the next five years, with focus on primary healthcare. The present Government has proposed to take all steps to ensure availability of life saving drugs at reasonable prices through revival of Public Sector Units in the manufacture of critical bulk drugs.

The budget 2004-05 has proposed three major initiatives in the health sector. They are: (i) redesigning the Universal Health Insurance scheme introduced in 2003 to make it exclusive for below poverty level people with a reduced premium (ii) introduction of Group Health Insurance scheme for members of Self Help Groups and Credit Link Groups at a premium of Rs 120 per person for an insurance cover of Rs 10000, and (iii) exemption of income tax for the hospitals working in rural areas.

2. TRENDS IN SOCIOECONOMIC DEVELOPMENT

2.1 Economic trends

India witnessed higher economic growth rate in post reform period. The Gross Domestic Product (GDP) in the post reform period has improved from an average of about 5.7 percent in the 1980s to an average of about 6.1 percent in the eighth and ninth plan

periods (1990s) and the Tenth Plan aimed to achieve 8 percent growth per annum. The annual growth rate in GDP in the year 2003-04 is 8.1 percent (Economic Survey 2003-04). Agriculture continues to be a critical sector, though its contribution to GDP has declined to 26.9 percent in 1999-2000 from 44 percent in 1973-74. The contribution of service sector, on the other hand, has been increasing. India has been witnessing a strong Balance of Payments in recent years, which is US $ 119.3 billion on May 31, 2004.

India is less indebted as debt service ratio was 123 percent of exports of good, services and income during 2003 (World Development Indicators, 2005).

The total external assistance (foreign aid) received by India in 1990-91 was US $ 4527.4 million, which went down to US $ 3826.7 million in 2003-04. This includes grants and loans (Economic Survey 2004-05, Ministry of Finance, Government of India). The amount of external assistance has gone down due to reduced loan amount though the grants have increased.

The share of social sector in total expenditure almost remained stagnant during last decade and declined marginally, from 20.3 percent in 1990-91 to 19.8 in 2003-04.

India has been performing poorly in social sectors. India's rank in terms of the UNDP Human Development Index (HDI) is 126 among 177 countries, which manifests from a stagnant and declining share of social sector in total expenditure of the Government. Similarly, India has been performing poorly in the area of Gender Development. India's rank in terms of UNDP Gender Development Index (GDI) is 96 among 177 countries, which show lack of attention being given towards gender development.

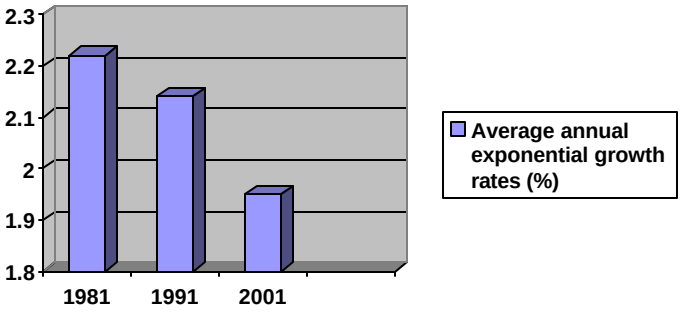
In India labour force has increased from 360.6 million in 1990 to 473.3 million in 2003 with average annual growth rate of 2.1 percent during 1990-2003 (World Development Indicators, 2005).

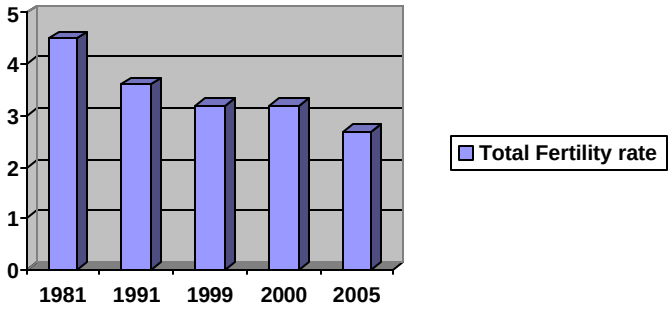
Poverty

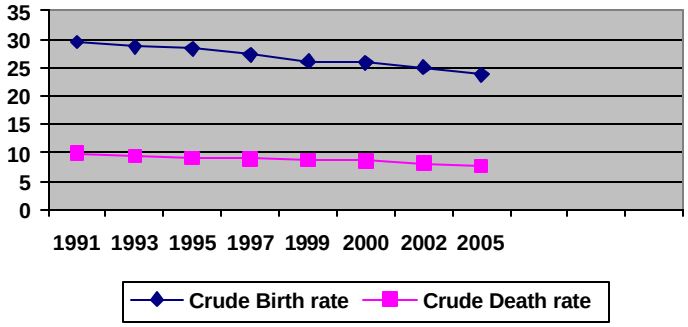
The incidence of poverty has declined by almost 50 percent between 1977-78 and 1999-2000, from 51.3 percent in 1977-78 to 28.6 percent in 1999-2000. During the same period, the rural poverty declined from 53.1 percent to 27.1 percent and urban poverty from 45.2 percent to 23.6 percent (10^{th} Plan). As per survey conducted in the year 1999-2000, 34.7 percent of India's population was living on less than US $ 1/day (World Development Indicators, 2005).

2.2 Demographic trends

Average annual exponential growth rate of population declined from 2.14 in 1991 to 1.95 in 2001. The Crude Birth rate (CBR) decreased from 29.5 per 1000 population in 1991 to 23.8 per 1000 population in 2005. The Crude Death rate (CDR) was estimated to be 7.6 per 1000 population in 2005 compared to 9.8 per 1000 population in 1991. The total fertility rate during 2005-06 was 2.7 as against 3.8 during 1990.







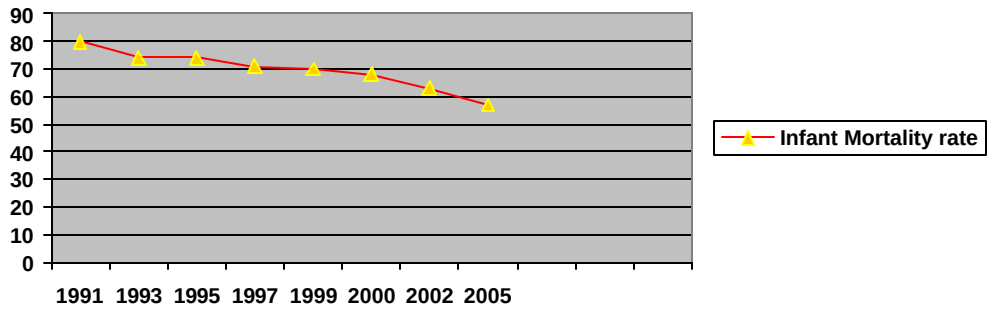
As per Census 2001, the population below 15 years was 35 percent, >60 years was 8 percent, and between 15 and 59 years of age was 57 percent of the total population.

Life expectancy at birth

The increased life expectancy and uneven performance between fertility and mortality rates have posed dual challenges to simultaneously improve both primary and secondary healthcare services. The life expectancy at birth has increased to 59.7 for male and 60.9 years for female in 1991-1995 from 58.1 and 58.6 years for male and female respectively during 1987-1991. The Technical Group on Population, Registrar General of India has projected levels of expectation of life during 2001-2006 as 63.87 years for male and 66.97 for female, demanding specialized healthcare services for the increased number of older persons.

Infant Mortality Rate

Infant mortality rate (IMR) has also declined to 57 per 1000 live births in 2005-06 from 80 in 1991.



Trends in urbanisation

The urban population has increased by 4.5 times during 1951-2001, when the total population has increased by 3 times during the same period. The present share of urban population, which was at 27.78 percent of the total population, is expected to grow at 4 percent per annum and would account for 40 percent of the total population in the next ten years (10^{th} Five Year Plan). This has resulted in increased slums and as such urban health has become an issue of great concern. The NHP 2002 has proposed for a two tier urban healthcare system with a Primary Health Centre (PHC) for a lakh population and a general hospital besides that.

2.3 Social trends

The literacy rate though has increased to 65.38 percent from 52.20 percent between 1991 and 2001, the male-female and urban-rural variations are continuing. The variations show that while male literacy rate was 76 percent in 2001, the female literacy rate was 54 percent. Similarly the urban literacy rate was 80 percent, while rural literacy rate was 59 percent. High dropout rates, low levels of learning achievement and low participation of girls are critical constraints in the education sector. To universalise elementary education, different schemes like mid-day meal and the Sarva Shiksha Abhiyan (SSA) 2001 were initiated in the recent past.

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. There has been a growth rate of 2.29 percent in the labour force since 1996-2001.

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, robberies, murders and kidnappings.

In 2002-03, India had 651,382 primary schools, 245,274 middle schools, 137,207 high/higher secondary schools/intermediate colleges, 9,166 colleges for general education, 2,610 colleges for professional education and 385 Universities/Deemed Universities/Research Institutions (Ministry of Human Resource Development).

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 labour, 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 serious dimension.

2.4 Food supply and nutritional status

The Indian population is passing through a nutritional transition and is expected to witness higher prevalence of adult non-communicable diseases. Added to these are high prevalence of low birth weight, high morbidity and mortality in children, and poor maternal nutrition continues to be a major nutritional concern in India (Rao Shobha, 2001).

The proportion of newborns weighing less than 2500 grams at birth was reported to be 23 percent in 1998-99.

National Family Health Survey (NFHS) III (2005) indicated that almost half of children under three years of age were underweight (46%) and stunted (38%).

According to the same survey, nearly three-quarters (79%) of children in the age group of 6 to 35 months showed some level of anaemia including 46 percent being moderately anaemic and five percent severely anaemic.

It has been estimated that 200 million people are exposed to the risk of iodine deficiency and 70 million suffer from Goitre and other IDDs (IDD & Nutrition cell, 1998).

Nationwide intervention programmes are in operation over two decades. Some of the major ones are Integrated Child Development Services (ICDS), Iodine Deficiency Control Programme (IDCP), the Child Survival Programme and mid day meal programme for school children. In the 10^{th} five-year plan, focus has been given to nutritional education. Nutrition monitoring and surveillance will be given high priority so that it will be possible to closely monitor the impact of on-going demographic, developmental, economic transition and ecological and life style changes of nutritional and health status of population.

UNICEF-sponsored Multi Indicator Cluster Survey in 2000 indicated that only 37 percent children aged 0-3 years were breastfed.

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2.5 Lifestyle and Risk Factors

About twenty one percent of persons aged 15 years and above were reported to chew tobacco. Seventeen percent of men and two percent of women aged 15 years and above were reported to consume alcohol. While only 3 percent of women were reported currently smoking, 29 percent of men in same age group (15 years and above) smoke (NFHS, 1999). 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, 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 centres. However, the revenues from tobacco and alcohol manufacturing constitute substantial part in the total revenue of the government.

Policies and programmes addressing sexual health in schools, communities and the workplace

Policies:

- The National Population Policy – 2000
- National AIDS Policy – 2002

National Youth Policy – 2003
Programmes:

- Ministry of Youth Affairs and Sports
  - Villagers Talk AIDS
- Ministry of Health and Family Welfare
  - Reproductive and Child Health (RCH) Programme
  - National AIDS Control Programme
    - Family Health Awareness Campaign
    - Schools AIDS Education Programme
    - Campaign for youth
    - University Talk AIDS project

3. HEALTH AND ENVIRONMENT

3.1 General protection of the environment

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. 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 and get clearance.

Premature death and illness due to major environmental health risks account for nearly 20 percent of the total burden of disease in India (World Bank, 2001). India has environmental health risks of both categories: traditional hazards related to poverty and lack of development, such as lack of safe water, inadequate sanitation and waste disposal, indoor air pollution and vector borne diseases; and modern hazards caused by development that lacks environmental safeguards, such as urban air pollution and exposure to agro-industrial chemicals and waste.

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. 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.

Environment has deteriorated significantly due to unplanned urbanization, industrialization and indiscriminate use of pesticides in agriculture. The solid waste generation in cities has increased from 6 million tonnes (mts) in 1947 to 48 mts in 1997 and is expected to increase to 300 mts by 2047. The average waste collection in Indian cities is, however, 72 percent. Till recently medical wastes were also deposited and mixed with municipal waste collection. Monitoring of the urban environment in selected cities in recent years by the Central Pollution Control Board (CPCB) has identified 24 critically polluted areas in the country (10^{th} Five Year Plan). The forest cover in 1999 was 19.39 percent of the total geographical area as against prescribed standard of 33 percent. Most of the country's water resources are polluted due to discharge of untreated / partially treated wastes from industry, domestic sewage and fertiliser / pesticide run off from agricultural fields. Agricultural activities including widespread use of fertilizers, pesticides and weedicides killers also alter the environment and create health hazards. Water stagnation and the consequent multiplication of vectors have increased the risk of vector-borne diseases. The high level of air pollution is resulting in increased respiratory diseases in cities. Suspended Particulate Matter (SPM) is higher than the prescribed limit in 69 locations out of 170 (Annual Report 2002, CPCB).

3.2 Water supply and sanitation

The proportion of population covered with access to safe water source was 85 percent in 2001.The proportion of population covered with access to improved sanitation was 52 percent in 2001 (MDG 2005).

The main constraints with regard to water supply are inadequate maintenance of water systems, lack of finances and poor community involvement. Most Municipalities/Panchayats do not have any system for monitoring the quality of water, while water contamination causes water-borne diseases even in metro cities like Delhi and Kolkata. Most of the people in rural areas are not aware of the health and environmental benefits of improved sanitation. Various measures initiated by Central and State Governments include phasing of the rural water supply programme, more financial support by the State Finance Commissions, more responsibilities to local bodies,

autonomy in declaring tariffs to water supply and sanitation agencies, improving manpower and equipment support to municipal authorities, and creating public awareness regarding safe water and sanitation.

4. HEALTH RESOURCES

4.1 Human resources for health

Several measures were initiated to contain absenteeism and to fill the posts of medical officers in remote areas. The measures include recruiting doctors on contract appointment, compulsory rural posting for certain period, earmarking certain percentage of postgraduate seats for doctors who have served in rural areas, and provision of rural service allowance, etc. Proposals like medical practitioners to undergo knowledge and skill upgradation and recertification every five years are proposed in the Tenth Plan. Other measures include promoting Open Universities for providing continuous upgradation of medical knowledge, setting up of Medical Grants Commission for funding new Government Medical and Dental colleges, developing decentralised district based health manpower planning that would meet the demands of health services, and encouraging all States to establish University of Health Sciences (UHS)

India stands compared unfavourably with world levels, even with low income countries, in the capacities of human resources. The number of physicians per 10,000 populations for the world is 1.5, for India it is 7 which is at par with low income countries. For public sector, the figure is paltry 2. Similarly, number of nurses per 10,000 population in India is 8, while it is 33 for the world and 16 for low income countries. There are over 250 medical colleges in the modern system of medicine and over 400 in Indian system of medicine and Homeopathy (ISM&H). The country produces over 25000 doctors annually in modern system of medicine and a similar number of ISM&H practitioners, nurses as well as para professionals.

The serious issue in human resource management is huge gaps in critical health manpower in government institutions, particularly in rural areas, that provide healthcare to the poorer segments of population. A large number of vacant posts of both ANMs and doctors are reported at the primary level in government hospitals. Also, most of the specialist positions in government hospitals in rural areas are lying vacant. The situation at the secondary and tertiary level is somewhat better, as doctors generally reside in urban areas.

Vacancies continue to exist in the posts of laboratory technicians, radiographers and other para-professionals which have serious service implications, particularly for programmes like malaria and tuberculosis. Other constraints include the low priority given to in-service training, inadequate staffing of training institutions, quality of trainers, and inadequate facilities in training institutions.

While several initiatives have been taken for effective management of human resources, certain systemic issues such as remuneration, and seniority based promotion disregarding suitability and merit that contribute to low morale and uncommitted staff remains unresolved across States and need to be dealt with on a priority basis.

4.2 Financial resources for health

External assistance to health sector has always been low ranging from 1 to 3 percent in any given year. The healthcare expenditure, which is largely financed by the private sector is about 75 percent,.

The NHP 2002 and the Common Minimum Programme (CMP) of the present Government have identified the necessity to rise the public spending on health. Various measures have been initiated to raise the resources for health, such as public private partnerships (tele medicine), voluntary and community health insurance, income tax exemption to set up private hospitals in the rural areas, and encouragement to private agencies in secondary and tertiary levels of healthcare.

Total health expenditure as percentage of GDP, public/private sector share

In 2003 percentage of expenditure as percentage of GDP is 8.8%. The public expenditure on health is 25% and private expenditure is 75%.

Sources of financing

The public health spending is abysmally low in a country where about 26 percent of people living below poverty line are critically dependent on public health services and the range and complexities of health issues are substantial with the equal presence of both communicable and non-communicable diseases.

The share of social insurance is estimated at only 4.2 percent while other forms of health insurance such as private health insurance constitute a negligible proportion (about 0.2 percent).

4.3 Physical infrastructure for health

Regarding the hospitals and hospital beds, the scenario presents the dominance of healthcare facilities in the private sector. Public health infrastructure in rural areas consists of a three-tier system, a sub centre for every 5,000 population with a male and female worker; a PHC for every 30,000 population with a medical doctor and other para medical staff, and a Community Health Centre (CHC) for every 100,000 population with 30 beds and basic specialists. In urban areas, it is two tier systems with Urban Health Centre (UHC)/Urban Family Welfare Centre (UFWC) for every 100,000 population followed by general hospital.

In 2001, there were about 1,37,311 Sub Centres (SCs), 28,000 dispensaries, 22,842 PHCs, 3,043 CHCs and 3,500 UFWCs and an additional 12,000 secondary and tertiary hospitals in the public sector, besides an estimated 68 percent of total hospitals in the private sector.

The existing public health infrastructure, though can meet prescribed norms is not evenly distributed across the States. Many institutions are not functional due to staff shortage and non-availability of drugs and consumables and essential equipment. Facility Survey

of 1999 by Government of India indicates that about three-fourths of the CHCs have no adequate equipments and only one-third of the PHCs provided delivery care. As a result of such inadequate public health facilities, it has been estimated that less than 20 percent of the population, which seek OPD services, and less than 45 percent of that which seek indoor patient treatment, avail of such services in public hospitals. A large portion of population seek medical care services from private sector despite the fact that most of these patients do not have the means to make out-of-pocket payments for private health services (NHP 2002). The private sector is almost unregulated, with serious complaints of poor quality, over charging, and unethical behaviour.

4.4 Essential drugs and other supplies

The administration of drugs and pharmaceuticals is divided between the ministry of chemicals and fertilizers (MCF) and the Ministry of Health and Family Welfare (MoHFW). The former is responsible for drug policy, regulation of industry, and price control, while the latter is responsible for laying down standard, quality control, introduction of new drugs, and enforcement of relevant laws and regulations assigned to the Central Drug Standard Control Organization (CDSCO).

The basic objectives of Government's Policy relating to the drugs and pharmaceutical sector were enumerated in the Drug Policy of 1986. These basic objectives still remain largely valid. New drug policy (National Pharmaceutical Policy) was announced in 2002.

The National Pharmaceutical Policy 2002 states that the Ministry of Health and Family Welfare would:

- Progressively benchmark the regulatory standards against the international standards for manufacturing,
- Progressively harmonize standard for clinical testing with international practices,
- Streamline the procedures and steps for quick evaluation and clearance of new drug applications, developed in India through indigenous R and D, and set up a world class Central Drug Standard Control Organization (CDSCO) by modernizing, restructuring and reforming the existing system, and establish an effective network of drug standards enforcement administrations in the States with the CDSCO as a nodal centre, to ensure high standards of quality, safety and efficacy of drugs and pharmaceuticals.

In India, 5 laboratories have been given the responsibility for testing of samples of drugs collected for regulatory purposes. The details about testing facilities, samples collected for testing and the number failed, are given here.

CENTRAL DRUGS LABORATORY, KOLKATA

The main functions of this laboratory are to:

- test the samples of imported drugs;
- act as an appellate laboratory under Drugs and Cosmetics Act; and
- act as Government analyst for 21 States/Union Territories as well as for samples drawn by the Central Drug Inspectors.

It also supplies reference standards of various drugs to drug manufactures.

During the period April 2003 to March 2004, 2183 samples of imported drugs were tested of which 258 samples were found not of standard quality.

CENTRAL INDIAN PHARMACOPOEIA LABORATORY, GHAZIABAD

The laboratory functions as:

- Appellate laboratory for testing of condoms;
- Govt. Analyst for States/Union Territories not having their own laboratory facilities;
- A centre for testing of samples on behalf of Central Government; and
- A laboratory attached to the Indian Pharmacopoeia.

During the period April 2003 to March 2004, a total of 1929 samples were tested of which 120 were found not to conform to standard quality.

CENTRAL DRUG TESTING LABORATORY, CHENNAI

This laboratory tests the drug samples received from Drug Inspectors of Central Drugs Standard Control Organization, South Zone, Chennai, ADC (1), Chennai Port, Sub-Zone, Hyderabad and Technical Officer, Cochin Port. During the period April 2003 to March 2004, a total of 503 drugs samples were tested of which 6 were found not to conform to standard quality.

CENTRAL DRUG TESTING LABORATORY, MUMBAI

The laboratory acts as Government Analyst and assists CDSCO in the analysis of drug formulations and drug substances. It is a reference laboratory for testing of Copper T and Tubal rings. During the period April 2003 to March 2004 a total of 2226 drugs samples were tested of which 189 were found not to conform to standard quality.

REGIONAL DRUG TESTING LABORATORY, GUWAHATI

The laboratory was inaugurated on 3rd October 2002 to cater to needs of drug testing of North Eastern states. During the period October 2002 to March 2003, 201 samples were tested of which 22 samples were reported to be not of standard quality.

Medicines production capability in the country

The total estimated value of bulk drugs and formulations manufactured in India was Rs 196,370 million in 1999-2000.

Rational use of medicines

Rational use of drugs is not properly followed in India because of inadequate attention of the subject in medical schools as well as lack of emphasis on CME (Continuing Medical Education). Most practitioners never bother to keep abreast of latest technological developments. The WHO first introduced the concept of rational use of drugs during

1973-75. However, this came into effect only in 1994 when for developing a drug policy for Delhi, based on this concept, a triangle was formed of political leaders, bureaucrats and technical experts dedicated to the cause of rational use of drugs. The programme from then onwards extended rapidly. A number of NGOs and professional organizations have organized conferences and training workshops. Unless the relevant governments and professional associations own up the programme and promote it actively, it shall become difficult for the rational use of drugs.

4.5 International partnership for health

External assistance in India is around 1-3 percent of the total health spending in any given year. It has an impact on health, contributing to hastening India's demographic and epidemiological transition. From the 90s, the ODA assistance has increased from US $ 305 million to US $ 623 million. It rose from 3.17 percent to 6.69 percent. Earlier most of the donor agencies provided aid for primary healthcare and immunization programmes with focus on projects related to strengthening of service delivery, capacity building, training and IEC. Multilateral and Bilateral donors such as UNICEF, UNFPA, WHO, USAID, DFID, SIDA, and CIDA provided assistance for specific programmes in family planning, leprosy, malaria control, HIV/AIDS, etc.

The World Bank emerged as the major funding agency for health constituting around 10-20 percent of the total external aid. Its primary focus was on constructing sub centres, post-partum facilities and family welfare centres. The MCH programme turned out to be quite successful and turned into a comprehensive strategy with a primary focus on the reduction of maternal and child mortality. Different population projects and projects on leprosy, malaria, TB and blindness are also funded. UNICEF funding on immunization was another major achievement.

Different studies taken up by funding agencies have helped in better improvement of health services in India. These include World Bank assessment on public sector health expenditure, and studies carried out by National Institute of Public Finance and Policy (NIPFP) and NCAER, which contributed to the understanding of the utilization of public funds at tertiary, secondary and primary levels, between centre and State between, public healthcare and medical care, urban and rural. The burden of diseases studies by Administrative Staff College of India (ASCI) helped in understanding disparities in the epidemiological shifts taking place in the country. DFID conducted studies to improve efficiencies in hospitals, on contracting of services, financing of PHCs, hospital autonomy, cost effectiveness, procurement systems and decentralization.

Global fund for AIDS tuberculosis and malaria

The funding on HIV/AIDS has been substantial by the World Bank. DANIDA and DFID also provided funding to deal with diseases like blindness, TB, HIV/AIDS, leprosy, etc. The WHO occupies a unique position as the designated UN organization for health. It has strategies to identify priority areas such as TB, HIV/AIDS, polio eradication, safe motherhood and tobacco control and by identifying parameters and indicators for increasing the sensitivity of health systems to the needs of the poor.

5. DEVELOPMENT OF THE HEALTH SYSTEM

5.1 Health policies and strategies

Anaemia and malnutrition among women and children respectively has led to serious problems of macro and micro nutrition capacities. Moreover, the public health expenditure over the years has been less in India due to which out-of-pocket expenditure is more. As a result of all this, a realistic strategy was planned before making the NHP of 2002 according to the current needs of the people. The main goal of NHP 2002 is to evolve a policy structure to reduce the inequalities and to see that public health services are acceptable to the disadvantaged sections of the people.

The main objective of this policy is to achieve an acceptable standard of good health among the general population of the country. The approach would be to increase access to the decentralized public health system by establishing new infrastructure in deficient areas, and by upgrading the infrastructure in the existing institutions. Overriding importance would be given to ensuring a more equitable access to health services across the social and geographical expanse of the country. Emphasis will be given to increasing the aggregate public health investment through a substantially increased contribution by the Central Government.

Emphasis will be laid on rational use of drugs within the allopathic system. Increased access to tried and tested systems of traditional medicine will be ensured. Within these broad objectives NHP 2002 shall achieve the goals of eradicating Polio and Yaws by 2005, eliminate leprosy by 2005, eliminate kala azar by 2010, eliminate lymphatic filariasis by 2015, achieve a zero level growth of HIV/AIDS by 2007, reduce mortality on account of TB, Malaria and other vector borne diseases by 2010, reduce prevalence of blindness by 0.5 percent by 2010, reduce IMR to 30/1000 and MMR to 100/100,000 by 2010, increase utilization of public health facilities from less than 20 to more than 75 percent by 2010, and establish an integrated system of surveillance.

The public health administration at the State level is to render effective service delivery. The contribution of the private sector in providing health services would be much enhanced, particularly for the population group, which can afford to pay for services. Priority will be given to preventive and first-line curative initiatives at the primary health level through increased sectoral share of allocation.

National health Accounts and Health statistics by 2005 show increase in the expenditure by government as a percentage of GDP from the existing 0.9 percent to 2 percent by 2010, increase share of central grant to constitute at least 25 percent of total spending by 2010, increase State sector health spending from 5.5 percent to 7 percent of the budget by 2005 and further increase it by 8 percent by 2010. The policy places great reliance on the strengthening of primary health structure for the attaining of improved public health outcomes on an equitable basis.

Millennium Development Goals

The progress made towards achievement of health related Millennium Development Goals is given in Annex-2.

5.2 Inter-sectoral cooperation

Inter-sectoral cooperation is very much for the betterment of health services in India. Public health mainly depends on adequate nutrition, safe drinking water, sanitation, a clean environment, primary education, etc., which are all interconnected. There is a need for policies to be interrelated. The Expert committee on Public Health System (Bajaj committee) 1996 has rightly emphasized the need for coordination with other sectors for better health outcomes. It has suggested for two committees to be set up, i.e., cabinet committee on health and committee of secretaries chaired by cabinet secretary comprising all departments concerned with activities influencing health outcomes, like education, sanitation, drinking water, environment, nutrition, etc.

5.3 Organization of the health system

The healthcare services' organization in the country extends from the national level to village level. From the total organization structure, we can slice the structure of healthcare system at national, state, district, community, PHC and sub-centre levels.

National level – The organization at the national level consists of the Union Ministry of Health and Family Welfare. The Ministry has three departments, viz. – Health, Family Welfare, and Indian System of Medicine and Homeopathy, headed by two Secretaries, one for Health and Family Welfare and the other for ISM and H. The department of Health is supported by a technical wing, the Directorate General of Health Services, headed by Director General of Health Services (DGHS).

State level - The organization at State level is under the State Department of Health and Family Welfare in each State headed by Minister and with a Secretariat under the charge of Secretary/Commissioner (Health and Family Welfare) belonging to the cadre of Indian Administrative Service (IAS). By and large, the organizational Structure adopted by the State is in conformity with the pattern of the Central Government. The State Directorate of Health Services, as the technical wing, is an attached office of the State Department of Health and Family Welfare and is headed by a Director of Health Services. However, the organizational structure of the State Directorate of Health Services is not uniform throughout the country. For example, in some states, the Programme Officers below the rank of Director of Health Services are called Additional Director of Health Services, while in other states they are called Joint/Deputy Director, Health Services. But regardless of the job title, each programme officer below the Director of Health Services deals with one or more subject(s). Every State Directorate has supportive categories comprising of both technical and administrative staff.

The area of medical education which was integrated with the Directorate of Health Services at the State, has once again shown a tendency of maintaining a separate identity as Directorate of Medical Education and Research. This Directorate is under the charge of Director of Medical Education, who is answerable directly to the Health Secretary/Commissioner of the State. Some states have created the posts of Director (Ayurveda) and Director (Homeopathy). These officers enjoy a larger autonomy in day-to-day work, although sometimes they still fall under the Directorate of Health Services of the State.

Regional level – In the state of Bihar, Madhya Pradesh, Uttar Pradesh, Andhra Pradesh, Karnataka and others, zonal or regional or divisional set-ups have been created between the State Directorate of Health Services and District Health Administration. Each regional/zonal set-up covers three to five districts and acts under authority delegated by the State Directorate of Health Services. The status of officers/in-charge of such regional/zonal organizations differs, but they are known as Additional/Joint/Deputy Directors of Health Services in different States.

District level - In the recent past, states have reorganized their health services structures in order to bring all healthcare programmes in a district under unified control. The district level structure of health services is a middle level management organisation and it is a link between the State as well as regional structure on one side and the peripheral level structures such as PHC as well as sub-centre on the other side. It receives information from the State level and transmits the same to the periphery by suitable modifications to meet the local needs. In doing so, it adopts the functions of a manager and brings out various issues of general, organizational and administrative types in relation to the management of health services. The district officer with the overall control is designated as the Chief Medical and Health Officer (CM & HO) or as the District Medical and Health Officer (DM & HO). These officers are popularly known as DMOs or CMOs, and are overall in-charge of the health and family welfare programmes in the district. They are responsible for implementing the programmes according to policies laid down and finalized at higher levels, i.e. State and Centre. These DMOs/CMOs are assisted by Dy. CMOs and programme officers. The number of such officers, their specialization, and status in the cadre of State Civil Medical Services differ from the State to State. Due to this, the span of control and hierarchy of reporting of these programme officers vary from state to state.

Sub-divisional/Taluka level – At the Taluka level, healthcare services are rendered through the office of Assistant District Health and Family Welfare Officer (ADHO). Some specialties are made available at the taluka hospital. The ADHO is assisted by Medical Officers of Health, Lady Medical Officers and Medical Officers of general hospital. These hospitals are being gradually converted into Community Health Centres (CHCs).

Community level – For a successful primary healthcare programme, effective referral support is to be provided. For this purpose one Community Health Centre (CHC) has been established for every 80,000 to 1, 20,000 population, and this centre provides the basic specialty services in general medicine, pediatrics, surgery, obstetrics and gynecology. The CHCs are established by upgrading the sub-district/taluka hospitals or some of the block level Primary Health Centres (PHCs) or by creating a new centre wherever absolutely needed.

PHC level – At present there is one Primary Health Centre covering about 30,000 (20,000 in hilly, desert and difficult terrains) or more population. Many rural dispensaries have been upgraded to create these PHCs. Each PHC has one medical officer, two health assistants – one male and one female, and the health workers and supporting staff. For strengthening preventive and promotive aspects of healthcare, a post of Community Health Officer (CHO) was proposed to be provided at each new PHC, but most states did not take it up.

Sub-centre level – The most peripheral health institutional facility is the sub-centre manned by one male and one female multi-purpose health worker. At present, in most places there is one sub-centre for about 5,000 populations (3,000 in hilly and desert areas and in difficult terrain).

The 73rd and 74th constitutional amendments have given the powers to the local bodies in some states of India. In the process, different states have adopted different stakeholders for the benefit of health services, with the help of community participation, which gives stress on safe drinking water and sanitation at village level. The Panchayats are given the power to look after the welfare of the people.

5.5 Health information system

Census – The census in India is a decennial activity, which pools tremendous resources, and huge data pertaining to many facets of population is generated. The census in India started on regular basis from the year 1891 and last one was conducted in the year 2001. The data represents the situation as on 1st March (except 1971 census when it was 1st April). It normally provides age and sex structure and spatial distribution of population. In addition, it also provides information on some socio-economic factors. Occasionally some additional information is also obtained like mortality, disability, etc. Among all sources of information, census information reaches maximum accuracy.

Civil Registration System - It is a continuous permanent systematic activity of enlisting vital events countrywide. Considering its utmost importance, this activity is given legal status through a special Act, "Birth and Death Registration Act 1969." Authorities like local registrar, Registrar General under the act in different areas like rural, urban have been designated from various sectors. Normally, the local registrar is from local self-government or from health department. General apathy leads to gross under-registration from time to time and differs from place to place. There is often a considerable time lag between collection of data and its compilation and publication. The data collected from urban area are comparatively of better quality than from rural area.

Sample Registration System – In 1964-65, Government of India introduced Sample Registration System for improving reliability of data pertaining to vital events and also to have urban and rural break-up. Population covered was 61,12,000 in 1998. Although initiated on pilot basis, it covered 2,235 urban sampling units and 4,436 rural sampling units selected. A Government servant, usually a teacher, is selected and trained to function as enumerator. A baseline survey of sample unit is conducted to obtain information about usual resident population of the same sampling areas. The enumeration of birth and deaths is continuously carried out pertaining to resident population by him for his area. Every six months, an official supervisor makes a visit and independently checks all the households in the area of enumerator. Thus, it functions as a continuous process and which is superimposed by periodic retrospective surveys. Unmatched or partially matched events after verification are added and final estimates are worked out. Sometimes, additional information is also collected through sub samples. Presently, this is supposed to be most accurate data source providing information about birth rate, death rate, age specific death rates, Infant Mortality Rate, age and sex composition, and seasonal and spatial variations in these statistics. It has been decided

now to collect data pertaining to causes of deaths on regular basis. Sample Registration System provides information by states and for the country.

National Sample Surveys – National Sample Survey Organisation regularly conducts nation-wide surveys collecting information regarding social, economical, demographic, industrial and agricultural conditions. The organisation has many wings. One wing shoulders responsibilities like designing the sample survey, improving quality of data, etc. Another wing consists of well trained full time personnel who actually conduct surveys. The organisation also obtains support from State statistical organizations. Normally, the surveys collect multi sectoral information. The surveys are conducted in the form of rounds stretched over a specific period, generally one year. The first round was carried in the year 1951 and 55th round in the year 1999-2000. The organisation has published extensive information through 456 reports. Sometimes, special information directly pertaining to health is also collected.

Service statistics - Information generated from Sub Centre level and above is also fed into the health information system on specifically designed reporting formats submitted monthly. The health and family welfare information is compiled at district level and submitted to State level from where it goes to central level (GoI).

Ministry of Health and Family Welfare brings out two publications yearly (there is backlog currently) – Family Welfare Yearbook and Health Information Yearbook. These yearbooks compile all information available from various sources and present by districts, states and country. However, most of the information pertains to services provided by public sector.

In addition, all India surveys are also conducted such as National Family Health Survey (I & II have been done so far), RCH survey, etc.

India has national disease surveillance. The surveillance exists only for polio and HIV/AIDS and it has been effective in getting information. However, there is a need for a strong disease surveillance network in the whole country for better information on diseases and better health initiatives

5.6 Community action

A considerable change has happened in the last two decades towards implementation of the government's action plans through the institutions of civil society and NGOs. It is to be recognized that widespread debate on various public health issues has, in fact, been initiated and sustained by NGOs and other members of the civil society. Also, an increasing contribution is being made by such institutions in the delivery of different components of public health services. Certain disease control programmes require close interaction with the beneficiaries for regular administration of drugs, periodic carrying out of pathological tests, dissemination of information regarding disease control, and other general health information.

5.7 Health research and technology.

Research in the private sector has assumed some significance only in the last decade. In our country, where the aggregate annual health expenditure is of the order of Rs. 80, 000 corers, the expenditure on research, in both public and private sectors in 1998-99, was only of the order of Rs. 1150 corers. It would be reasonable to infer that with such low expenditure on research, it is virtually impossible to make any dramatic break-through within the country, by way of new molecules and vaccines; also, without a minimal backup of applied and operational research, it would be difficult to assess whether the health expenditure in the country is being incurred through optimal applications and appropriate public health strategies.

6. HEALTH SERVICES

6.1 Health education and promotion

In India, though health education has been a low priority, it has been an integral part of all national programmes. Lack of information is the major barrier to the effective access to services. However, various efforts have been made by the government to improve health through IEC activities. The main focus of the IEC strategy for the Reproductive and Child Health Programme is on promoting behavioural change rather than awareness generation and to utilize well defined and culturally appropriate programmes for specific regions, population segments, etc.

Special campaigns were launched for social mobilization for Pulse Polio Immunization (PPI) Programme. Four Population Education Projects at Schools, Universities, Adult and Technical Education level (through NCERT, DAE, UGC, DGE&T) with UNFPA assistance remained under operation in States/UTs for integrating population issues in various curricula for school students, youth and women, live entertainment programmes, Family Planning counselling, HIV/STD counselling and distribution of educational materials. The focus of IEC activities during the year was on themes like eradication of Polio, increase in the age of marriage, reproductive and child health, safe motherhood, women empowerment, gender equality and male responsibility. Social mobilization for the Pulse Polio Immunization Programme has been hailed as highly successful in the evaluation conducted by independent agencies.

6.2 Maternal and child health/family planning/adolescent health

According to NFHS-III, the proportion of pregnant women attended by trained personnel during pregnancy (received antenatal check-up at least three visits) was 51 percent. Deliveries attended by trained personnel were 48 percent.

According to performance statistics of family welfare programme in India (Ministry of Health and Family Welfare, Government of India), the couples effectively protected by various methods of family planning increased from 22.8 percent in 1980-81 to 44.1 percent in 1990-91 and further increased to 56.3 in 2005-06.

6.3 Immunization

Universal Immunization Programme against six preventable diseases, namely, diphtheria, pertussis, childhood tuberculosis, poliomyelitis, measles and neonatal tetanus was introduced in the country in a phased manner in 1985, which covered the whole of India by 1990.

Percentage of children fully vaccinated were 4 percent (NFHS-III). Immunization against BCG was 73 percent, DPT-3 was 64 percent, polio-3 was 70 percent and measles was 56% in 2005. (EPI fact sheet 2005)

6.4 Prevention and control of locally endemic diseases

Kala-Azar*

Kala-azar is endemic in 33 districts of Bihar, 11 districts of West Bengal and three districts in Jharkhand and sporadic cases have been reported in Uttar Pradesh. After a reported increase in the number of cases and deaths due to kala-azar during 1989-1991, an intensive programme for containment of kala-azar was launched in 1992.

The strategy for control of infection included interruption of transmission through insecticidal 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. Increase in drug resistance to sodium stibogluconate has been reported in the Muzaffarpur and Darbhanga districts of Bihar. Though sand fly is usually sensitive to DDT, pockets of insecticide resistance have been reported from Bihar.

Dengue*

One of the most important resurgent tropical infectious diseases is dengue. Dengue Fever and Dengue Hemorrhagic Fever (DHF) are acute fevers caused by four antigenically related but distinct dengue virus serotypes (DEN 1,2,3 and 4) transmitted by the infected mosquitoes, *Aedes aegypti.*

Dengue is a disease of the tropics and is one of the most important emerging diseases affecting nearly half of the world's population. It is estimated that there are between 50 and 100 million cases of dengue fever and about 500,000 cases of DHF that require hospitalization each year.

Periodic dengue outbreaks occur in many parts of India, in both rural and urban areas. Mortality is usually low but may be high in case of dengue shock syndrome and DHF. Diagnostic tests for dengue are not readily available in most parts of the country.

Filariasis*

Filariasis is endemic in 19 States/union territories in India. Estimates based on surveys by Filariasis Survey Units suggested that: about 454 million people (120 million in urban areas) are living in known endemic areas; there are 29 million filariasis cases in the country and 22 million micro-filaria carriers.

Currently, there are 206 filaria control units, 199 filaria clinics, and 27 filaria survey units. A total of 48 million people in urban areas are being protected through anti-larval measures. The Indian Council for Medical Research (ICMR) is conducting a feasibility and efficacy study on a mass annual single dose administration of 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.

Roll Back Malaria*

The Governments of malaria-endemic countries have identified malaria as a high priority disease and there is growing political commitment to control it. The WHO has initiated a project termed as "Roll Back Malaria" (RBM) to coordinate global actions. RBM consists of world-wide partnership in which all partners contribute their skills and resources to maximize the impact of RBM on malaria control. RBM is a time-bound project of 5 years

HIV/AIDS and Tuberculosis (Information presented under health related Millennium Development Goals at Annex-2).

* National Health Programmes of India by J.Kishore.

6.5 Prevention, control and management of common diseases and injuries

ARI

Acute Respiratory Infection is one of the most common causes of deaths in under-5 age group contributing to around 13% of in-patient deaths in Paediatrics ward. The proportion of deaths due to ARI in community is probably much higher, as many children die at home and considering poor availability of health services and high levels of ignorance.

Risk factors for Acute Lower Respiratory Tract Infection in under-five children (Broor et al 2000) are lack of breast feeding, URI in mother or siblings, cooking fuel other than LPG, inappropriate immunization for age, and history of lower respiratory tract infection in the family. Treatment of ARI is very simple and can be instituted at home itself or at Sub Centre level by ANM.

Diarrhoea

Diarrhoea is one of the most common causes of death in under-5 children in India. Acute diarrhoeal disease is one of the major consequences not only of water pollution but also of the failure of proper management of sewage in both cities and rural areas.

The best treatment for dehydration is Oral Rehydration Therapy by Oral Rehydration Salt (ORS) solution. WHO ORS packets are available with Anganwadi Workers in the villages as well as with the ANM. The community is oriented to use ORS solution and

resort to other measures in case the child has diarrhoea. (National Health Programmes of India by J.Kishore)

Malnutrition

Malnutrition is being addressed by Integrated Child Development Services Programme implemented by Department of Women and Child Development, Ministry of Human Resource Development.

7. TRENDS IN HEALTH STATUS

7.1 Life expectancy

Life expectancy at birth has increased for male and female in India. It is 64.1 years for males and 65.8 years for females (2005). This has revealed the decrease in death rate and the better improvement of quantity and quality health services in India. However, there are inter-state, inter-district and rural-urban differences in life expectancy at birth due to low literacy, differential income levels and socio economic conditions and beliefs. In Kerala, a person at birth is expected to live for 73 years while in states like Bihar, Assam, Madhya Pradesh, Uttar Pradesh, etc, the expectancy is in the range of 55-60 years.

Healthy life expectancy at birth in India was estimated to be 53.5 in 2002. This was 53.3 for males and 53.6 for females (WHO, World Health Report 2005).

7.2 Mortality

The incidence or prevalence of the diseases or conditions, as well as issues related to etiology, prevention efforts, prognosis and possibilities for control or elimination – this could also be derived from country burden of disease estimates, and condition specific indicators.

The infant mortality rate has declined in India from 70 infants per 1000 live births in 1999 (SRS) to 57 in 2005-06 per 1000 live births. Under-five mortality rate per 1000 live births is 85 in 2002. According to MMR-RG, maternal mortality ratio per 100,000 live births is 301 in 2001-03.

A diverse set of factors are thought to be associated with maternal mortality: factors that influence delays in deciding to seek medical care, in reaching a place where care is available, and in receiving appropriate care. The tenth plan document of India has targeted to reduce the IMR to 45 per 1000 live births by 2007 and 28 per 1000 live births by 2012. The main causes of high MMR being socio economic status of women, inadequate antenatal care, the low proportion of institutional deliveries, and the non-availability of skilled birth attendants in two-thirds of cases.

A World Health Report (1999) gives the main causes of mortality in India as non-communicable diseases (48 percent), communicable diseases (42 percent) and injuries (10 percent). The dominant communicable diseases are infectious and parasitic diseases, respiratory diseases, maternal conditions, perinatal conditions and nutritional

deficiencies. Non-communicable diseases are malignant neoplasm, diabetes mellitus, neuropsychiatric disorders, sense organ disorders, cardiovascular diseases, respiratory diseases, digestive diseases, musculo-skeletal diseases, congenital anomalies, oral diseases and other non-communicable diseases.

7.3 Morbidity

NFHS-II conducted a study on four major diseases prevailing in India, i.e., asthma, tuberculosis, jaundice, malaria. In India around 2,468 persons per 100,000 populations were reported to be suffering from asthma at the time of survey. The prevalence of asthma is high in rural areas than in urban areas and is slightly higher in males than in females. The overall prevalence of tuberculosis in India is 544 per 100,000 populations. This is 16 percent higher than the survey done by NFHS-I (467 per 100,000). It is more in case of rural areas than in urban areas and more for male than females. It is more in males because of males are in contact with more people who might have TB and smoking is more in men. The prevalence of TB increases with age. Jaundice cases were reported to be 1361 persons per 100,000 populations. This is more prevalent in rural areas than in urban areas. However, it decreases with age. Thus, highest numbers of jaundice patients are in the age of 0-14. 3,697 persons per 100,000 populations were reported to have suffered from malaria. People of rural area suffer twice than that of urban area and it is slightly high for males than for females. All these diseases however vary and differ from state to state depending on the climate and geographical locations of the areas.

7.4 Disability

A survey by the National Sample Survey Organization 1991 estimates that around 1.9 percent of population are disabled in India. Other estimates suggest that between 6 and 10 percent of the population in any developing country is affected by disability, which means 60-100 million Indians are affected by disability. Four to 14 million people are blind, 3.2 million people with hearing impairment, over 16 million people are affected by locomotor disabilities and 3 percent of India's children are mentally retarded. The government of India has policies related for the disabled, rehabilitation schemes, grant--in-aid schemes and schemes run through NGOs.

According to ICMR (Indian council of Medical Research), cataract is the main cause of 55 percent of blindness. The major causes of blindness as seen in the survey conducted by the National Programme for Control of Blindness (NCB), included cataract, refractive errors, corneal opacities, glaucoma, trachoma and vitamin A deficiency.

8. Basic Health Indicators including the U.N. Millennium Development Goals

See Annex -1.

Annex-1

Country reported Data for Basic Health Indicators including health related MDG Indicators

Indicator	Latest available data	Year	Source	Remarks
POPULATION AND VITAL STATISTICS				
Total population (in thousands)	1,097 million	2005	31	
Population density (persons per sq km)	334	2005	31	
Sex ratio (females per 1000 males)	933	2001	31	Computed value
Population under 15 years (%)	35	2001	31	0-14 years
Population 60 years and above (%)	7.8	2001	1	
Crude birth rate (per 1000 population)	23.8	2005	4	
Crude death rate (per 1000 population)	7.6	2005	4	
Natural (population) growth rate (%)	1.95	2001	31	Computed value Average annual Exponential Growth Rate
Total fertility rate (per woman)	2.7	2005-06	31	
Urban population (%)	27.78	2001	1	
SOCIOECONOMIC SITUATION				
Gross national Income (GNI) per capita (US$)	720	2005	2	
Adult literacy rate (%) Both Sex	61	2004	12	
Prevalence of low birth weight (weight <2500 grams at birth) (%)	23	1998-1999	7	
Prevalence of underweight (weight-for-age) in children <5 years of age (%)	46	2005-06	32	
HEALTH SYSTEM				
INPUTS				
Facilities				
Number of hospital beds	683545	2002	6	
Hospital beds per 10,000 population	9	2006	31	
Number of health centres: Sub Centre	137371	2001	6	

Indicator	Latest available data	Year	Source	Remarks
Primary Health Centres	22842	2001	6	
Community Health Centres	3043	2001	6	
Human resources				
Physicians per 10,000 population	7	2005	31	Computed value
Nurses per 10,000 population: Professional nurses	7.85	2004	31	Computed value
Budgetary resources				
Total Expenditure on Health (THE) as % of Gross Domestic Product (GDP)	4.8	2003	3	
Public Expenditure on Health (PHE) as % of Total Expenditure on Health (THE)	25	2003	3	
Private Expenditure on Health (PvtHE) as % of Total Expenditure on Health (THE)	75	2003	3	
FUNCTIONS				
Pregnant women attended by trained personnel during pregnancy (%)	51	2005-06	32	Received at least three antenatal check up
Deliveries attended by trained personnel (%)	48	2005-06	32	
Contraceptive prevalence (%)	56.3	2005-06	32	
Infants reaching their first birthday that have been fully immunized against diphtheria, tetanus, and whooping cough (%)	44	2005-06	32	
Infants reaching their first birthday that have been fully immunized against poliomyelitis (%)	70	2005	33	
Infants reaching their first birthday that have been fully immunized against measles (%)	56	2005	33	
Infants reaching their first birthday that have been fully immunized against tuberculosis (%)	73	2005	33	
Women that have been immunized with tetanus toxoid (TT) during pregnancy (%)	71	2005	34	
Environment				

Indicator	Latest available data	Year	Source	Remarks
Population with access to improved water source (%)	85	2001	34	
Population with access to improved sanitation (%)	52	2001	34	

OUTCOMES				
Life expectancy at birth (years): Male Female	63.87 66.97	2001-2006	6	
Infant mortality rate (per 1000 live births)	57	2005-06	32	
Under-five mortality rate (per 1000 live births)	85	2000	34	
Maternal mortality ratio (per 100,000 live births)	301	2001-03	4	
Out-of-Pocket Spending on Health (OOPS) as % of Private Expenditure on Health (PvtHE)	97	2003	3	
GENDER EQUITY				
Life expectancy at birth ratio (females as a % of males)	103	2001-2006	31	Computed value
Seats held in parliament (% of women)	9.2	2004	34	
Professional and technical workers (% women)	20.5	2002	10	
Ratio of earned income (females as a % of males)	0.38	1991-2001	12	
Adult literacy ratio (females as a % of males)	66.4	2001/2002	13	Computed value
Primary school enrolment ratio (females as a % of males)	78	2000-01	34	Primary: I - V111; Computed value
Secondary school enrolment ratio (females as a % of males)	65.76	2001-2002	11	Secondary: VIII-XII; computed value

MDG HEALTH RELATED INDICATORS (*)				
G1.T2.I4 - Prevalence of underweight children (under-five years of age)	46	2005-06	NFHS-III	
G1.T2.I5 - Proportion (%) of population below minimum level of dietary energy consumption	21	2000	FAO	
G4.T5.I13 - Under-five mortality rate (probability of dying between birth and age 5)	85	1998-02	NFHS-III	
G4.T5.I14 - Infant mortality rate	57	2005-06	NFHS-III	

G4.T5.I15 - Proportion (%) of 1 year-old children immunized for measles	56	2005	EPI Fact Sheet	
G5.T6.I16 - Maternal mortality ratio	301	2001-03	MMR-RG	
G5.T6.I17 - Proportion (%) of births attended by skilled health personnel	48	2005-06	NFHS-III	
G6.T7.I18 - HIV prevalence 15-49 years (per 100,000 population)	910	2003	NACO	
G6.T8.I21b-Malaria death rate per 100,000	0.09	2004	MDG 2005	
G6.T8.I21c - Malaria prevalence rate per 100,000	7	2000	14	
G6.T8.I23a - Tuberculosis death rate per 100,000	33	2003	34	
G6.T8.I23b - Tuberculosis prevalence rate per 100,000	312	2004	34	
G6.T8.I24a - Proportion (%) of Smear-Positive Pulmonary Tuberculosis cases detected and put under directly observed treatment short course (DOTS)	31	2002	14	
G6.T8.I24b - Proportion (%) of Smear-Positive Pulmonary Tuberculosis cases detected cured under directly observed treatment short course (DOTS)	85	2002	14	
G7.T9.I29 - Proportion (%) of population using biomass fuels)	72.3	2001	1	
G7.T10.I30a - Proportion (%) of population with sustainable access to an improved water source, rural	82	2001	34	
G7.T10.I30b - Proportion (%) of population with sustainable access to an improved water source, urban	87.06	2001	1	
G7.T11.I31 - Proportion (%) of urban population with access to improved sanitation	63	2001	34	
G8.T17.I46 - Proportion (%) of population with access to affordable essential drugs on a sustainable basis	80	1997	14	

Note: (*) Information has not been provided by the Country

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Annex-2

Millennium Development Goals

The progress made towards achievement of health related Millennium Development Goals is given here.

GOAL 4: REDUCE CHILD MORTALITY

Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate

Indicators:

- Under-Five Mortality Rate
- Infant Mortality Rate
- Percentage of one year old children immunised against measles

I. STATUS AND TRENDS

Under-Five Mortality Rate

The health status of children is best evident from key indicators namely, under-five mortality rate and Infant Mortality Rate (IMR). There have been considerable efforts to reduce under-five mortality rates in the country over the last three decades. In 2002, the average under-five mortality rate in India was 85 deaths per 1000 live births, a considerable reduction as compared to 202 in 1970. The rate of decline in the 90s, however, is about half of previous decade's rate of decline, 4.7 percent. At the current rate, India would achieve under-five mortality of 64 per 1000 live births by 2015, which is well short of MDG goal of 41.

Infant Mortality Rate

In India, approximately 1.72 million children die each year before reaching their first birthday. Infant mortality has declined significantly in India from 129 in 1970 to 57 in the year 2005-06. The target for MDG 2015 is 27 per 1000 live births.

Immunization

Among all the indicators, immunisation is one, which lacks authentic information. The available figures vary according to different sources. While the Government of India statistic quotes a higher level of measles coverage as compared with other survey figures

such as NFHS; the NFHS-III indicates coverage of 44 percent of children imminized by age one year in 2005-06. However, there has been a considerable improvement when compared to NFHS I during 1992-93. The measles coverage is 59% for the same years.

II. CHALLENGES

Sustaining the Past Performance

India's performance in reducing mortality rates, compared to similar Asian developing countries like China, Indonesia and Thailand, is poor. The level of IMR is much higher in India when compared even to some of the Southeast Asian countries like Bangladesh and Sri Lanka. Though the long term reduction in mortality rates is noteworthy, the concern is the decline in slowing down during the recent decade. In other words, the tempo has not been sustained during the recent years. There is urgent need for new approaches and priorities in the overall strategy to reduce mortality rates among children.

Inter-State Variations

There is a wide inter-state disparity in infant mortality rates and under-five mortality rates. The IMR varies from as low as 14 (Kerala) to as high as 96 (Orissa). The figures indicate the widespread disparity and performance when compared to national average. Weaker States like Uttar Pradesh, Rajasthan, Madhya Pradesh, Orissa and Assam have IMR higher than the national average. There are substantial differences not only in the IMR but also in the neo-natal, and under-five mortality rates between States. There is need for more concentric and region specific policies and programmes.

The measles immunisation for children aged 12-23 months also show similar disparities. The immunisation coverage ranges from a high of 90 percent in Tamil Nadu to a low of 16 percent in Bihar. Performance of the weaker States like Uttar Pradesh, Bihar, Assam, Rajasthan, etc., is well below national average.

Causes of Child Mortality

It is estimated that under-nutrition and anaemia are contributory factors in over 50 percent of under-five deaths in the country. Malnutrition is an area to be tackled as studies have revealed a synergy between malnutrition and mortality. Major causes of infant mortality continue to be pre-maturity birth and low birth weight, poor intra-partum and newborn care, diarrhoeal diseases, acute respiratory infections and other infections.

Neonatal mortality accounts for more than two-thirds of infant mortality in India. Over the last decade, post-neonatal mortality has declined much faster than neonatal mortality. This is mainly due to increased programme interventions focussed on post neonatal stage such as immunisation, management of diarrhoea, ARI, etc. Policies and programmes should emphasise on interventions to reduce perinatal and neonatal mortality. Antenatal care, safe delivery and quality of newborn care are key requirements for reduction of all types of mortality.

Gender Disparity

There are gender differences in IMR and under-five mortality rates. Though there is no biological reason for a higher mortality rate in females in the age group of 0-4 years, it is the social causes that adversely affect the mortality rate of girls, and this needs to be tackled. Girls have a higher mortality rates than boys during the post-neonatal period to five years. The risk of mortality is higher among girls than boys as their malnutrition levels are higher.

Urban-Rural Bias

Bridging the gap between urban and rural child mortality rates and immunisation coverage is another challenge to be tackled with. There is a large urban-rural disparity in the infant and under-five mortality rates and immunisation coverage for measles. One of the reasons is the lack of accessibility to services due to remoteness of the location and higher proportion of disadvantaged groups. Providing adequate services to specific vulnerable groups and those in the remote areas is the key to bring down the gap.

III. POLICIES AND PROGRAMMES

Reproductive and Child Health

The ongoing RCH programme comprehensively integrates interventions to improve child health and was initiated to address each of the major factors contributing to high IMR and under-five mortality. Components of child healthcare include:

- Essential newborn care
- Immunisation
- Nutrition
- Exclusive breastfeeding for 6 months
- Timely introduction of complimentary feeding
- Detection and management of growth faltering
- Vitamin A supplementation
- Iron supplementation
- Early detection and appropriate management of Acute Respiratory Infections, Diarrhoea and other infections

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, and skill up-gradation training for Medical Officers and other staff at the district hospitals was conducted. Medical colleges were envisaged to improve content, quality and coverage of essential newborn care. Collaboration with the National Neonatology Forum (NNF) for operationalisation of newborn care facilities at the primary level was initiated. In addition, Department of Family Welfare and ICMR are funding research studies on the feasibility, replicability and effectiveness of community based newborn care in reducing neonatal mortality in settings where access to primary healthcare institutions is suboptimal.

Focus during the Tenth Plan

Tenth Plan focuses on operationalisation of the appropriate essential newborn care in all settings so that there is substantial reduction in the early neonatal mortality, both in institutional deliveries and home deliveries.

Universal Immunization Programme (UIP)

The UIP was taken up in 1986 as National Technology Mission and became operational in all districts in the country during 1989-90. UIP became a part of the Child Survival and Safe Motherhood (CSSM) Programme in 1992 and Reproductive and Child Health (RCH) Programme in 1997. Under the Immunization Programme, infants are immunized against tuberculosis, diphtheria, pertussis, poliomyelitis, measles and tetanus. Universal immunisation against 6 Vaccine-Preventable Diseases (VPD) by 2000 was one of the goals set in the National Health Policy (1983). This goal however has not been achieved. Available data from service reporting indicate that there had not been any improvement in the coverage during the nineties. This has been a source of concern. However, reported cases of vaccine preventable diseases have declined over the same period.

One of the major reasons for not achieving 100 percent 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 immunization. A project on Hepatitis B immunization and injections safety has also been initiated.

National Polio Surveillance Programme (NPSP)

NPSP was started in 1997 with DANIDA and USAID assistance and is under the management of WHO. The programme has helped in detection of cases, case investigations, laboratory diagnosis and mop up immunization. Special efforts are being made to achieve high routine and campaign coverage in under-served communities, and remind families about need for routine immunization during the Pulse Polio Immunisation (PPI) campaigns. The medical goal of polio eradication is to prevent paralytic illness due to polioviruses by elimination of wild poliovirus so that the countries of the world need not continue to immunize all children perpetually.

The Oral Rehydration Therapy (ORT) Programme

ORT was started in 1986-87. The main objective of the programme was to prevent deaths due to dehydration caused by diarrhoeal diseases among children under 5 years of age due to dehydration. Health education, aimed at rapid recognition and appropriate management of diarrhoea, has been a major component of the CSSM.

Acute Respiratory Infections (ARI) Control

Pneumonia is a leading cause of death of infants and young children in India, accounting for about 30 percent of the under-five deaths. Under the RCH Programme, Tablet co-trimoxazole is 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.

Tenth Five Year Plan

Effort will be made to achieve 100 percent coverage for six vaccine-preventable diseases, eliminate polio and neonatal tetanus through strengthening routine immunisation programmes, and discourage campaign mode operations, which interfere with routine services. It is envisaged to bring in greater involvement of the private sector and improve awareness through all channels of communication.

GOAL 5: IMPROVE MATERNAL HEALTH

Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.

Indicators:

- Maternal mortality ratio
- Percentage of births attended by skilled health personnel

I. STATUS AND TRENDS

Maternal Mortality Ratio (MMR)

Maternal mortality in India continues to be a major concern given the reduced social, cultural and economic status of Indian women that inhibits them from adequate access to health facilities. Though it is a major social concern, there are no reliable estimates available on maternal mortality. The estimates available are from the National Family Health Surveys (I and II) and the Sample Registration System (SRS) for few years. The maternal mortality ratio at the national level estimated for 1998 by SRS was 407 per 100,000 live births and 301 in 2001-03 (MMR-RGI). Though estimates are indicative, they reflect the relative neglect of women's health in India.

Regional Variations

There is clear evidence of high inter-state variations in MMR. The estimates of MMR in the weaker States in the north and central India are very high compared to southern and western region States.

Births Attended by Skilled Health Personnel

Safe deliveries, greatly reflected by births attended by skilled personnel, though have been increasing, and are still much below the desired level. NFHS III estimates that the proportion of births attended by skilled health personnel was 48 percent during

2005-06. Also, there is a wide gap in the proportion between rural and urban. While the proportion of births attended by skilled health personnel in urban area is 73 percent, the same in rural area is only 34 percent. The vulnerable groups such as schedule castes and schedule tribes are the most affected with only 39 percent and 23 percent of births attended by skilled health personnel, respectively.

Causes of Maternal Deaths

There are several causes attributed to maternal deaths. Some of the direct causes, such as haemorrhage, puerperal complications, obstructed labour, abortions and toxaemia account for more than three-fourths of the maternal deaths while other related causes such as anaemia, pregnancy with TB/malaria, viral hepatitis and others account for rest of the deaths. Studies have shown that haemorrhage, sepsis and anaemia are the major causes of maternal deaths, more so in rural areas. NFHS II reveals that moderate and severe anaemia among pregnant women (28%) is almost double that of non-pregnant women (16%).

Apart from these, there are several other intangible factors associated with maternal deaths. They are overall health status, reproductive status, access to health services and extent of utilisation of health services. Adoption or non-adoption of family planning service also in a way has an effect on maternal mortality. The high maternal death rate is further reflected with the performance of pregnancy related indicators. According to NFHS III, only 51 percent of mothers received antenatal check-up (at least three visits), 71 percent received two or more doses of tetanus toxoid and contraceptive prevalence is 56.3% in 2005-06.

II. CHALLENGES

Establishing Database on MMR

Lack of information on maternal mortality levels in the states is the major detrimental factor in assessing the gravity of the issue and brining in awareness on the maternal mortality. A reliable database is critical to planning, priority setting, and advocacy for political commitment. Dissemination of regular and reliable statistics on maternal deaths at national and state levels will increase sensitivity to the issue. A good civil registration system recording all births and deaths is essential.

High Risk Pregnancy Behaviour

The pregnancy pattern in India - too early, too many, too close together - enhances the risk of maternal mortality. About one-fifth of fertility is contributed by women in the age group of 15-19 years. The birth interval in about one-fourth of this group is 18 months. Of the total births, about a quarter is higher order births, of order 4 or more.

Poor percentage of institutional deliveries

Institutional deliveries are a critical factor in determining maternal deaths. The NFHS II indicates that the institutional deliveries are low in the country (33.6%) and very

low in rural areas (24.6%). Though various measures have been under implementation under RCH programme for promoting institutional deliveries, they still need to be seen for the better results.

Poor programme implementation

The RCH programme though has various provisions such as emergency transportation, supply of emergency obstetric care equipment and IFA tablets, and provision of hiring private gynaecologist by public health facilities, the RCH Facility Survey conducted in 2000 reveals poor availability and utilisation of these provisions. The programme implementation has to be improved for attaining set objectives.

III. POLICIES AND PROGRAMMES

CSSM and RCH Programmes

Indian MCH Programmes from as early as 60s and 70s have focused on antenatal care and safe deliveries. Despite all these, the MMR has remained high though there is an improvement. The major programme towards promoting safe motherhood and reducing maternal mortality in India is CSSM, now being integrated into Reproductive and Child Health programme. Prior to the CSSM, several programmes in various forms were under implementation aiming to control population, and promote safe motherhood and child survival. While these programmes did have a beneficial impact, the discrete and separate identity of each programme was causing problems in its effective management besides somewhat reducing the outcome. In the nineties, the CSSM programme was, therefore, drawn up and implemented from 1992-93 onwards.

The process of integration of related programmes initiated with the implementation of the CSSM Programme was taken a step further in 1994 when the International Conference on Population and Development at Cairo proposed the unification of programmes for RCH. The RCH Programme incorporates the components of the CSSM Programme and further includes two additional components - one relating to sexually transmitted diseases (STD) and the other relating to reproductive tract infection (RTI). The main highlights of the RCH programme are:

- Interaction of all interventions for fertility regulation and maternal and child health with reproductive health programmes for both men and women.
- Reorienting the provision of services to make these clients centred, demand driven, high quality, and based on the needs of the community, assessed through decentralized participatory planning and the target free approach.
- Upgradation of the level of facilities for providing various interventions with due care to quality. The First Referral Units (FRUs) being set up at sub-district level will hereafter provide comprehensive emergency obstetric and newborn care. Similarly, RCH facilities in PHCs will be substantially upgraded.
- All-round improvement in the access of the community to various services, which are commonly required by it. It is proposed to provide facilities for

MTP at the PHCs, and counselling and IUD insertion at the sub-centres, in a phased manner.

- Provision of greater access to outreach services, particularly for the vulnerable groups of the population who have, till now, been left out of the planning process. For this, special programmes will be taken up for urban slum-dwellers, the tribal population and the adolescents.
- NGOs and Voluntary Organisations will be involved in a much larger way to improve the outreach and make it a people's programme.
- Practitioners of ISM will be trained and research and development in ISM will be supported to improve the range of RCH services.
- Panchayati Raj System will be assisted to play greater role in planning, implementation, and assessment of client satisfaction.

Maternal Health Component of RCH

The maternal health component of RCH services to be provided at the sub-centre, PHC, CHC/FRUs include the following:

1. Antenatal Care
   - Registration of pregnancies
   - Providing essential Antenatal care (at least 3 visits)
   - Iron prophylaxis to pregnant and lactating mothers
   - Detection and treatment of anaemic mothers
   - Management/referral of high risk pregnant mothers

2. Natal Care
   - Increasing proportion of deliveries by midwifery trained personnel
   - Increasing proportion of institutional deliveries

3. Post-Natal Care
   - Provision of at least 3 post-natal visits
   - Monitoring and care of the newborn
   - Referral/management of high risk newborn

4 Provision of care for unwanted pregnancies
   - Referral/management of unwanted pregnancies through MTPs and safe abortion

IV. ATTAINING MDG TARGET

India's performance is poor even among the low and middle income countries in the region. Even based on conservative estimate of 407 maternal deaths per 100,000 by Sample Registration System in 1998, more than 100,000 women die of pregnancy related causes every year in India, which was about 18 percent of global maternal deaths.

With the current trends, both the national target 100 to be achieved by 2010 (National Health Policy - 2002) and the MDG target 106 by 2015 look unrealistic. Achieving these targets is largely dependent upon socio-economic conditions of women, besides

efficient implementation of programme interventions. Among others, the following factors are critical in achieving the target:

- Reduction in fertility levels
- Promoting comprehensive antenatal care
- Screening and identification of anaemic women
- Active promotion of institutional deliveries
- Effective screening for high risk delivery cases
- Effective availability of emergency transportation
- Increase in the number of approved facilities for Medical Termination of Pregnancy

GOAL 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS

Indicators:

- HIV prevalence among young people aged 15-24 years
- Condom use rate of the contraceptive prevalence rate
- Condom use of young people aged 15-24 years reporting use during sexual intercourse with a non-regular partner
- Number of children orphaned by HIV/AIDS (ratio between orphaned/non-orphaned)
- Percentage of population aged 15 to 24 with comprehensive correct knowledge of HIV/AIDS

HIV/AIDS

I. STATUS AND TRENDS

India is burdened with a larger HIV/AIDS epidemic than any other country in the world. It accounts for almost 13 percent of the 40 million people living with HIV/AIDS globally and over 69 percent of the 7.4 million people living with HIV/AIDS in the Asia and Pacific region in 2003. Given the large population base, a rise of 0.1 percent in the prevalence rate would increase the numbers living with HIV by over a half a million. Since the first case was reported in Chennai in 1986 (capital of Tamil Nadu), HIV has spread rapidly from urban to rural areas and from high risk groups to general population. The number of HIV infected persons has increased to 5.1 million in 2003 from a small 0.2 million in 1990 (Fig 6.1).

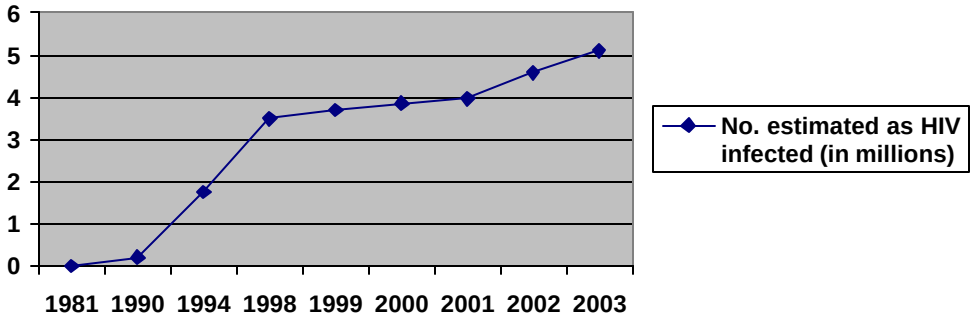

Fig 6.1: HIV Estimates: India 1981-2003

The reported cases of full-blown AIDS to NACO, as of August 2004, are 86,028; of which 72.1 percent are males and 27.9 percent are females, indicating one woman among four AIDS cases reported. This is only a fraction of AIDS morbidity in the country, reflecting both the stigma and the ignorance surrounding the infection. Some of the estimates suggest that the number would range somewhere between 100,000 and 1,000,000 (HIV/AIDS Treatment and Prevention, World Bank 2004). Since the epidemic is more than a decade old, mortality due to AIDS is increasing; nearly 2 percent of all deaths are due to HIV/AIDS in 1998. If current HIV/AIDS policies continue, by 2033 AIDS will account for an estimated 17 percent of all deaths and 40 percent of deaths from infectious diseases. Elaborate government-led machinery is in place and working in partnership with NGOs and private sector to prevent and control the spread of HIV/AIDS, the biggest public health challenge in Indian history.

Table 6.1: Status of HIV/AIDS Presence in India in 2003

Total estimated HIV Infections	5.1 million
Regional Spread of HIV	**Rural:** 59.9%; Urban: 40.1% **Regional Distribution:** 61.75% of HIV infections are in 6 states (high prevalence states); 3.43% in three states (medium prevalence states) and 34.82% are in remaining states and UTs (low prevalence states).
Group spread of HIV	**Gender Distribution:** Male- 63.1%; Female- 36.9% **Age Distribution**: Children - 1.07%; Adults (15-49 years) - 98.9% **Group Distribution:** STD patients - 29.2%; General population - 68.09%; FSWs - 0.2%; IDUs - 1.39%; children - 1.07%
Mode of transmission	Heterosexual contact - 85.7%; injecting drug use - 2.2%; blood transfusion and blood product infusion - 2.6%; perinatal transmission - 2.7%; others - 6.8%
Reported AIDS cases (till August 2004)	Total - 86028; Male - 72.1%; Female - 27.9%; 0-14 yrs 3.9%; 15-29 yrs 33.6%; 30-49 yrs 55.3%; > 50 yrs 7.06%.

Source: HIV Sentinel Survey 2003, NACO, GoI

Knowledge of HIV/AIDS

In India, knowledge about HIV is still scant and incomplete. About 82 percent of males and 70 percent females in general population have heard of HIV/AIDS, while it is more than 90 percent among high risk and bridge groups. Among females in general population, only 48 percent knew that using a condom every time would prevent them from HIV/AIDS and only 19.9 percent of females in this population have correct beliefs about HIV transmission. People's knowledge level on correct beliefs on HIV/AIDS is in general low among all categories of target groups. The knowledge and awareness levels are relatively higher among high risk groups compared to general population (Behavioural Surveillance Survey, 2002).

Condom use at last high-risk sex

The Behavioural Surveillance Survey 2002 indicates that nearly three fourths of female sex workers and their clients have used a condom during their last sexual intercourse with commercial partners. It is 60 percent among IDUs and only 39.3 percent among MSM. The condom use at last sex with non-regular sex partners was only 40 percent among females and 51 percent among males. The consistent condom use among all high risk groups is, however, low. Among males and females with regular sex partners, it is 33.6 percent and 26.6 percent respectively. Among FSWs it is 51.5 percent and IDUs, 31.8 percent.

Condom use rate of the contraceptive prevalence rate

Between the two NFH surveys (1992 and 1998), there has been no perceptible increase in the usage of condoms among the general population. The reported usage of condoms among married women of reproductive age (from 15 to 49 years) is a small 3.1 percent in 1998-99. It is very low in rural areas, 1.6 percent and in urban areas it is 7.2 percent. Among young age groups, 15-19 and 20-24 years the usage is 1.4 and 3.2 percent respectively.

II. CHALLENGES

Several factors increase Indian vulnerability to a devastating AIDS epidemic - widespread poverty, illiteracy, poor nutritional and health status, social inequalities based on caste and gender, inadequate health infrastructure, taboos about sex, lack of political commitment, and a persistent denial of the AIDS epidemic in many states. Without the immediate and sustained implementation of preventive and control measures, the adult HIV prevalence rate could be 5 percent by the year 2006 - a total of nearly twenty-five million HIV infected people, roughly equal to the number of current infections in sub Saharan Africa (India Health Report, 2003).

III. POLICIES AND PROGRAMMES

The Government of India has responded to the challenge of HIV with appropriate policies, strategies and programmes. The national AIDS Control and Blood Policies were adopted in 2002. The Policy envisages zero new infections by 2007. In the

initial years of the epidemic, late 1980s, AIDS prevention efforts were confined to `hot spots' like Maharashtra, Tamil Nadu, Manipur, and select big cities. Since 1992, considerable efforts were being put to expand it to all parts of the country through the World Bank supported country-wide National AIDS Control Project. The first phase of this project (1992-99), with an IDA credit of $ 84 million, focused on preventing transmission through blood and blood products and on increasing awareness of the danger of risky sex and needle exchange. Phase II of the National AIDS Control Programme (NACP) began in 1999, supported by a World Bank credit of $ 191 million plus Indian government funding of $ 14 million, is a 100 percent centrally sponsored scheme implemented through State AIDS Control Societies. In addition to the World Bank, state-level AIDS control projects are also being implemented by several bilateral donors such as USAID of the US government in Tamil Nadu and Maharashtra, DFID of the UK government in Andhra Pradesh, Gujarat, Kerala, and Orissa, and Canadian International Development Agency (CIDA) of the Canadian government in Karnataka and Rajasthan. While the World Bank project, implemented through NACO, covers the whole range of prevention, care, and capacity building, bilaterally funded projects focus on the prevention of sexual transmission of HIV. More than 80 percent of the programme resources are financed by the government, with one fifth coming from government revenue and four fifths from a World Bank credit. About 20 percent of the budget is financed by grants from bilateral donors.

IV. ATTAINING MDG TARGET

The MDG targets to halt the growth of HIV/AIDS spread by 2015 and also targets to reverse the spread. The National Health and AIDS Control Policies proclaimed in 2002, however, planned to achieve the same goal by 2007. Attaining national goal appears to be unrealistic with the given capacities, programmes and shorter duration, while MDG could be possible if planned for.

Over the last decade there is a manifold increase in the number of HIV cases from a mere 0.2 million in 1990 to 5.1 million in 2003, which indicates an annual average growth of 0.37 percent between 1990 and 2003. Though this presents a low percentage of growth, a small 0.1 percentage growth would add an additional half a million new cases. The rate of growth was peak between 1990 and 1998 and slowed down thereafter at a growth rate of about 5 percent up to 2001 and increased to 15 percent between 2001 and 2002 and again declined to 11.6 percent between 2002 and 2003. Attaining zero level growth by 2015 would mean achieving immediate declines in the annual growth rates, at least by one percent every year. While continuing the present set of programmes, which resulted in decline in HIV infections caused by blood transfusion, should intensify the following activities:

- HIV/AIDS awareness and education, particularly among youth and students in school and colleges
- Involvement of the private health sector and building up public-private partnerships
- More support services for those living with HIV/AIDS
- Stronger political commitment
- Collaboration with various stakeholders such as other Government Departments, NGOs, CBOs for expanded response

- Transform HIV/AIDS from the image of a private problem to a public problem through IEC

Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases

Indicators:

- Malaria prevalence and death rates
- Percentage of population using effective prevention against malaria
- Tuberculosis prevalence and death rates
- Proportion of tuberculosis cases detected under Directly Observed Treatment - short course (DOTS)
- Proportion of tuberculosis cases cured under DOTS

MALARIA

1. STATUS AND TRENDS

Long implemented strategies effectively contained the incidence of malaria in India. The incidence, which was estimated in the order of 75 million cases and 0.8 million deaths in 1947, was brought down to 0.32 million cases and 211 deaths in the year 2003. Malaria was almost eradicated by mid sixties but has staged a comeback thereafter. About 6.47 million malaria cases were reported in 1976, the highest since resurgence. During this period of resurgence of malaria, certain states of the Union of India like Uttar Pradesh, Bihar, Karnataka, Orissa, Rajasthan, Madhya Pradesh and Pondicherry were found to be worst affected, particularly with increasing incidence of P. falciparum infection. Programmes since independence have however, reversed the growth of incidence since 1984 and registered a declining trend from 1987. On the whole, the country has been able to contain malaria incidence of 2 to 3 million cases annually since 1984 in spite of increased population at the rate of 2.1 percent annually.

Malaria transmission occurs in almost all areas of India except areas above 1800 metres sea level. About 95 percent of population in the country live in malaria-risk areas. Overall, ten states account for 93 percent of the total disease burden. While Madhya Pradesh, Orissa, Rajasthan, Bihar, Andhra Pradesh and Maharastra account for over 80 percent of total cases, Madhya Pradesh and Orissa alone account for 50 percent of mortality (India Health Report, 2003). Malaria in India is unevenly distributed. In most parts of the country, about 90 percent, malaria is unstable with relatively low incidence but with a risk of increase in cases of epidemic form every 7 to 10 or more years.

There are 4 species of malarial parasites, of which 3 species are found in India. These are a) *Plasmodium Vivax* that may cause relapsing malaria but seldom death (50-55% of total reported cases), b) *P. falciparum* that causes malignant malaria and may lead to death (48-52% of total cases), c) *P. malariae* that may cause severe malaria (small numbers found in foothills in Orissa) and, d) *P. ovale* (not found in India). All malaria mortality in India is due to *P. falciparum* only.

II. CHALLENGES

Developmental activities, industrial growth, expansion of agriculture, deforestation and changing lifestyles have the potential of increasing the breeding sites of mosquitoes. At present, malaria continues to be a public health problem affecting around 20 percent population that lives largely in remote, inaccessible, forest and forest-fringe areas. These areas have poor infrastructure and large number of vacancies at key level functionary that contribute to operational difficulties in programme implementation. Further, technical obstacles like development of Chloroquine resistance in P.falciparum and insecticide resistance in malaria vectors in some areas also pose challenge to the malaria control efforts besides developmental activities leading to creation of mosquitogenic conditions, urbanization, migration and climate change serving as aggravating factors for malaria transmission.

III. POLICIES AND PROGRAMMES

The period after independence has witnessed several initiatives and measures to combat malaria, which effectively contained the growth of malaria.

National Malaria Control Programme/ National Malaria Eradication Programme/National Anti Malaria Programme

The first measure in the direction of control of malaria is the launching of National Malaria Control Programme by Government of India (NMCP) in 1953. The NMCP was highly successful and within five years the incidence dropped to 2 million from 75 million in 1947. Encouraged by this, the programme was changed to a more ambitious National Malaria Eradication Programme in 1958. By 1961 the incidence dropped to a mere 5000 cases a year. But since then the programme suffered set-backs due to technical, operational and administrative reasons, and the cases started rising again. In 1977, the Modified Plan of Operation (MPO) was launched with the immediate objectives to prevent deaths and to reduce morbidity due to malaria. The programme was integrated with primary healthcare delivery system. Selective indoor residual spray by stratifying areas based on cases per 1,000 populations in a year, i.e., the Annual Parasite Incidence (API) of 2 and above was recommended in the MPO. Malaria incidence declined to about 2 million cases by the year 1984 and thereafter. Realising the difficulties in controlling/eradicating malaria, the National Malaria Eradication Programme has been renamed as National Anti Malaria Programme (NAMP). The main control strategies under the programme are as follows:

- Early Case Detection and Prompt Treatment (EDPT) to provide relief to the patient, and reduce reservoir of the infection.

- Selective Vector Control by appropriate insecticidal spray in rural areas and recurrent anti-larval measures including biological methods like use of larvivorous fish.
- Promotion of personal prophylactic measures including use of Insecticide Treated Mosquito Nets (ITMN), etc., and promotion of bio-environmental control measures.
- Emphasis on Information, Education and Communication (IEC) to promote community participation in the programme and inter-sectoral collaboration.
- Capacity building of optimal utilization of the technical manpower for the programme.

Enhanced Malaria Control Project (EMCP)

The World Bank assisted Enhanced Malaria Control Project is in operation in 1045 malaria hardcore tribal PHCs of 100 districts covering 62 million population in the states of Andhra Pradesh, Chattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan and Orissa. Nineteen towns of 10 States have also been included under EMCP. In these areas, attempts are being made to have an integrated strategy for malaria control, which includes providing for presumptive treatment to fever cases at each village; presumptive radical treatment at health facilities in high risk areas; promotion of use of insecticide treated bed nets; use of larvivorous fish in mosquito breeding sites; and selective indoor residual spray in high risk areas. The project was concluded in March 2004.

IV. ATTAINING MDG TARGET

The MDG targets to halt the growth of malaria incidence by 2015 and also targets to reverse the incidence. Malaria has been effectively controlled in vast areas covering almost 80 percent population of the country in spite of increased population, rapid and unplanned urbanization, increased migration and population aggregation. The growth in the incidence of malaria has been stable at 2-3 millions since 1984 and also registered declines from 2002. The incidence and mortality levels caused by malaria are 1.82 million and 902 respectively in the year 2002. The present performance levels suggest that the targets of MDG have largely been achieved but should strive for consistency in the declines. The National Health Policy 2002 has much higher target to reduce the mortality caused by malaria by 50 percent by 2010.

TUBERCULOSIS (TB)

I. STATUS AND TRENDS

India accounts for one-third of global TB and has more TB cases than any other country in the world. About 40 percent of the Indian population is infected with TB bacillus. Every year about 2.2 million persons are added to the existing load of about fifteen million active TB cases; of these, about 800,000 are smear positive (infectious), and about 450,000 die. TB is the leading cause of death among women in the reproductive age group of 25-44 years, more deaths than those due to all the causes of maternal mortality. Since every sputum-positive case has the potential to infect 10-15 individuals in a year, and since TB is one of the important opportunistic

infections of HIV, it is feared that deaths due to TB can go up to four million in the next decade if not controlled. It is estimated that the economic loss to the country due to TB is Rs 12,000 crore (US $ 3 billion) (RNTCP Status Report, 2004).

As per Global TB Report 2003, two-thirds of the additional sputum positive cases, reported under DOTS in 2001, were found in India. In 2002, over 620,000 cases were placed on treatment of which nearly 250,000 were new smear positive cases. In the year 2003, more than 900,000 cases were placed on treatment - largest cohort of cases, more than any other country in the world. The success of DOTS in India would determine the success of TB control in the world.

II. CHALLENGES

TB and HIV

TB is the most common opportunistic infection in people living with HIV. As the Human Immuno-deficiency virus (HIV) breaks down the immune system, HIV-infected people are at greatly increased risk of TB. Without HIV, the lifetime risk of developing TB in TB-infected people is 10 percent, compared to at least 50 percent in HIV-infected. HIV is also the most powerful risk factor for progression from TB infection to TB disease. TB in turn accelerates the progression of HIV to AIDS and shortens the survival of patients with HIV infection. With an estimated 5.1 million HIV positive individuals in India, it is likely that HIV may worsen the TB epidemic. However, even among HIV-infected people, TB can be cured. DOTS is as effective among HIV-infected TB patients as among those who are HIV negative. The Government of India has undertaken several measures to strengthen collaboration between the TB and HIV.

III. POLICIES AND PROGRAMMES

National TB Programme and Revised National Tuberculosis Control Programme (RNTCP)

The National TB Programme (NTP) was launched in 1962, and an impressive infrastructure of 446 District TB centres, 330 TB clinics, 764 hospitals, and 47,600 beds were established. These hospitals diagnose nearly 1.3 million patients and treat 250,000 sputum positives every year. The outcome is, however, unsatisfactory as treatment completion is less than 40 percent of patients. Poor diagnosis, inappropriate regimens, and the lack of patient evaluations or follow-up are the major shortcomings of the programme. Despite expert committee reviews in 1975 and 1988, the TB programme languished for want of a credible strategy and political and administrative support, as well as low resource allocation not exceeding Rs 20 crore per year. An exhaustive review of the National TB Programme was taken up in 1992. In 1993, RNTCP, based on the DOTS strategy was introduced on a pilot basis to detect at least

70 percent of sputum positive patients, and cure at least 85 percent. It is planned that the RNTCP coverage will be extended to the entire country by 2005, The DOTS strategy is now implemented under the RNTCP in about 455 districts covering 829 million people (as on February 29, 2004). The NTP is implemented along with RNTCP in the remaining parts of the country with the Central government providing drugs for Short-Course Chemotherapy (SCC). The DOTS strategy is based on five principles.

- Case detection among patients spontaneously attending health facilities, primarily by the microscopic examination of sputum.
- Ensuring adequate drug supply.
- The administration of SCC under direct observation.
- Systematic monitoring and accountability for every patient diagnosed.
- Political will.

There has been a qualitative improvement in diagnosis, with a ratio of 1.2 smear negative pulmonary TB for every case of smear-positive TB. The cure rate has doubled from about 25 percent to 86 percent, though not uniformly. The death rate has also been reduced to 4 percent, compared to at least 20 percent under the NTP. These achievements of RNTCP are due to the quality training given to health staff, the increasing involvement of NGOs, improved management systems and the standardization of treatment regimens according to patient typology to ensure the uninterrupted supply of drugs in patient-wise boxes, increased availability of sufficient funds with district societies, and intensive monitoring.

Collaboration with other sectors

India has one of the largest private healthcare sectors in the world, with an estimated 8 million private practitioners. RNTCP has made a concerted effort to develop partnerships with the private health sector and NGOs, in order to widen access to quality TB care. To date, more than 3000 private practitioners and 750 NGOs are officially providing RNTCP services, 131 medical colleges out of 189 are collaborating with RNTCP in the implementing districts. The results of this collaboration are promising.

The Government of India has involved the Ministries of Labour, Railways, Mines and Steel by issuing directives to their respective health establishments in adopting the DOTS strategy as the standardized treatment for TB patients. This is necessary for creating an epidemiological impact, as all the cases will have uniform treatment with uninterrupted good quality drugs. GoI has initiated a Public Private Mix (PPM) pilot project with technical assistance from WHO in 14 sites across the country: Ahmedabad, Bangalore, Bhopal, Chandigarh, Chennai, Delhi, Jaipur, Kolkata, Lucknow, Patna, Pune, Bhubaneswar, Ranchi and Thiruvanthapuram. The project is an initiative to increase case detection by enhancing involvement of the private sector in RNTCP. Each of these sites is primarily an urban area with substantial presence of other sectors and weak public health infrastructures.

Central TB Division has collaborated with the World Economic Forum and Confederation of Indian Industries (CII) to facilitate the launch of The Indian Business Alliance with the objective of providing a platform to bring together companies to adopt RNTCP.

IV. ATTAINING MDG TARGET

Controlling TB in India is a tremendous challenge. The TB burden in India is still staggering. Every year, 2.2 million persons develop the disease, of which about 800,000 are infectious, and about 450,000 die of it - 1232 every day. The disease is a major barrier to social and economic development. An estimated 100 million workdays are lost due to illness. The present capacities and the huge presence of the disease would make it almost difficult to achieve the millennium goal. The millennium goal targets to halt the grouch of TB incidence by 2015 and also targets to reverse the incidence. The achievement of this goal will depend on how soon and how well the following constraints are overcome.

- Low coverage: DOTS covers only about 20-25 percent of TB patients
- Weak involvement of civil society and the community
- Weak health system, particularly in urban areas without primary healthcare infrastructure
- Unsupervised private practitioners following their own lines of treatment, contributing to drug resistance
- The implementation of multiple systems of TB control (conventional, SCC, and RNTCP), with different financing mechanisms
- The threat of a dual epidemic: HIV/AIDS and TB as an opportunistic infection with a potential to increase the number of cases substantially

This donor lending has gradually shifted from passive programmatic assistance to the Central Governm1ent, to a more direct, active role in influencing and building the capacity of governments to initiate health reform, reflecting the shift in the international environment from disease control to systems, issues and governance. Despite the constraints of the funding agencies like inadequate preparation of projects, multiple goals and sub goals in excess of capacity of the implementing agency, unrealistic time frames, inadequate matching of financing and scheduling of project activities, etc., India will continue to be dependent on donor aid, and external assistance will continue to serve as a catalyst to the improvement of systematic efficiencies and universal access to healthcare.