5. PUBLIC HEALTH

“Improvement in health is likely to come, in the future as in the past, from modification of the conditions which lead to disease, rather than from intervention into the mechanisms of disease after it has occurred.”

- Thomas Mckeown, 1976

5.1 PUBLIC HEALTH AND PRIMARY HEALTH CARE: A CONTINUUM AND SYNERGY

The Task Force on Health and Family Welfare is specifically mandated to improve Public Health and Primary Health Care in the State. This was because public health, though strong in the state from the 1930s to 1960s had subsequently gradually declined and got fragmented. The Task Force found through discussions with a variety of people over the past year, that most people had very divergent views on what exactly public health meant. Hence this section is an introduction to the entire chapter on public health, describing briefly public health concepts, principles and practice as they have developed over time, and linking them with the situation in Karnataka, India and elsewhere.

Defining Public Health

Public health is an evolving discipline through which major health gains for populations have been made in several countries around the world, since the early nineteenth century, i.e., before the development of antibiotics and vaccines. It has been defined by the Association of Epidemiologists as follows:

“Public health is one of the efforts organized by society to protect, promote and restore people’s health. It is the combination of services, skills and beliefs that are directed to the maintenance and improvement of the health of all people through collective or social actions. The programs, services and institutions involved emphasize the prevention of disease and the health needs of the population as a whole. Public health activities change with changing technology and social values, but the goals remain the same; to reduce the amount of disease, premature death and disease produced discomfort and disability in the population” (JM Last 1983).

In clinical or curative medicine, efforts are focused on the individual person who is ill. In public health, a population based approach is taken focusing on disease patterns, distributions, trends and risk factors. Public health interventions are organized usually through government as larger collective action is required. The scope is wide and includes health protection, promotion, diseases prevention, cure and rehabilitation.

State responsibility for health and health care

One of the key principles of public health, that the State is responsible for the health of its people, was conceived over 150 years ago, leading to the first Public Health Action of 1848. The importance of this social principle remains and has been reiterated by several bodies such as the World Health Assembly, of the WHO (1977), WHO and UNICEF in 1978 and more recently by
the Peoples Health Assembly (PHA) in 2000. The role of the state remains critical, in present times and for the future, to protect and promote the health of all people as a public good or common good, where health is a human right. Public health has in particular an abiding concern for the health and social conditions of the poor and vulnerable sections of society. The state is also the only constitutionally, legally, mandated sector with the responsibility of improving the health and living conditions of its citizens.

Public health has consistently struggled with and challenged structural roots underlying poverty. The political economy dimensions of health and people’s access to care include the strong underlying forces influencing the development, functioning and programme implementation of the health system. This is evident in strong medical professional lobbies, and vested interests of various groups of allied health professionals, both of which result in an unhealthy politicization of the health system and in non-implementation of programmes. It is also evident in pesticide, pharmaceutical, medical industry and insurance lobbies functioning at global and national levels and influencing local policies and practices. Class, caste/ethnicity, gender, age all play a role. The unfettered play of political economy factors results in increased inequalities in health status and in access to care. Public health emphasizes the critical role required to be played by the state in shifting the balance towards better health and access to care for all, but particularly the poor and socially disadvantaged.

Addressing determinants of health
Diseases like cholera and typhoid earlier widely prevalent in Europe and the USA, were controlled by public health systems that ensured a mandated supply of clean, safe or potable water, functioning sewage systems, garbage and refuse disposal. Karnataka has initiated measures for water supply and sanitation through different projects namely the Dutch assisted project, DANIDA, UNICEF and the World Bank assisted Karnataka Integrated Rural Water Supply and Environmental Sanitation Projects. However the need and demands of the public in this regard are yet to be fully met. Water and sanitation related diseases still take a heavy toll in terms of sickness (see section on communicable diseases) and person days of work lost. The role of the Directorate of Health and Family Welfare Services will be in setting standards for water quality, use of chlorination/ other methods of water purification, monitoring through regular water quality tested at local, taluk and district levels, and initiating quick containment measures following any disease outbreak. Related measures include intersectoral collaboration at different levels; health promotion of children, women and the community and special training of panchayatraj members, as water and sanitation fall specifically under their purview, under the 73rd and 74th Constitutional Amendments. The specific responsibility and accountability of the male junior health assistant needs to be clarified. They also need supervision in this regard. Provision of safe water supply and sanitation form the very basic, first generation, public health interventions and need to be owned by the health department.

Another early development in preventive medicine, closely linked to public health, started in the 18th century relates to nutrition, another basic determinant of health. Use of fresh fruits and vegetables was recommended in 1753 for the prevention of scurvy among sailors even before the causative agent was known. There has been tremendous growth and development in the science of nutrition since then. Our own ancient Indian systems evolved food production patterns, diets and methods of cooking that provided a balanced diet in different seasons and suited to various
physiological conditions. Despite rich traditional and modern knowledge bases, recent data from the National Family Health Survey II (NFHS II) and National Nutrition Monitoring Board (NNMB), regarding nutritional status reveals widespread under nutrition particularly in young children and among women in Karnataka. Nutrition has also been found to have been very neglected by the DHFW. Malnutrition in Karnataka is a major public health issue and is being accorded the highest priority as an area for intervention by the Task Force on Health & FW. It is therefore being covered in a separate chapter (Chapter 7). Deeper underlying issues of food and nutrition security are linked to irrigation, agriculture and seed policies; to employment, income and purchasing capacity; and to access by the poor to public distribution systems. These too need to be addressed.

The Germ Theory and Infectious Diseases Control

The second generation of public health evolved with the discovery of bacteria and the growth of microbiology. Development of diagnostics, therapeutics, vaccines and an understanding of disease transmission patterns made it feasible to initiate control programmes for communicable diseases. The current disease burden due to communicable or infectious diseases in Karnataka still accounts for a major share of morbidity and mortality. Cost effective public health interventions exist for most infectious diseases. For newer emerging diseases such as HIV/AIDS, research is taking place at a fairly rapid pace and diagnostics and antiretroviral drugs are already available. However about 30 new infectious diseases have been reported globally over the past 2-3 decades and the State needs to be alert to them.

An important underlying public health principle is that the method of transmission of communicable diseases determines the choice of the method of disease control to be used. Diseases with similar modes of transmission are grouped or classified together e.g., water borne diseases, faeco-oral diseases, soil mediated infections, food borne diseases, respiratory infections that are air borne, insect or vector borne diseases, diseases transmitted via body fluids, ectoparasite zoonoses, domestic zoonoses etc. only important diseases that require priority attention and intervention are covered in this report. The faeco-oral group of diseases include amoebiasis, giardia, gastro-enteritis, basillary dysentery, cholera, typhoid, hepatitis A & E, and poliomyelitis. Breaking the faecal-oral chain is the basis of control, namely by personal hygiene, increase in water quantity, improvement in water quality, food hygiene and provision of sewage disposal and sanitation systems.

Another public health principle is that priority is given for control of infectious diseases based on criteria such as magnitude of problem using epidemiological criteria, severity of diseases, and availability if effective, safe interventions at reasonable cost. Through appearing commonsensical and obvious, a review of major public health programmes reveals the lack of priority given to these priority problems and to practicing public health principles in their control, with resultant heavy preventable burdens of morbidity and mortality. For example, tuberculosis which was identified in 1947-48 as India’s foremost public health problem, continues to be so in Karnataka in 2000-1, despite having a well researched and designed control programme and despite the availability of diagnostics and cost effective drugs for treatment, all of which are indigenously manufactured. The National Tuberculosis Programme (NTP) has not received adequate attention or resources from politicians, decision makers, administrators and the DHFW. Thus it has been neglected and poorly supervised and implemented. In the Revised
National Tuberculosis Control Programme (RNTCP) also, Karnataka is currently the second poorest performing State in the country. This apathy has resulted in much avoidable suffering and even in unnecessary death.

Another example is of malaria. The early successes of the National Malaria Control Programme have not been sustained. The increased number of cases and outbreaks in different parts of the state are of concern. Malaria was controlled in Mysore State in the pre-DDT era, through public health interventions including public health engineering and larvicidal fish. These bioenvironmental methods were unfortunately later abandoned with complete reliance on chemical pesticides and chemotherapy. Increasing resistance to drugs and pesticides and the harmful toxic efforts of pesticides have resulted in a rethinking of strategy. Other vector borne diseases also have a fairly high incidence and prevalence in certain regions e.g. filarial, dengue fever, Japanese encephalitis, etc. Specific technical dimensions for each disease are given later. Another simple public health principle in communicable diseases control is that the health system should ensure early detection, complete treatment, recording and reporting (or notification) through a disease surveillance system (this is covered in greater detail later).

Public health and non-communicable diseases
The major burden of disease in developing country situations is often thought to be mainly ‘diseases of poverty’; which is thought of synonymously, as infectious diseases and malnutrition. This is reflected in health planning and financing priorities, with little attention paid to chronic, non-communicable diseases. It is now recognized that social, demographic and epidemiologic transitions have been occurring over the past few decades, and countries and states like ours have a substantial burden of these diseases as well. A public health approach addresses the risk factors that predispose to these diseases such as tobacco, alcohol, exercise and food habits, environment and occupational risk. For instance, lower salt intakers at a population level are found to result in lower blood pressure levels and less hypertension. More recently, it is found that poor nutrition and other factors during intra-uterine foetal life increases risk to these diseases later in life. Reduction of risk factors through health promotion, community and public action, are part of the control strategy along with early detection and good clinical management.

Health systems and public health
An additional premise is that there are certain health system prerequisites and primary health care principles that need to be met, in order to achieve good infectious disease control. The strategy of improving the functioning of general health services especially at PHC and CHC level is important in providing comprehensive, affordable, good quality, diagnostic and treatment facilities as close to the homes of people as possible. Diseases control interventions need to be integrated into the functioning of the general health services as part of a comprehensive primary health care service. This horizontal integration at primary care level is to be supported by more specialized referral and support services at taluk/district and state level, through a referral system. The primary health care service needs to be credible so as to win the confidence of people. Only then will people utilize it to meet their basic health care needs and for what government may consider priority health programmes, be they communicable diseases control, family welfare, non-communicable disease control, etc.
These basic tenets of a good community health care service have been found lacking in our sub-centres, PHCs and CHCs in the state. The Interim Report of the Task Force recommended 24 hour services at PHCs, with filling up of gaps in infrastructure including residential quarters, water supply, electricity, vacancy positions for different grades of personnel, supply lines for drugs and laboratory equipment/consumables, communication systems etc. These are prerequisites for a good service and for infectious disease control.

**Primary Health Care**

*The Primary Health Care approach*, as a strategy to attain the international social goal of Health for All by 2000, was articulated and accepted at a WHO-UNICEF conference in Alma-Ata in 1978. It expanded the scope and strategies for public health. Recognising the limitations of medical science alone in improving the health of people, it emphasized the need to address determinants of health, *through inter-sectoral collaboration*, especially with departments of agriculture, food supply, water supply, sanitation, housing and education. *It emphasized the need for equity and social justice in health, and health care*. It recommended *shifting control over health care systems, with greater decentralization; and involvement of local people* and communities in decision making and planning health care systems to suit their own social, economic and cultural conditions. It utilized scientific methods of proven effective, safe, acceptable and affordable treatments and interventions in the preventive, promotive, curative and rehabilitative areas, but *also encouraged indigenous and traditional systems of medicine*. *It had a social goal* of improved health and quality of life; access to health care by all; maximum health benefits to the greatest number; increased self-reliance of individual persons and communities, and the promotion of social means of reaching these goals. Thus public health went through another paradigm shift. Experience and thinking from India along with those from other countries, helped in making this shift.

*The following excerpts from the original documents are given for a clear understanding of concepts. These are being given in some detail as they form a core element of the task force recommendations.*

“Primary Health care is essential health care made universally accessible to individuals and families in the community by means acceptable to them, through their full participation and at a cost that the community and country can afford. It forms an integral part of the country’s health system of which it is the nucleus and of the overall social and economic development of the community” (WHO-UNICEF, 1978).

“It means much more than the mere extension of basic health services. It has social and developmental dimensions, and if properly applied will influence the way in which the rest of the health system functions” (ibid).

“It is the first level of contact of individuals, the family and the community with the national health system bringing health care as close as possible to where people live and work, and constitute the first element of a continuing health care process” (ibid).
**The four key underlying principles of primary health care are**

- Equity through equitable distribution of health resources.
- Community participation and involvement.
- Intersectoral co-ordination between health and development.
- Use of appropriate technology for health.

Then **eight components of primary health care** comprising the core technical package are:

Education concerning prevailing health problems and about methods of identifying, preventing and controlling them.

- Promotion of food supply and proper nutrition.
- Adequate safe water supply and basic sanitation.
- Mother and child health services including family planning.
- Immunization against major infectious diseases.
- Prevention and control of locally endemic diseases.
- Appropriate treatment of common diseases and injuries.
- Provision of essential drugs.

India was a significant contributor and signatory to the World Health Assembly (WHA), 1977 and the Alma Ata Declaration of 1978. The concept of comprehensive health care had already been articulated in India through the Bhore Committee Report, in 1946, a document which formed the early basis for India’s health planning. Primary health centres had been initiated since 1952. The National TB programme, 1962, had the seeds of the primary health care approach. The Shrivastava Committee report 1974, made links between education and training of socially oriented doctors, all grades of health personnel and community health needs. A national scheme for Village Health Workers was launched in 1977. Post Alma Ata, in 1981, the Indian Council for Social Science Research and the Indian Council for Medical Research brought out a publication “Health for All”. The National Health Policy based on principles of primary health care was tabled in 1982 and passed by Parliament in 1983. It is still the operating policy statement as of now. State governments, including Karnataka, accepted the Health for All (HFA) goals and Primary Health Care (PHC) strategies. **The Ninth Plan document of the Government of India committed itself to the goal of “Health for all, particularly for the underprivileged”**.

However statements and public commitments are at risk of becoming rhetorical. They need to be followed by action, resource flows, systems for accountability and measurement of outcomes and impacts. Analysis reveals declining state expenditures on nutrition and lack of responsibility and accountability for nutrition by the DHFW. Intersectoral work to ensure potability of water and provision of sanitation facilities is on going since the early 1990s, but coverage is incomplete. Date reveals the high, continuing preventable burden of water related diseases. State health expenditure is stagnant and below norms. A large proportion of primary health centres continue to function sub-optimally. Coverage and quality of basic antenatal care and immunization continues to be low in Category C districts. Diseases like TB continue to take a heavy toll with government health services providing complete treatment or cure to only 8-16% of expected sputum positive pulmonary TB patients. School health services are of poor quality and have limited coverage. Community mental health care programmes at district level have not been taken up seriously, though the epidemiological burden has been well documented. The
essential drugs concept is not practiced in spirit. Health education and promotion receive little interest and is too focused on Family Welfare. The public lack of confidence in public health services. Public health and primary health care have been neglected and distorted and that planned, systematic efforts are required to revive and institutionalize public practice into the Directorate of Health and Family Welfare Services.

**Recommendations**

- All the staff of the Department of Health and Family Welfare Services must appreciate the importance of Public Health and the synergy between primary health care and public health. This will be reinforced through in-service orientation programme and short training programmes for all health personnel.
- The Public Health Institute will be upgraded to be a nodal centre for all laboratory services and research. It will be headed by the Additional Director of Communicable diseases.