

## 1.1 Overview of Health

### 1.1.1 Definition of Health

Every person wishes to live and to live well, to maintain his or her command over his or her capability and to see his or her loved ones free from disease, disability or premature death (Fuchs, 1966). Individual also desires an improvement of his health status and greater access to healthcare services (Lee and Mills, 1983). Thus, good health is one of the most precious assets of human life and is measured by degree of ill health (Fuchs, 1966; Adler and Ostrove, 1999; Mackenbach et al., 2008). However, health is defined as a "State of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity" (World Health Organisation, 1946). This means that healthy person should not suffer from any kind of disease or impairment and he or she can establish balance between and within himself or herself with the social and physical environment. But the definition has been criticised, particularly on the ground of operational value. Many other definitions are also worth noting here. Bircher (2005) defined health as "a dynamic state of well-being characterised by a physical and mental potential, which satisfies the demands of life commensurate with age, culture, and personal responsibility". Bircher's definition largely emphasised on changing health needs. But Sarrachi (1997) provided an intermediate concept, linking to World Health Organisation's (WHO) ideal definition to contemporary issues. According to Sarrachi (1997), health is "a condition of well being, free of disease or infirmity, and a basic and universal human right". Further, the concern is extended to community levels well-being too. For example, the Aboriginal Health and Medical Research Council of New South Wales (1999), maintains that, "Aboriginal health means not just the physical well-being of an individual, but refers to the social, emotional and cultural well-being of the whole community in which each individual is able to achieve their full potential as a human being thereby bringing about the total well-being of their Community." Medical dictionary encompasses health as a relative state in which one is able to function well physically,

mentally, socially, and spiritually, in order to express the full range of one's unique potentialities within the environment in which one is living. Therefore, one can say that, health is one of the fundamental rights of every human being irrespective of race, religion, political belief and economic or social condition (Goodman, 1952) and is an essential ingredient of human welfare (Mushkin, 1962).

### 1.1.2 Significance of Good Health in Economic Development

In recent decades, modern economists have pointed out that several third-world countries remained underdeveloped because of underdevelopment of human resources. Human resource development is intricately related to the process of economic development. Human development is an attempt to conceptually go beyond per capita income as an operational measure of economic development. Therefore, economic development remains a far cry without human development of the country and human development is only possible when everybody enjoys good health. Good health improves the labour productivity, yields a return throughout the year and increases the welfare or utility. It implies that good health helps in creating the quality of human capital and thereby improves the human development as well as economic development of a nation. Health is one of the vital constituents of human development for an economy (Hati and Majumdar, 2013). Thus, good health contributes to the productive capacity of the economy by increasing the supply of potential man-hours through a reduction in mortality, morbidity as well as disability, and brings changes in the attitudes of the people towards work, savings, birth control and other aspects (Fuchs, 1966). Hence, “the promotion and protection of the health of the people is essential to sustain economic and social development and contributes to a better quality of life and to world peace” (UNICEF, 1978). Along with the health, nutritional aspect is also important in making productive human capital, as it provides greater stamina, physical and mental health, and higher resistance to illness (Ray, 2003). Further, under-nutrition leads to an increase in exposure to illness and infection, particularly, among children; decrease in immunity to disease and capacity to do productive work among adults; breakdown of the body via illness, debility or death (Ray, 2003). It has long been proved that improved health not only helps in increasing labour productivity, educational attainment and investment, but also facilitates

demographic transition and reduces healthcare burdens on families and governments. Moreover, it frees capital for investment in productive activities rather than on illness and thereby, leads to economic development of the country. In that sense, health is an investment (Mushkin, 1962). Recognising this fact, the World Bank (World Development Report, 1993) stated that “Improved health contributes to economic growth in four ways: it reduces production losses caused by worker illness; it permits the natural resources that had been totally or nearly inaccessible because of disease; it increases the enrolment of children in schools and makes them better able to learn; and it frees for alternative uses of resource that would otherwise have to be spent on treating illness”. According to First Five Year Plan document, “Health is fundamental to national progress in any sphere. In terms of resources for economic development nothing can be considered of higher importance than the health of the people. For the efficiency of industry and agriculture, the health of the worker is an essential consideration. Health is a positive state of well-being in which the harmonious development of physical and mental capabilities of the individual lead to the enjoyment of a rich and a full life. It is not a negative state of mere absence of disease” (Planning Commission, Government of India, 1951-1956). Thus, it is recommended that healthcare services should be distributed for the interest of the patients and communities regardless of costs (Lee and Mills, 1983). The distribution should be based on ‘need’ rather than on ‘individual demand’ (Fuchs, 1966); based on ‘medical need’, not on the ‘economic status’ (Lindsay, 1969; Prinja et al., 2012).

### 1.1.3 Health and Healthcare

Existing literatures categorically distinguished between health and healthcare. McGuire et al. (1988) argued that healthcare is demanded because people desire an improvement in health status to enjoy the all the production and consumption activities. Therefore, the demand for healthcare services is a derived demand and it is consumed especially because of its relationship with health. Again, demand for health is derived from demand for utility in terms of healthy days, leisure and work, etc. (Grossman, 1972a). It is, further, argued that in reality, market for health does not exist, because health has value in use but not in exchange. On the other hand, healthcare has its own market value and it is tradable (McGuire et al., 1988). But, Sodani (1997)

argued that there is no exact relationship between health status and healthcare, as the core definition of health is not widely accepted. However, complex theoretical debate exists regarding the presence and nature of the demand for healthcare. Supply and demand for healthcare services do not interact in the conventional manner. Mills (1983) argued that in the healthcare sectors, consumers are often unaware about the need, type and quantity of healthcare services they require; therefore, patient's preferences for healthcare is irrelevant; doctors play there as suppliers of medical care and have significant influence on consumption or on demand for healthcare products or services. Therefore, one can argue that consumers cannot reveal their preferences for healthcare services. Very recently, Feldstein (2013) viewed that 'preferences differ and preferences matter' in choosing the healthcare services. While Grossman (1972) claimed that individuals are the consumers as well as the as the sole producer of healthcare, other argues that every family member is a producers of his own health as well as the health of other family members(Jacobson, 2000). However, Arrow (1963) argued that heath has many casual factors, but medical care has only one provision, which centres about the physician, private and group practice, hospitals, and public health only. In the healthcare market, 'agency relationship' does exist, whereby the doctor acts as an agent on behalf of and in the interest of the patient. He may supply the information regarding existing health status, availability and effectiveness of treatments etc. This information may not always increase the knowledge as well as influence the demand of the consumer. Further, individual's demand for medical service is irregular and unpredictable. Considering the uncertainty and information gaps, demand for healthcare needs to be carefully analysed. However, Culyer (1971) made an attempted to find the difference between healthcare as commodity and other commodities. He argued that demand for healthcare is fundamentally different from other goods and services in a number of ways. It has some exceptional characteristics which make it difficult in defining the optimisation of welfare in open markets. They are the following: (i) many consumers do not desire treatment though they are sick, may even ignore their sickness; (ii) mentally sick person may be physically fit, does not demand for treatment; (iii) in emergency, patients can not reveal their preferences; (iv) patients cannot always calculate the costs of their treatment;(v) patients are frequently ignorant about the quality of care;(vi) fair insurance is not always available; (v)moral hazard prevents patients an optimal insurance pricing etc. Further, need for healthcare is of normative nature. One can argue that healthcare may be (normatively) 'needed' but not 'demanded' (e.g. early treatment for

hypertension); it may be ‘demanded’ but not (normatively) ‘needed’ (e.g. cosmetic surgery). It can be argued that healthcare has supply-induced demand, meaning consumption of healthcare primarily depends on the information provided by the supplier, not on the patients’ own preferences.

#### 1.1.4 Determinants of Healthcare in Developing Countries

Generally, health status is determined by certain key indicators such as Infant Mortality Rate (IMR), Child Mortality Rate (CMR), Neonatal Mortality Rate (NMR), Maternal Mortality Ratio (MMR), Crude Birth Rate (CBR), Crude Death Rate (CDR), Total Fertility Rate (TFR) and others. However, disease pattern of developed countries is quite different from that of the developing countries. A critical review of the economics of health in developing countries by Lee and Mills (1983) opens a new avenue of health research in these countries. It finds that majority of the developing countries, experience similar mortality and morbidity patterns (or disease patterns) due to the presence of some common problems such as rapid population growth, high population density, poor housing, lack of access to safe water, inadequate sanitation, poor quality health services, poor nutrition, rapid urbanisation and others. The common health problems among the children are infectious and parasitic diseases, such as diarrhoea, intestinal parasitic diseases etc. Respiratory diseases, like tuberculosis and pneumonia, and other airborne diseases like measles are also the cause of mortality and morbidity among all ages in these countries (Lee and Mills, 1983). Determinant of health is a holistic process and is dependent on other factors such as poverty, illiteracy, housing conditions, water supply, use of fuels, nature of employment, educational levels, nutritional status among childhood and pregnancy, sanitation, hygiene and others. All these factors have direct or indirect effect on health status of the people. Kelly (2007) argues that measuring social determinants of health and illness and health inequities is a complex process. Social determinants approach is relevant in studying the health status of developing countries. Study shows that health indicators have direct link with the socio-economic status of women (Mukhopadhyay, 2011). In addition, education, employment, housing, and environment are also significant determinants of healthcare (CSDH, 2007).

### 1.1.5 Healthcare and Economic Development

Whether pattern of economic development affects health status or levels of health status affects economic development, has been a debatable issue among the economists across the globe. Development affects health in a complex way. Changes in economic structure do not always conform to change in health status of the people (Cumper, 1983). Oil exporting countries experience adverse health indicators though per capita national incomes are comparatively higher than other countries (Preston, 1975). Similarly, Kerala in India, despite having higher socio-economic condition compared to other states, reports high levelsof morbidity (Alter and Riley,1989; NSSO, 1992; NSSO and NCAER, 1998) and the other problems such as higher suicide rates, more death form road accidents, old age diseases etc. (Rajan and Aliyar, 2011). On the other hand, people of Island nations and Sri Lanka enjoy higher levels of health status, despite having low levels of income (Cumper, 1982). Economic growth may sometimes also bring some unknown diseases through unhealthy lifestyles and environment damages (Varatharajan, 2011). However, health status of the people can be improved by providing better healthcare services and also through other social inputs like education, nutrition, water supply, sanitation etc. (Cumper, 1982). Countries like Thailand and post-reform China have achieved economic development as well as human development due to improvement of ‘social’ variables such as health and education (Dreze and Sen, 1998). Moreover, chronic diseases can have direct effect on the health and productivity of the people as well as on the country’s economic progress (Upadhyay, 2012).With economic development, demographic conditions and pattern of mortality and morbidity (disease pattern) also change as seen in the case of countries such as South Africa, Vietnam, India and Ghana, which are experiencing a double burden of disease, where both the infectious diseases and emerging chronic non-communicable diseases prevail among the people (Quigley, 2006; Gersh et al., 2010; Boutayeb, 2006). But most of the developing countries including Indian healthcare delivery system, fail to provide an adequately functional public health infrastructure for prevention of disease in all communities across the country, though technologically advanced medical care is available for the urban upper socio-economic groups (Reddy, 2006; John and Muliyl, 2009).

### 1.1.6 Theoretical Perspective of Health Economics

Research on health and healthcare services is not restricted to health professionals only, it has become a wide spread topic of interest among the anthropologists, demographers, medical professionals, policy makers, social scientists and economists. Economists began to turn their attention to the matters concerning the efficient allocation of resources devoted to preventing, curing, and alleviating ill health towards the end of 1950s (Culyer, 1971). Work of Fuch (1966) shows how economics can be applied to healthcare industry. Empirical research regarding supply-side economics of healthcare and mixed demand-supply framework of healthcare economics began with the work of Feldstein (1967a, 1967b). Keeping economics out of health or health out of economics have presently become impossible. Economics can be applied to a broad spectrum of healthcare issues at both individual (micro) and population (macro) levels (Lee and Mills, 1983). Further, health economics has broad theoretical and practical areas such as demand for and supply of healthcare services, micro-economic and macro-economic healthcare evaluations, market equilibrium for healthcare services, planning, budgeting and monitoring of healthcare services etc. Health economics has emerged as a new sub discipline of economics from the early 1960s. Health economics is comprised both of economic theory and applied economics (Lee and Mills, 1983). It focuses on the subject areas such as ‘allocation of resources between various health promoting activities; quantity of health resources; organization and funding of health service institutions; the efficiency with which resources are allocated and used for health purposes; and rehabilitative health services on individuals and society’ (Lee and Mills, 1979). However, Arrow (1963) argues that medical care is a subject area of normative economics, particularly, the area of welfare economics and problems of which can be explained by the existence of uncertainty in the incidence of disease and the efficiency of treatment. However, considering the political and institutional constraints, economic analysis can be effectively incorporated into policy making and planning of health sector of the developing countries (Lee and Mills, 1983; Bansal et al., 1987). But the body of knowledge of this sub-discipline is comparatively small (Sodani, 1997). Economists view the healthcare related issues in a socio-economic context (Cumper, 1983). Therefore, epidemiology and health economics opens a new research avenue linking economics and the healthcare delivery system of the

country (Reddy, 2009; Majumder, 2014). Economists are also concerned with impact of high costs of healthcare imposed on the government, patient, patient's family and relatives, the local community, as well as on the other agencies (Lee and Mills, 1983).

### 1.1.7 Relevance of Health Economics in developing countries

Health economics is attractive to the poor countries as it deals with the allocation of health resources, identification of more cost effective technologies to reduce waste and increase efficiency (Kleczkowski and Nilsson 1984). Various literatures (WHO, 1975; Griffiths and Bankowski, 1980; Lee and Mills, 1983) acknowledge the application of health economics to the circumstances of developing countries. Though recently, in India few studies (Murray, 1998; Duriasamy, 1998; Majumder, 2006a, 2014; Ghosh and Arokisamy, 2010; Ghosh, 2011, 2015; Bloom et al., 2013; lee et al., 2015, Brinda et al., 2015) made attempts on healthcare related issues, but their numbers are less compared to developed countries. Most of the health level measurements in developed countries took the negative approaches, considering indicators like mortality, morbidity, disability, etc. The most widely used indicator is mortality rate, either age specific or age-adjusted because the death related data are readily available in considerable detail in these countries (Fuchs, 1966). But, in many developing countries including India, the majority of deaths occur at home, and consequently, accurate information on cause-specific mortality is scarce, and the verbal autopsy data are not always completely reliable (Joshi et al., 2006; Duriasamy, 1998). Therefore, recently, much attention is paid to morbidity over mortality indicators to get a true picture of health status and personal wellbeing of the community as a whole (Murray, 1998; Duriasamy 1998; Dilip, 2002; Ghosh and Arokisamy, 2010; Majumder, 2014). Moreover, morbidity measurement can be done in a more cost effective way than mortality measurement (Dilip, 2001). Another argument is that the demand for healthcare is driven primarily by demographic changes and changes in epidemiological profile. This change results in wide variation of morbidity rates between the countries, between the different states, between the regions and between the localities etc. However, epidemiological profile of the people is changing across the globe and India is no exception to it either. Rapid urbanisation, environmental degradation, malnutrition, un-healthy lifestyles and changing food habits and other factors may be the probable reasons for this (Mensah et al., 2010; Nongkynrih et al., 2004).



Therefore, to make a proper planning of healthcare services for a community, economics of health, as a discipline, becomes important.

### 1.1.8 Theoretical Models of Healthcare Services

A number of theoretical models describing health and healthcare service related issues have been proposed from different disciplines. Econometric model concerning behavioural relations linking government policy to the overall availability and use of healthcare services was proposed by Feldstein (1967). However, individual health seeking behaviour considering the broader social and cultural aspects in a variety of low- and middle-income countries can better be understood by the Grossman model of demand for health (Grossman, 1972). Model views that healthcare is a derived demand, because healthcare service is demanded as people desire good health status all over the time (Grossman, 1972). Further, to improve the health status and to reduce the morbidity as well as the risk of mortality of the people, increase of utilisation of healthcare services is necessary (Grossman, 1972). Later on, Acton (1975) and Christianson (1976) point out the health seeking decisions regarding the choice of different alternative treatment (allopathy, homeopathy, ayurveda etc.) and sources of healthcare services (public, private or else). Further, Andersen's (1995) behavioural model finds the direct relationship between health seeking behaviour and health outcomes of the individuals (Andersen, 1968, 1995). But, the revised model incorporates the type and frequency of healthcare service utilisation according to the population and the health services characteristics (Andersen, 1995; Andersen and Newman, 2005). On the other hand, expenditure model views the measurement of the per capita consumption of 'medical care' considering price and income as explanatory variables (Lindsay, 1969). Another popular model "epidemiological transition model" (Omran, 1971) focuses on the "complex change in patterns of health and disease and on the interactions between these patterns and their demographic, economic and sociologic determinants and consequences" in a variety of social contexts. It shows how causes of mortality and patterns of morbidity changes with the socio-economic development and modernisation of the country. Further, model describes during transition, a long-term shift occurs in mortality and disease patterns whereby pandemics of acute infectious diseases are gradually displaced by chronic, non-infectious, degenerative and man-made diseases

which emerge as the major form of morbidity and leading cause of death. The model is used in assessing the burden of disease of the country or the world and projecting the future health needs, although the model has been criticised on many grounds by different studies in different settings (Frenk et al., 1989; Kirk, 1996; Barret et al., 1998; Mensah and Aikins ,2010; Weisz and Gryn, 2010; Gersh et al., 2010; Harper and Armelagos, 2010). With this line, Grosse (1980) introduced an interdisciplinary model that covers the mortality and morbidity patterns of different age-groups from different diseases, their effects on healthcare and other social inputs like sanitation and nutrition, and costs of the services etc. These models provide an insight into the individual's decision to utilise healthcare, but empirical support of these models is rare or limited.

## **1.2 Statement of the problem**

Despite several changes in economic policy, importance of 'social' variables, such as education and health always remain out of the main focus and this leads to a limited success of Indian development efforts over the last half a century (Dreze and Sen, 1998). In spite of being the fifth largest economy in the 21st century, India lacks an equitable distribution of economic and health-related benefits (John et al., 2011). Indian healthcare system is based more on treatment than prevention and it lacks the capacity to deal with the healthcare needs of its people. Further, Indian healthcare system is mainly focused on technologically advanced medical care for the urban upper class people, but it fails to provide an adequately functional public healthcare infrastructure for prevention of all types of diseases across the country (Reddy, 2006; John and Muliyl, 2009). Improvement and expansion of existing public health infrastructure is needed to reduce the risk of morbidity and mortality of the people of every part of the country.

Though targets of health-related Millennium Development Goals (MDG, 2011) of the United Nations were for 'a two-thirds reduction in child mortality, a three-quarters reduction in maternal mortality, and a halt to the spread of HIV or AIDS, malaria and tuberculosis, with the most of the regions of third world countries, India is unlikely to achieve those specific goals by the year 2015' (Bryce et al., 2006). Globally, 37 out of 143 low- and middle income countries will reach that target by 2015 if this pace of progress is maintained during the period 2005–2010 (World

Health Statistics, 2012). Currently, India is far away from those targets of MDGs (Hati and Majumdar, 2011). In addition, Human Development Report, 2016 shows that India ranks 131<sup>st</sup> out of 188 countries with Human Development Index at 0.624 and national average for the country stands at 0.467 as on March, 2014 (IAMR, Planning Commission, Government of India, 2014). Apart from these, 'India ranks fifth in the world's share of diseases; third in diarrhoea, TB, respiratory, and other infections and parasitic diseases, peri-natal conditions; fifth in nutritional deficiencies, diabetes, cardio vascular diseases; a quarter of maternal ill-health and second largest number of HIV/AIDS cases after South Africa' (World Health Report, 2011). Recent studies show that India is passing through the phase of demographic as well as epidemiological transitions along with other parts of the world (Reddy, 2005; Varatharajan, 2011; Bloom et al., 2013). Further, morbidity pattern of India is changing and the country is having very high levels of morbidity prevalence rate with sizeable inter-state differences (Ghosh and Arokisamy, 2010). This morbidity pattern varies between the countries, within the country, between the regions and communities (Duriasamy, 1998).

It is well-known that mortality and morbidity rates are generally used to measure the health status of population. However, low levels of mortality do not always confirm to improved health status and well-being of the people. In many cases, it is observed that though mortality rate is low, the region has considerable burden of disease. Alter and Riley (1989) show that though age specific mortality rate is declined in developed countries, incidence and prevalence of diseases increase with the development of socio-economic conditions of the people of the country. Another notable work by Dilip (2001) shows that despite having low levels of mortality, Kerala was experiencing higher levels of morbidity and it was even higher than other states of India (NSSO, 1992). Murray et al. (1996) showed that despite having lowest infant and child mortality rate in the State of Kerala in India, reported incidences of morbidity has been the highest in the Country. Further, mortality rates, sometimes, can provide misleading picture of the health status of the people and moreover, morbidity measurement can be done in a cost effective way in comparison to mortality measurement (Dilip, 2001). While India has achieved significant gains in life expectancy and reduction in infant mortality rate (IMR), child mortality rate, maternal mortality rate (MMR) and other mortality rates, over the last few decades, morbidity still draws our attention. Thus, much attention is paid to morbidity indicators over mortality indicators to get true picture of health status at individual or population levels and personal wellbeing of the

community as a whole (Murray, 1998; Duriasamy, 1998; Dilip, 2002; Majumder, 2006b, 2014; Ghosh and Arokiasamy, 2010; Sharma et al., 2013).

Though National Health Policy (GOI, 2002) was developed to meet the basic needs of the citizens of the country for physical and mental health through providing equal access to healthcare facility on the basis of need, at free of cost at the point of access, India is still experiencing high level of morbidity especially among the infants, children, women and the elderly in rural as well as in urban areas, and many parts of the country are passing through an epidemiological transition (Quigley, 2006). Currently, with the many developing countries, India has the double burden of diseases (Boutayeb, 2006) i.e., infectious diseases prevail among the economically vulnerable group of people and non-communicable diseases are among the upper class of society. Annual Report of the Ministry of Health and Family Welfare (Government of India, 2011), reveals that communicable diseases, maternal, peri-natal and nutritional disorders etc. caused overall 38 percent deaths. On the other hand, non-communicable diseases caused overall 42 percent deaths and injuries and ill-defined diseases constituted about 10 per cent deaths in the country. Thus, different morbidity as well as mortality pattern exists in the rural and urban areas of the country.

Keeping with the goals declared in Millennium Development Goals (MDG, 2011) of the United Nations, National Health Policy, 2002 and National Rural Health Mission (2005-2012), Government of West Bengal adopted a health sector strategy (2004-2013) to improve the health status for all the people, especially the poorest and those are in the greatest need. The objectives are : (a) to improve the accessibility of the poor, the un-reached groups to curative, preventive, promotive and rehabilitative health services, (b) to reduce maternal and child mortality and the burden of communicable, non-communicable and nutrition related disorder, and (c) to ensure quality at all levels of healthcare services and others. Further, through this strategy, Department of Health and Family Welfare, Government of West Bengal, set out its own plan to improve the health status of the people of West Bengal as well as to improve the effectiveness of the health service delivery system. But, Annual Administrative Report, 2010-2011 (Health and Family Welfare Department, Government of West Bengal) states that in West Bengal, during 2004, reduction of diarrhoea and malaria mortality was 54 percent and 60 percent respectively. In Darjeeling district, during 2009 malaria case detected and death reported was 90,171 and 35 respectively, whereas malaria cases reduced to 65304 and reported death reduced to 24 in 2010.

During 2010, case fatality rate of enteric fever came down to 0.05percent in 2010 from 0.06percent in 2009. On the other hand, incidence of pneumonia and diarrhoea case increased but number of reported deaths decreased in 2010 compared to the year 2009. Despite the innovation in biopharmaceutical technology, dengue still is a problem in urban and rural areas in India (Nongkynrih et al., 2004). The recent outbreak of Dengue in Siliguri and its adjoining area is an example right at hand. Malaria is endemic in Darjeeling district (Sharma et al., 2009). In a study by (Hati and Majumdar, 2011) opined that due to high population density across the districts of West Bengal , existing health infrastructure fails to meet the demand for healthcare facilities and thereby reduces the health service quality and increases the risk of mortality and morbidity in the state.

This burden of diseases and its pattern truly affect the use of healthcare facilities. In India, utilisation of healthcare facilities varies significantly across states and regions (Hati and Majumdar, 2011). Utilisation of public healthcare facilities is considerably higher among the economically disadvantaged segments of the society than the others (Majumder, 2006c; Saksena et al., 2010). Studies reveal that in rural areas mostly people depend on public health centres for immunisation, vaccinations or peri-natal and post-natal care, delivery of child etc., but for the treatment of major diseases or chronic illness, they move to private hospitals or clinics (Ray et al., 2011; Sundar, 1995; Kumar et al., 2011). Further, National Sample Survey Organisation reveals that 78 percent of the rural and 81percent of the urban patients are availing private non-institutional facilities and 58 percent of the rural and 62 percent of urban patients are going to private hospitals (NSSO, 2004). Thus, private sector has emerged as the leading source of both institutional and non-institutional healthcare services in rural and urban areas in India. This result in high out-of- pocket healthcare expenditure (OOPHE) and a greater financial burden on low income groups (Xu et al., 2007).

When an economically disadvantaged person gets affected by any disease or injury, the entire family falls in a vicious circle of low income trap which may compel distressed to loss of job, loss of income, sale or mortgage of assets, borrowing capital assets leading to bankrupt (Dilip and Duggal, 2002). Study finds that the proportion of household income spent on healthcare services is higher among the low-income groups than in higher income groups and expenditure on ill health is the major reason for loss of economic welfare of the people of Asia (Krishna et

al., 2006). An estimate of 11 countries in Asia on the effect of healthcare expenditure shows that during 1999-2000, OOPHE resulted into an impoverishment of about 32.5 million people amounting to 3.2 per cent increase in overall poverty head-count (Doorslaer et al., 2006). Thus, burden of diseases has direct effect on healthcare services and healthcare expenditures of the people (Taylor, 2010).

The report of WHO (2000) shows that in India, OOPHE as a percent of total expenditure on health amounts to 84.6 percent. Later, the WHO's World Health Statistics 2012, states that during 2009, about 60 percent of total healthcare expenditure paid by the common man from his own pocket in India. Moreover, out-of-pocket healthcare expenditure (percent of private expenditure on health) in India was 86.35 percent in 2010 (World Bank Report, 2012). Across the Five-Year Plan periods expenditure on health in India has been fluctuating around 5 to 6 percent of the total Gross Domestic Product (GDP), out of which public expenditure and private expenditure constitute only 13 percent and 87 percent respectively (Gupte et al., 2001). World Development Report, 2004 states that, while India's public healthcare expenditure as a percentage of GDP is low compared to many other developing countries, private expenditure on health is relatively quite high. The point is not clear why Government of India is diminishing its role on healthcare services and compelling the masses to high OOPHE although per capita GDP is much lower than that of developed nations and considerable burden of diseases prevails in the country.

Against this backdrop, the present study makes an attempt to be familiar with epidemiological profile or disease burden and its effects on utilisation of healthcare services and associated out-of-pocket healthcare expenditure incurred by the people of Siliguri Municipal Corporation Area (SMCA). Also the problem calls for an in-depth analysis and it is very much relevant as the study on this issue has been rare or very limited for the area concerned. The study also identifies the sources of healthcare services people utilise to receive treatment during their illness episodes. Further, the study tries to examine how morbidity pattern and health seeking behaviour of the people living in that concerned region vary as their demographic and socio-economic characteristics vary. The study also suggests some feasible solutions to make the healthcare services available, accessible and affordable to all the people living in the region, which will help improve the health status and reduce productivity loss, reduce healthcare burden

on families as well as on government, since, provision of adequate health facilities results in healthy human resource which will further contribute to the economic development of the country.

### **1.3 Justification of carrying out the research in this region**

West Bengal has total six corporation cities. Siliguri Municipal Corporation is one of them. It comprises of 47 wards. Out of them, 33 wards are under the jurisdiction of Darjeeling district and others 14 wards are under the jurisdiction of Jalpaiguri district. The city is situated at the foothills of the Himalaya Mountains. The area is surrounded by the sub-Himalayan ranges of Darjeeling district on the north, by Bangladesh, Uttar Dinajpur and Bihar on the south, by Jalpaiguri district on the east, and by Nepal on the west. It is the gateway to Bangladesh, Nepal and Bhutan, as well as the north-eastern states and Sikkim. Siliguri Municipal Corporation has geographical area of 41.9 sq. km and lies between the latitude  $26^{\circ} 42' N$  and longitude  $88^{\circ} 25' E$ . The area showcases multi-cultural diversity and has a multi-lingual presentation. In addition, the city is characterised by rapid population growth, cosmopolitan culture, surrounding tea gardens, strategic location for business and communication with the north-eastern part of the country including Sikkim and the bordering nations such as Nepal, Bhutan and Bangladesh etc. As the city is the gateway to some famous hill stations and nearby wild forests at Dooars, huge numbers of domestic as well as foreign tourists arrive at the place every day. Further, being a border area of the countries like Bangladesh, Nepal, Bhutan, and other neighbouring states such as Assam, Bihar and Sikkim many people come to the city for different purposes such as business, treatment, education, sports, entertainment etc. It is also the commercial hub for most of the districts of North Bengal and Sikkim. Also, the area experiences massive crowd among the job seekers coming from surrounding areas, neighbouring states and countries. In addition, development of road and communication and a large number of readymade markets for consumer goods in the city attract people from surrounding areas to fulfil their daily needs. Therefore, the city experiences huge population movement every day and people living in this area are vulnerable to different types of diseases. On the other hand, due to the rapid development and attraction of the urban infrastructure of the city many people from the

surrounding areas come for job in informal sectors, petty trading, hawking etc. This has resulted into an increase in urban slums in and around SMCA. Further, this leads to an inevitable shortage of water supply, sanitation, housing and other facilities including healthcare services in the city. There are only one district hospital in SMCA and one medical college and hospital in its adjoining area, which play vital role in delivering public health facilities to the people living in SMCA. Besides these, a large number of patients are referred to these healthcare facilities from the surrounding rural and hill areas due to lack of infrastructure at sources. Further, though tea gardens in its adjoining area have their exclusive healthcare facilities, they also directly or indirectly depend on the city for treatment. It makes the existing public, private and other healthcare facilities overburdened and unhygienic. In addition, in this particular study area, there is no any structural guideline of healthcare institution as exists in the rural areas of the country under the aegis of National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM). Thus, particularly, existing public healthcare infrastructure is not capable of meeting the growing needs for healthcare facilities of the people living in the area and thereby reduces the health service quality and increases the risk of mortality and morbidity. However, majority of the studies on the impact of burden of disease on health seeking behaviour or utilisation of healthcare services (such as pattern of healthcare service use, choice of system of medicines and utilisation of sources of care) and on out-of-pocket healthcare expenditure of the people carried out in different settings of India separately, but the study focusing on the combined effect of burden of disease on utilisation of healthcare services and on out-of-pocket healthcare expenditure of the people of this particular area is limited or rare. Therefore, present study becomes relevant as the study covers both the effect of burden of disease on utilisation of healthcare services and on out-of-pocket healthcare expenditure of the people of SMCA.



## 1.4 Objectives of the study

The broad objectives of the study include the following:

- I. To examine of the epidemiological profile of people revealing incidence and prevalence rates of illness and disability in Siliguri Municipal Corporation Area (SMCA).
- II. To study the pattern of utilisation of healthcare facilities according to type of care (traditional or modern), source of care (public, private or else), type of visit or nature of utilisation (IPD or OPD) and system of medicine.
- III. To examine the impact of burden of disease on utilisation of healthcare services considering the demographic and socio-economic characteristics of the people of SMCA.
- IV. To study the out-of-pocket healthcare expenditure (OOPHE) and other related costs borne by the households.
- V. To examine the impact of burden of disease on OOPHE incurred by the households.
- VI. To examine the relationship of OOPHE with preference of care and other dimensions of health seeking behaviour of people living in the study area.

## 1.5 Research Questions

Considering the background as stated above, present study was attempted to seek the answers of the following research questions regarding the disease burden, utilisation of healthcare services and healthcare expenditure from own resources incurred by the households in the context of the study area (i.e. SMCA) during the reference period of twelve months (i.e. one year) preceding the study carried out:

- a. What is the epidemiological profile of the people of Siliguri Municipal Corporation Area (SMCA)?

- b. Does the burden of disease (indicated by category of disease, nature of disease, number of days of suffering and severity of disease) vary according to demographic and socio-economic characteristics of the people of SMCA?
- c. What are the incidence and prevalence rates of diseases in SMCA?
- d. What is the percentage of disability among the people of SMCA?
- e. What is the extent of functional disability among the people of SMCA?
- f. What is the healthcare service utilisation rate in SMCA?
- g. Is there any gap between morbidity prevalence rate and healthcare service utilisation rate?
- h. How does utilisation of healthcare services change according to demographic and socio-economic characteristics of the people of SMCA?
- i. How does the disease burden affect the utilisation of healthcare services (such as pattern of care, system of medicine and source of care) in the concerned area?
- j. What are the sources of healthcare facilities people accessed during their illness episodes, whether government, private or other charitable organisations?
- k. How much money households do spend on the health or on treatment from their own pockets?
- l. How does out-of-pocket healthcare expenditure change according to change in disease burden and health seeking behaviour of the people of SMCA?
- m. What is the relationship between out-of-pocket healthcare expenditure and utilisation of healthcare services?

## 1.6 Research Hypotheses

1. Utilisation of healthcare facilities significantly differs according to the category of diseases in SMCA.
2. Utilisation of healthcare facilities significantly differs in accordance with the severity of diseases in SMCA.

3. Choice of a system of medicine significantly differs according to the category of diseases in SMCA.
4. Choice of a type of healthcare significantly differs according to the category of diseases in SMCA.
5. Out-of-pocket healthcare expenditure significantly varies according to the category of diseases in SMCA.
6. Out-of-pocket healthcare expenditure significantly varies in accordance with the duration of illness episodes in SMCA.
7. Out-of-pocket healthcare expenditure significantly varies according to the nature of diseases in SMCA.

## 1.7 Chapterisation

The study includes the following chapters.

**Chapter-1: Introduction:** This chapter includes the introduction from a development perspective, different areas of health and other interrelated issues, statement of the problem, study region - justification of carrying out this research study in this region, objectives of the study, research questions, research hypotheses, chapterisation - broad overview of chapters.

**Chapter-2: Review of Literature:** In this chapter, review of the earlier works related to this issue, research gaps and scope for further research have been made in detail.

**Chapter-3: Research Design and Methodology:** This chapter covers entire research design and methods including selection of the study area, sources of data, sampling frame and procedure, tools and techniques data collection and questionnaire, methods of analysing data, description of the models etc.

**Chapter-4: Study Area and the Population:** This chapter describes study area with different background characteristics of the sampled population.

**Chapter-5: Epidemiological Profile of Siliguri Municipal Corporation Area ( SMCA):** This chapter describes the incidence and prevalence of illness and disability as well as morbidity

pattern according to modalities of Global Burden of Disease Study in the light of socio-economic and demographic background of the respondents in the study area.

**Chapter-6: Utilisation of Healthcare Services and Out-of-pocket Healthcare Expenditure in Siliguri Municipal Corporation Area (SMCA):** This chapter describes the pattern of utilisation of healthcare according to the pattern of socio-economic, demographic background and morbidity prevalence. This section also covers the study of out-of-pocket healthcare expenditure per illness episode according to the sources of treatment and system of medicine and other related issues in detail.

**Chapter-7: Impact of Burden of Disease on Utilisation of Healthcare Services and on Out-of-pocket Healthcare Expenditure of the People of Siliguri Municipal Corporation Area (SMCA):** This chapter deals with the econometric analysis of the impact of disease burden on the utilisation of healthcare facilities and on out-of-pocket healthcare expenditure incurred per illness episode by the people of Siliguri Municipal Corporation Area using the primary data collected through field survey in the study area.

**Chapter-8: Summary of Findings, Conclusions and Suggestions:** This chapter summarises the findings of the study on different dimensions of morbidity pattern, utilisation of healthcare services and out-of-pocket healthcare expenditure incurred by the people of Siliguri Municipal Corporation Area, draws general inferences of the basic research questions and gives necessary suggestions to the policy makers and other concerned authorities for the improvement of health status and personal well-being of the people of that particular study area.