Chapter 1

Introduction

1.1 Health and the derived demand for healthcare

Demand for healthcare is a derived demand, derived from a demand for health, i.e., the desire to have good health to participate in work and leisure. Health is determined by many factors, among which medical care is one. Other factors include social class, work environment, employment status, income, housing conditions, education, diet, lifestyle, and so forth. The association between socioeconomic and physical health status and the socioeconomic differential in morbidity has been well established (Williams, 1990). Since health is determined by both medical and non-medical factors, the demand for health can be linked to the medical and non-medical factors such as employment and income.

Grossman’s model of health production views each individual as both a producer and a consumer of health (Grossman, 1972). Grossman’s approach to demand for health, which is derived from human capital theory, shows how individuals invest in themselves, e.g., through training or education, to increase their productivity (Becker 1964, 1967, 1999, cited in Grossman, 1999). According to this theory, an individual can be viewed as investing in human capital (health and education) to improve outcomes in both the market (work) and nonmarket (household) sectors, i.e., “individuals consume health care not because they value health per se, but because it improves their stock of health, which is used as a productive resource. Individuals therefore are not passive consumers of health but active producers of health through their investment in better health, using time and money (Grossman, 1972).”

Demand for healthcare can be seen from various dimensions—choice of whether or not to seek healthcare, of what facility to visit and how often, and whether or not to adopt a particular medication. At each level, healthcare demand depends on many factors, one of the most visible and important being the healthcare cost. According to Feldstein (2011), the patient’s demand for healthcare is affected by three broad factors: (i) the illness incidence and need for care; (ii) cultural and demographic characteristics such as age, education, marital status, number of persons in the family, employment status; and (iii) economic factors such as income, direct healthcare cost, indirect economic burden to the society (value of the patient’s time). Healthcare expenditure is therefore assumed to depend on the morbidity pattern, health status of the patient, and the socioeconomic and demographic characteristics of the household. In health economic literature, income and healthcare cost are seen as important determinants in utilization of healthcare services. Besides the aforementioned three broad
factors, other determinants of demand for healthcare also exist, such as quality of care, existence and type of insurance, taste, lifestyle, access to healthcare services—both in terms of cost and distance—and so forth. Anderson’s model suggests that people’s utilization of healthcare services is a function of their predisposition to use services, factors that enable or impede use, and their need for care (Anderson, 1995).

Considering the economy of the household, there is limited income to finance healthcare and other consumption expenditure. In existing health economic literature, health is seen as one of the several commodities over which individuals have well-defined individual preferences (Jack, 1999; Phelps, 1992). Ill health and, therefore, the need for healthcare can affect the allocation of existing resources of the households. Thus, the demand for healthcare is at the cost of paying for care, and it depends on the ability and willingness to pay for healthcare, which in turn depends on the cost of healthcare and its various components. According to the World Bank (1998), key economic costs associated with illness and, therefore, healthcare includes lost income from reduced labor supply and productivity, and medical care expenditures that may result in families not being able to smoothen their consumption over periods of illness. Healthcare cost, depending on the severity or the extent to which it affects the household’s spending capacity, can therefore become a burden on the economy of the household. It can also have significant impact on household consumption pattern. The extent to which individuals allocate part of their income on paying for healthcare indicates, in a limited way, the value they place on health. The opportunity cost of ill health is seen in terms of the impact of medical spending on expenditure patterns and the value of lost productive time (forgone income) of patient and the caregiver. On the other hand, although costs are incurred, better health increases the number of productive days available for the well-treated patients as well as their caregivers. The healthcare cost is therefore an important determinant of the demand for health and the demand for healthcare.

1.2 The HIV/AIDS burden
Human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is often broadly viewed as a health and behavioral problem. Moreover, literature has shown that there is a direct linkage between HIV/AIDS transmission and poverty; social and economic inequities related to gender, race, cultural differences, migration in and between countries; and social turbulence. High HIV/AIDS prevalence has significant bearing on population dynamics and, hence, economic development, resulting in decrease in life expectancy, decline in economic growth, increase in poverty, and impact on several socioeconomic development-related factors. Therefore, the problem associated with HIV/AIDS and its transmission is not only a health problem. There are economic factors and consequences that must be dealt with
at both the micro and macro levels. Understanding the sociocultural and economic factors that drive the disease is an important element in controlling or reversing the spread of HIV/AIDS, which is beyond the ability of individuals or communities. The HIV epidemic is, therefore, a development concern that affects all segments of the society and sectors of the economy (Topouzis, 2003).

The impact of the HIV/AIDS epidemic—whether on the economy, social development sectors, households, or individuals—has been well documented. The adverse economic impacts have been observed both at the overall macroeconomic level and at more concentrated environment, in different sectors and households. Socioeconomic impact also exists through the impact on poverty and inequality.

At the individual level, the impact can be seen primarily in terms of declining health status, increasing morbidity, use of public health facility, and consequently lost work time due to the illness and due to the increased time devoted to caregiving (Canning et al., 2005). At the household level, the costs of HIV/AIDS can be dramatic. The decreasing health status necessitates incurring large expenditure on medication, medical care, and monitoring as well as the associated costs incurred due to transportation, nutrition, funeral costs, and other out-of-pocket expenditures. In addition to this direct cost, the households incur indirect cost of the long-term lost earnings of HIV-infected individuals and caregiver. Consequently, if an “AIDS patient can no longer work, a family will face reduced income and increased medical expenses; children may stop going to school; a pattern of savings may reverse course as basic needs become harder to satisfy” (Bloom et al., 2004). In India, a study conducted in 2003 by Duraisamy et al. estimated that, on an average, 43 workdays were lost in a 6-month reference period per HIV-positive person of the NGO, which roughly translated to three thousand rupees in lost income during that tenure. Another study (ILO, 2004) on households with HIV-affected person in four states in India also found substantial increase in treatment expenditure and declining income.

With the consequent financial crises, households have limited alternatives in terms of responses, which can be borrowing, utilization of savings or sale of assets, and change in the composition of spending. In a sample of HIV/AIDS-affected households in Sangli, Maharashtra, it was found that there was a huge reliance on borrowing and declining assets to cope with the illness (Verma et al., 2002). Therefore, the implications for the affected households are reduced non-health consumption expenditures among household members (Bechu 1998; Bachmann and Booyesen 2004; Pradhan et al., 2006); decline in the nutritional status and educational attainment for children (Bachmann and Booyesen 2004; Donovan et al.,
and the reallocation of household efforts away from income-earning activities to caregiving roles. All these might be coupled with a lack of adequate mechanisms to cope with the financial shocks (Barnett & Blaikie, 1992; Yamano & Jayne, 2004). The impoverishment that generally accompanies the infection may also result in a fall in demand for anything that is not considered a necessity, for instance education. The financial impact of HIV at different disease stages as well as with the presence of differential co-infection on individuals, families, and households also needs to be seen.

In cases where household resources are limited, incidence of the illness can inflict a major burden on patients and their families. Poor households submerge deeper into poverty through lower earning capacity and higher spending on healthcare. AIDS is most likely to affect those groups that are the least well off and the least able to resist its effects due to the following.

(a) The socially determined knowledge and learning skills of the poor being inadequate to measure up to durable prevention of HIV infection—for example, for a given level of prevalence of drug abuse, a greater shared use of needles and syringes among poor drug users results in greater transmission of HIV (Basu et al., 1997; Jacob et al., 1989; Panda et al., 2005).

(b) The limited access to higher quality public health services, which reinforces the positive impact that social inequalities (based on class, caste, race, gender, and nationality) have on the extent of prevalence and transmission of HIV. Therefore, AIDS, like all health problems, has economic roots, consequences, and solutions (Bloom & Godwin, 1997).

While the effect of HIV/AIDS at the households and community level may be more intense, the epidemic has a noticeable effect on the various sectors of the economy. All economic sectors are affected as AIDS-related morbidity has a negative effect on labor productivity. The impact will also be felt severely by the health sector and the government, with government health subsidies rising rapidly as a result of rapidly spreading epidemic (Gupta et al., 2006). The health sector in most developing countries already has difficulty in meeting basic medical care needs. Globally, 9.8% of the gross domestic product (GDP) is spent on health—2.5% through public spending and 2.9% by the private sector (World Bank, 2009). In India, in 2011 only 3.9% of GDP is spent on health (OECD, 2013), out of which private expenditure accounted for approximately three-fourth and government expenditure accounted for 22%. All other sources accounted for less than 5%, according to the reports of GOI (2005). If only a proportion of the needs are met, HIV/AIDS will consume a substantial share of public health budgets.

The health sector has the major responsibility for dealing with HIV/AIDS epidemic, both in
terms of preventing new infections and in caring for people with the infection. HIV/AIDS affects the health sector through its structural impact and the impact on the output. Its most basic impact on the output is through a rise in the demand and fall in supply of a given quantity of care at a given price. Health services suffer under "the dual burden of increased demand and reduced capacity to deliver" (Veenstra and Whiteside, 2005).

A study by Cornia et al. (2002) indicated that the epidemic’s impact on the health systems is devastating, as it has substantially increased the healthcare burden, shifted the demand for services, and eroded the capacity of the health systems to respond adequately, particularly as it affects the health workforce. According to Carael and Glynn (2000), the premature death of an employee leads to the disappearance of know-how, which can no longer serve production or be transmitted and may represent a higher loss for the firm than the direct loss due to absenteeism.

HIV/AIDS imposes both direct and indirect costs on the economy. The costs of treating individuals with HIV/AIDS exceed per capita gross national products in many countries (Brown, 1997). A study by Viravaidya et al. (1991) in Thailand concluded that the costs to the economy from lost output due to AIDS mortality vastly exceed the direct cost of healthcare at the individual level. These broadly defined indirect costs, which are the main source of economic losses at the macro level, are imposed on the countries due to the epidemic.

In sub-Saharan countries with HIV prevalence exceeding 5%, there is a significant burden of AIDS patients on medical facilities, ranging from 20% to 70% of bed occupancy in major hospitals. By 1995, HIV/AIDS care accounted for 27% of the public healthcare spending in Zimbabwe and 66% in Rwanda (Whiteside, 2002). Studies also suggest large obligations on public health spending accountable to HIV, in some cases exceeding 10% of the total national health budget. Mahal (2002) reported that more than 5% of all public sector health spending in Thailand in the mid-1990s was on HIV/AIDS. Similarly, Anand et al. (1999) reported that the estimated total annual costs of HIV/AIDS in India under low, medium, and high assumptions were 6.73 billion rupees, 20.16 billion rupees, and 59.19 billion rupees, respectively.

Existing healthcare systems are also seen to be already overburdened by the HIV/AIDS epidemic. In Côte d’Ivoire and Uganda, 50% to 80% of adult hospital beds are occupied by patients with HIV-related conditions (Mutangadura et al., 2000). In Swaziland, the average length of hospital stay is 6.0 days, but increases to 30.4 days for patients with tuberculosis, which is associated with HIV in 80% of cases (MHSW, 2000). In some sub-Saharan
countries, people with HIV-related illness occupy more than half of all hospital beds (UNAIDS/WHO 2004). A study conducted in South Africa reported that 28% of patients who served in public and private health facilities in four provinces had HIV infection (Shisana et al., 2003). In Kenya, HIV prevalence increased from 19% in 1988/89 to 40% in 1997, with concomitant increase in hospital bed occupancy (Arthur et al., 2000). Botswana, a country with one of the highest HIV prevalence rates in the world, lost approximately 17% of its healthcare workforce between 1999 and 2005 due to AIDS (UNAIDS, 2006). There is limited evidence on the impact of HIV/AIDS on the health sector in India.

Since the age group most vulnerable to HIV/AIDS is also the most productive or working age group, it constitutes a major source of demand for goods and services. With HIV/AIDS, this group experiences a decline in income due to mortality and morbidity as well as increase in healthcare expenditure for the treatment. In hospital services in Nairobi, Kenya, the impact of the escalating demand for HIV/AIDS-related care was accompanied by deteriorating conditions for both HIV-positive and HIV-negative patients and increasing mortality during hospital stay (Gilks et al., 1997).

Public expenditure, therefore, might get diverted toward healthcare and away from other sectors, leading to reallocation of demand in favor of healthcare and against all other sectors. The possibility of increasing expenditure on healthcare may, however, be offset by the same morbidity- and mortality-related fall in income. For the health sector, the primary consequence of the epidemic on the supply side is the disruption of services due to HIV/AIDS-related morbidity and mortality, mainly due to absenteeism, the consequent decline in productivity, and the rise in personnel and administrative costs.

In a productive sector, it can be assumed that workers with AIDS will not be able to perform their responsibilities effectively because of frequent absenteeism. Consequently, the non-infected workers will be overloaded with work, as they have to fill the gap thus created. Costs to the economy on account of “absenteeism and reduced productivity may be higher than the costs of eventual deaths” (Gachuhi, 1999).

Another implication of the epidemic on the working-age population (aged 15–49 years) is that those with critical social and economic roles are disproportionately affected (Cohen, 2002). One of the long-term impacts of the epidemic is on children. With impaired access to education for the increasing number of children orphaned by AIDS, the rate of human capital formation is ultimately affected.
1.3 HIV/AIDS in Manipur

The spread of the HIV epidemic in India has been observed to be the highest in two major regions, viz. the southern half and the far northeastern parts of the country. Manipur is one of the six highest prevalence states identified for greater focus by the National AIDS Control Organisation (NACO), India. It was one of the first states to be affected by HIV/AIDS in India and one of the first to be considered as having a high prevalence. According to NACO (2012), the highest estimated adult HIV prevalence in India is in Manipur (1.4%), followed by Andhra Pradesh (0.9%), Mizoram (0.8%), Nagaland (0.8%), Karnataka (0.6%), and Maharashtra (0.5%). The HIV prevalence data for the general population shows that Manipur is experiencing a generalized epidemic (Sentinel Surveillance Report, 2008). According to NFHS-3 (the first population based estimate of HIV prevalence), overall HIV prevalence is 1.1% among adults in Manipur, which is five times the national prevalence rate. Prevalence rate is 0.8% among women and 1.6% among men in this state. With hardly 0.2% of the India’s population, Manipur currently accounts for almost 8% of the total HIV-positive cases in the country. According to the Manipur State AIDS Control Society the epidemic is increasing further and affecting communities in the more interior and hilly areas of the state.

Figure 1.1: Political map of Manipur
After several cases were reported across the country, routine screening for HIV began in Manipur in 1986. The first HIV-positive sample from Manipur was reported in February 1989 in an injecting drug user (IDU). Earlier, it was believed that HIV/AIDS in Manipur was a concentrated epidemic, the main driver of the epidemic being injecting drug use (Sarkar et al., 1993), where approximately 1% to 2% of the adult population are IDUs (Chandrashekaran et al., 2007). The infection is now believed to have spread from the high-risk groups to the general population, with the prevalence among the antenatal clinic (ANC) attendees at ~1% (Figure 1.2).

**Figure 1.2:** Trends in HIV prevalence among high risk groups in Manipur. IDU, injection drug use; STD, sexually transmitted disease; ANC, antenatal clinic; FSW, female sex workers; MSM, men having sex with men. (Source: MSACS)

### 1.3.1 Growth and spread of HIV/AIDS in Manipur

Manipur shares its geographical borders with Myanmar and is close to the infamous Golden triangle of Myanmar, Thailand, and Laos. The border is fraught with the problem of drug trafficking and smuggling from the Golden triangle. By the late-1970s and 1980s, Manipur had become an alternative route for international drug traffickers, as a consequence of which the state began to see the practice of injecting drug use. Pure heroin became easily available and shooting galleries for heroin started swelling across the state. Injecting heroin as a recreational pastime and group activity became common among the youths who had no knowledge of HIV/AIDS or the risk of transmission through sharing of contaminated needles.
In the 1990s, sharing of used needles and syringes among IDUs was common, and the rates of HIV shot up dramatically. Within months of detecting the first case of HIV, approximately 50% of the IDUs in the state were found to be infected with HIV. Manipur then banned the usage of needles, invoking the Narcotic Drugs and Psychotropic Substances Act (NDPS Act) of 1985. This ban, however, backfired as the sharing of contaminated needles increased, leading to even higher rates of HIV transmission. Due to the unavailability of needles and syringes, many IDUs began to utilize ink fillers. By the time the government revoked the ban, numerous instances of high-risk sharing had already occurred. The most common mode of HIV transmission in Manipur continues to be through sharing of injecting equipment by IDUs. However, other routes of HIV transmission are also now widely prevalent. Data indicate an upward trend in the heterosexual route of transmission (20.3% in 2003 to 27.0% in 2007), compared with a downward trend through IDU spread (62.1% in 2003 to 52.1 in 2007).

Table 1.1: Surveillance report: September 1986 to March 2008

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Particulars</th>
<th>Sero-surveillance</th>
<th>Sentinel Surveillance</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total number of blood samples screened</td>
<td>178,340</td>
<td>64,629</td>
<td>242,969</td>
</tr>
<tr>
<td>2</td>
<td>Total cumulative positive cases</td>
<td>23,239</td>
<td>5908</td>
<td>29,147</td>
</tr>
<tr>
<td>3</td>
<td>Number of females</td>
<td>7513</td>
<td>-</td>
<td>7513</td>
</tr>
<tr>
<td>4</td>
<td>Number of AIDS cases</td>
<td>4294</td>
<td>-</td>
<td>4294</td>
</tr>
<tr>
<td>5</td>
<td>Number of deaths</td>
<td>617</td>
<td>-</td>
<td>617</td>
</tr>
</tbody>
</table>

Source: MSACS: epidemiological reports

1.3.2 Profile of people living with HIV/AIDS (PLHAs) in Manipur

According to the Sentinel Surveillance Epidemiology Report published in 2010, there were 31,256 HIV-positive cases (10,109 females and 2578 children) and 4724 AIDS cases (3381 males and 1343 females) among the samples screened in Manipur. The majority of PLHAs in Manipur were from the IDU community. However, it cannot be said that these persons come from a specific economic strata of society, as drug abuse is prevalent across all socioeconomic classes in Manipur. Although evidence suggests that it is the poor people who are more vulnerable to HIV and AIDS (UNDP, 1992), the case is somewhat different in Manipur, as a substantial proportion of households from the high-income categories have PLHAs. Many of the female PLHAs are spouses of IDUs, are IDUs themselves, or are sex workers.

To understand the susceptibility of the disease, it is necessary to identify the sector where the epidemic is likely to be located and where the impact is more likely to be felt. Table 1.2 depicts the distribution of PLHAs in Manipur by occupation (Pradhan et al., 2006). The
The highest proportions of PLHAs were self-employed non-agricultural workers and non-agricultural wage laborers. Both occupations are generally casual and unorganized employment, with no social security or other benefits. This implies that the epidemic will affect the poorest segment of the population the most—the segment of the population that is most prone to loss of employment and loss of income with increasing morbidity.

Table 1.2 Occupational distribution of people living with HIV/AIDS

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivation</td>
<td>1.87</td>
</tr>
<tr>
<td>Agricultural wage labor</td>
<td>4.87</td>
</tr>
<tr>
<td>Non-agricultural wage labor</td>
<td>22.1</td>
</tr>
<tr>
<td>Self-employed (non-agriculture)</td>
<td>37.08</td>
</tr>
<tr>
<td>Salaried</td>
<td>15.73</td>
</tr>
<tr>
<td>Unemployed</td>
<td>11.99</td>
</tr>
<tr>
<td>Others</td>
<td>6.37</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

(Source: Pradhan et al., 2004)

The vulnerability to the disease is widespread and far reaching. HIV affects everyone, cutting across all occupational and income groups. None of the sectors are immune to the disease. The rate of sero-positivity in IDUs was the highest among service class, followed by agricultural and unskilled laborer, and the business class. Table 1.3 shows the rate of sero-positivity among IDUs in various sectors of the economy (2001).

Table 1.3: Percentage testing positive for HIV at IDU sites by occupation, Manipur, 2001

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Occupation</th>
<th>Percentage testing positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Service class</td>
<td>82.8</td>
</tr>
<tr>
<td>2</td>
<td>Agriculture/unskilled</td>
<td>62.8</td>
</tr>
<tr>
<td>3</td>
<td>Business</td>
<td>61.9</td>
</tr>
<tr>
<td>4</td>
<td>Unemployed</td>
<td>61.3</td>
</tr>
<tr>
<td>5</td>
<td>Hotel</td>
<td>57.1</td>
</tr>
<tr>
<td>6</td>
<td>Driver</td>
<td>50.8</td>
</tr>
<tr>
<td>7</td>
<td>Housewife</td>
<td>33.3</td>
</tr>
<tr>
<td>8</td>
<td>Student</td>
<td>32.9</td>
</tr>
<tr>
<td>9</td>
<td>Factory worker</td>
<td>22.5</td>
</tr>
</tbody>
</table>

(Source: NACO, 2001)

1.3.3 Response to the epidemic

In light of the widespread abuse of injectable drugs in Manipur, the government began initiating a series of steps to tackle the impending epidemic. The state set up a State AIDS Committee, following the National AIDS Committee, which was launched in 1986. Under this, a State AIDS Cell was established in the health directorate, which was placed under the supervision of a medical officer. Accordingly, a State AIDS policy was adopted in October
1996 in Manipur, rendering it to be the first state in the country with a State AIDS policy. In 1996, a rapid HIV intervention program called Rapid Intervention and Care Project (RIAC) was implemented under NACO. According to the Sentinel Surveillance, the HIV prevalence rate among IDUs was 55.7% in 1994, rising to a very high of 76.9% by 1997, which then declined steadily to 28.7% by 2008. Establishment of RIAC is believed to have resulted in the decline of the spread of prevalence among IDUs.

Currently, in Manipur, the third phase of the National AIDS Control Program (NACP-III) is effective, which strives to halt and reverse the epidemic in India over the next 5 years by integrating programs for prevention, care, support, and treatment. The specific objective in first year of the program is to reduce the incidence by 60% in states with high prevalence (reversal of the epidemic) and by 40% in the vulnerable states (stabilization of the epidemic). This is targeted through a four-pronged strategy, viz. (a) prevent infections through saturation of coverage of high-risk groups with targeted interventions (TIs) and scaled-up interventions in the general population; (b) provide greater care, support, and treatment to larger number of PLHAs; (c) strengthen the infrastructure, systems, and human resources in prevention, care, support, and treatment programs at district, state, and national levels; and (d) strengthen the nationwide Strategic Information Management System.

The care and support program focuses on improving the availability, accessibility, and affordability of antiretroviral treatment (ART); strengthening family and community care through psychosocial support to the individuals, particularly to the marginalized women and children affected by the epidemic; improve compliance of the prescribed ART regimen; and address stigma and discrimination associated with the epidemic. To address the infection among children younger than 15 years, the following steps were taken to enhance early diagnosis and treatment, viz. comprehensive guidelines on pediatric HIV care for each level of the health system; special training to counselors for counseling HIV-positive children; linkages with social sector programs for accessing social support for infected children; outreach and transportation subsidy to facilitate ART and follow-up; nutritional, educational, recreational, and skill development support; and establishing and enforcing minimum standards of care and protection in institutional, foster care, and community-based care systems (NACO, 2006).

In Manipur, healthcare services in response to the HIV epidemic began with awareness generation and management of various opportunistic infections specific to HIV/AIDS. According to Singh (2011), many opportunistic infections were not diagnosed properly, leading to many avoidable deaths in Manipur and elsewhere. The diseases such as
cryptococcal meningitis, penicilliosis, toxoplasmosis, Pneumocystis carinii pneumonia, Cytomegalovirus retinitis; malignancies like Kaposi sarcoma, lymphoma, progressive multifocal leucoencephalopathy; and so forth were not properly diagnosed due to lack of knowledge and awareness, leading to many deaths, which nowadays are being cured or prevented.

The availability of ART, first with zidovudine, followed by highly active anti-retroviral treatment, which was able to control HIV multiplication, significantly improved the situation and the perception for HIV management. ART, therefore, led to a change in the outlook toward HIV. Previously considered as a fatal disease, HIV is now seen as a chronic manageable disease. Initially, ART was scarce and the costs were prohibitive. However, in 2002, through the initiatives of the government, non-government organizations (NGOs), and community-based organizations (CBOs), pregnant parent-to-child transmission (PPTCT) was launched in JN Hospital, Imphal, and the provision of free ART was started in April 2004. Accordingly, free ART was provided through Regional Institute of Medical Sciences and JN Hospital in Imphal and at two centers in Churachandpur. As of December 2010, there were nine ART centers in Manipur.

Under NACP-III, community care centers have been set up to provide treatment, care, and support to PLHAs. These centers are attached to ART centers and ensure that PLHAs are provided with (a) counseling for antiretroviral drug adherence, nutrition, and prevention; (b) treatment of opportunistic infection; (c) referral and outreach services for follow up; and (d) social support services. The community care centers have now become a place for providing healthcare services to PLHAs and play a critical role in enabling PLHAs to access ART. They also provide monitoring and follow-up counseling support to pre-ART and ART patients, as well as counseling on positive prevention, drug adherence, nutritional, and referral services, including palliative care, psychosocial support, and outreach services. Further, with linkages and referrals to integrated treatment and counseling center (ICTC), directly observed treatment short course (DOTS), PPTCT, linked ART center (LAC), and other treatment services and interventions, these community care centers serve as a vital link in providing holistic support to PLHAs.

1.4 HIV/AIDS and its implications for Manipur

HIV/AIDS epidemic is believed to have wider implications not just on the physical and psychological health of the affected individuals and households but also on the economy of the state. Most of the PLHAs needing treatment in Manipur are from the productive age group of 20 to 40 years. The state has also seen an increase in the number of HIV widows and
orphans since the virus was first detected in the state. According to Singh (2011), “looking at deaths from HIV/AIDS in JN Hospital, the figures show 18.95% in 2003 to 17.46% in 2007, showing no apparent increase in deaths, but a slightly decreased ratio. The figure is only from the Hospital records but the unreported deaths after discharging from hospital when terminally ill, are not in the record. This high death rate is mainly from the HIV/HCV co-infection which is a major challenge nowadays.”

The implications of the epidemic on governance do not appear to be so alarming. A study conducted in Manipur and Nagaland concluded that (a) “it is not possible to come to any hard conclusions about the impact of HIV/AIDS on governance in the two states because of the multiple other factors; (b) there are indeed some small indications of the impact of HIV/AIDS in the education sector in both the states under study; (c) oral and circumstantial evidence, if not hard data as it is unavailable, also points to the fact that the disease has had an impact on the local police, and armed forces stationed in these two states; (d) in the end it would take a much larger epidemic than this to destabilize these states, however and very evidently, fragile they may be; (e) however, as part of a much larger state, this is most unlikely to happen” (Jacob, 2008). Although the overall implication of the epidemic for the state seems insignificant, the pressure of demand for health services at the health sector level and the burden of illness at the household level in terms of the direct medical cost as well as adverse impact on productivity can be assumed to be enormous.

1.5 HIV/AIDS, drug use, sex work, and the bridge groups
The link between drug use, sex work, and HIV has been highlighted in the literature and the phrase “feminization of the epidemic” (UNAIDS, 2011) has become local parlance in HIV prevention efforts in the country. The highest risk groups in Manipur are the sex workers, IDUs, and men having sex with men (MSM). Sexual transmission of HIV is now well documented in the literature, be it from the IDUs or from sex workers.

In Manipur, there is also a segment of high-risk community, known as “female IDUs.” For these women, sex work is natural fallout of drug addiction as it is often the only means to afford their dependence. Furthermore, some of these women are also widows of IDUs, taking up sex work for economic reasons. Armed conflict among different ethnic tribes and communities has also led to young refugee girls uprooted from their villages, who are now at a high risk of exploitation, with many of them ending up as sex workers or IDUs. Another high-risk group, female sex workers, also contributes considerably toward the HIV epidemic in the state. During surveillance in 2003 and 2004, HIV prevalence among them was 12.4%. In 2008, this slightly decreased to 10.9%. Many NGOs are working under the NACO toward
prevention and control of HIV infection among this high-risk group.

Another cause for concern is the high proportion of pregnant women who test positive for HIV/AIDS, with rates recorded as high as 8.8% in 2002. These are very high rates for women who are not believed to engage in risky sexual or drug-using behavior and should be at low risk of contracting the disease. Furthermore, the high rate of HIV infection among women in ANCs is an indication that the general population is being affected through a “bridge group.” It is unlikely that these women contracted the disease through their own behavior, but should have been infected through their infected partners. Tragically, pregnant women can pass the infection to their unborn child or, after birth, by breastfeeding, an otherwise recommended practice.

Another high-risk group under intervention is the MSM group. The prevalence of HIV/AIDS in this group was 29.2% in 2003, which declined to 17.21% in 2008. Compared with neighbor states, Manipur is fairly advanced with regards to the MSM populations. Subgroups of MSM have been visible in Hindu-dominated areas such as Imphal, where a few NGOs are working with this specific risk population. Even here, awareness of sexually transmitted infections and access to treatment remains a struggle due to the social stigma and discrimination attached to homosexual behavior. Outside the capital city, Imphal, MSMs remain largely hidden and inaccessible to the HIV prevention programs. The hidden nature of this group and their sexual interactions with IDUs has further complicated the transmission dynamics of HIV/AIDS in Manipur.

The sero-positivity rate in Manipur is 158 per 1000 blood samples screened, against all-India average of 41 per 1000. The sero-prevalence rate among IDUs in Manipur is the highest in the world. According to the Sentinel Surveillance Report 2009, the rate of HIV prevalence among the various categories of population is as follows:

<table>
<thead>
<tr>
<th>Groups</th>
<th>Prevalence rate (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injecting drug users</td>
<td>28.7</td>
</tr>
<tr>
<td>Female sex workers</td>
<td>10.9</td>
</tr>
<tr>
<td>Men having sex with men</td>
<td>17.2</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>0.5</td>
</tr>
<tr>
<td>STD patients</td>
<td>2.9</td>
</tr>
</tbody>
</table>

(Source: Sentinel Surveillance Report 2009)

The HIV prevalence rate in Manipur is high. Although there exists limited evidence on the impact of HIV/AIDS in the state at various levels—individuals, households, productive
sectors, the macro economy—it can be expected to be drastic. The prevailing evidence around the world gives an indication of the impact at various levels. From the above discussion it is clear that similar or even greater effects can be expected in a situation like that of Manipur where the concentration of the epidemic is still visible in certain subgroups like IDUs, FSWs and MSMs though the prevalence in the general population has seen a declining trend. Therefore a study on the economic burden of the illness through assessment of the specific direct and indirect costs and the coping mechanism adopted will help in better dissecting the overall burden on the households in a state with high prevalence such as Manipur. This study on the differences in economic burden in different groups will help in understanding the effect of other factors such as the socio-economic background or the clinical characteristics of the PLHAs which might have an important influence in determining the extent of the burden as well as the mechanism for coping with the burden. The study will also add to the existing knowledge about the extent of the effect of the existing interventions for different sub-groups and will help in formulating policies for other similarly affected groups and areas as well.

1.6 Chapter Scheme

The study consists of the following nine chapters:

Chapter 1 gives an introduction of the study, including the demand for health and healthcare, the burden of HIV/AIDS, and the HIV/AIDS situation in Manipur.

Chapter 2 is a review of the existing literature on the key concept of the study, including the impact of HIV/AIDS, especially the economic impact in terms of direct costs and out-of-pocket expenditure, indirect cost through productivity loss, and the mechanism for financing healthcare costs. This review was done with the objective to identify the gaps in research and present the conceptual framework for the study.

Chapter 3 gives a detailed account of the methodology adopted for the study, including the methodological approaches to assess the economic burden of illness and the methodology for data collected and analyses. It presents the context of the study, problem statement, rationale, objectives, hypotheses, research design, and conceptual map of the study. The scope of the study, strength, limitations, and the ethical considerations taken are also discussed.

Chapter 4 discusses the profile of the respondents, including the socioeconomic, demographic, and clinical profile.

Chapter 5 presents the findings of the study in terms of the morbidity patterns of the respondents. It includes the findings related to the presence of opportunistic infections and
illness, types of opportunistic infection, frequency and severity of illness, level of health service utilization, and source of treatment. It also discusses the differences in morbidity pattern according to the background characteristics of the respondents.

Chapter 6 presents the findings on the direct costs in terms of out-of-pocket expenditure of the respondents, as well as the difference in direct costs among respondents from different background.

Chapter 7 discusses at the economic burden in terms of indirect costs incurred through productivity loss due to the PLHAs and their caregivers. It also analyses whether there is any differential burden due to differences in the background characteristics of the PLHAs.

Chapter 8 sheds light on how the respondents and their household cope with the burden of ill health and healthcare. It also analyses whether the coping strategies adopted are sustainable or risky for the welfare of the household.

Chapter 9 concludes the study and presents the recommendation of this analysis.

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