

# A study on out-of-Pocket Healthcare Expenditure of the people of Siliguri Municipal Corporation Area (SMCA)\*

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**Abstract:** It has long been proved that economic development remains a far cry without human development of the country and human development is only possible when everybody enjoys good health. Further, ensuring good health to everybody at affordable cost is one of the important goals of the government. But, in many developing countries including India, government finance in health sector is very less or limited which compels low income groups to seek healthcare facilities from private sources leading to a greater financial burden on them. Economists are also concerned with the impact of increasing costs of health imposed on patient, patient's family and other agencies. Against this backdrop, the present study will attempt to be familiar with impact of health status or diseases on out of pocket health expenditure of 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 very limited for the area concerned. The study will also suggest some feasible solutions to make the healthcare services accessible, affordable to all the people living in the region.

**Key Words:** Out-of-pocket health expenditure, Financial burden, SMCA

## Introduction

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. Thus, economic development remains a far cry without human development of the country and human development is only possible when everybody enjoys good health (Ghosh, 2016). In other words, good health helps in creating the quality of human capital and thereby improves the human development as well as economic development of a nation. Recognizing importance of good health, 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 enrollment 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". But, importance of 'social' variables, such as education and health always remain out of the main focus in national budget, leading to human deprivation and economic insecurity of India (Dreze and Sen, 1998). However, studies show that India is passing through the phase of demographic as well as epidemiological transitions along with other parts of the world (Reddy et al., 2005; Varatharajan, 2011; Bloom et al., 2013), and having very high level of morbidity prevalence with sizeable inter-state and regional differences (Ghosh and Arokisamy, 2010). This burden of diseases results in loss of productivity, loss of employment, and high healthcare expenditures of the people (Taylor, 2010). In India, people in rural areas mostly depend on public health institutions for immunization, vaccinations, peri-natal and post-natal care, child delivery etc., but for the treatment of major diseases or chronic illness, they move to private hospitals or clinics (Ray et al., 2011; Ramamani, 1995; Kumar et al., 2011) which comprise of high cost of medicines, diagnostic tests, medical equipments etc., resulting a high out-of-pocket healthcare expenditure (OOPHE) and a greater financial burden on low income groups (Xu et al., 2007). The point is not clear why Government of India is diminishing its role on healthcare services and compelling the masses to high OOPHE, despite the country is having considerable burden of diseases and having much lower per capita income than other developed nations. In the era of globalisation, introduction of new modern and expensive technology in the healthcare industry, raises a crucial question like who will bear the increasing costs, whether the individual himself or the government or other agency (Starfield, 1997). It is still unanswered. Against this backdrop, the present study will attempt to be familiar with burden of diseases and associated OOPHE through the process of treatment incurred by the households of Siliguri Municipal Corporation Area (SMCA) of West Bengal state. The study will also suggest some feasible solutions to make the health care services accessible, affordable to all the people living in the region, which will help improve the health status and reduce productivity loss, healthcare burden on families as well as on government.

## **Review of literature**

Whether pattern of economic development affects health status or level of health status affects economic development, has been a debatable issue among the economists. 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). On the other hand, people of Island nations and Sri Lanka enjoy higher levels of health status, despite having low level 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). There is also theoretical debate regarding the necessity of

government intervention in healthcare market (Culyer 1972, 1976). It is often argued that on efficiency and equity ground as well as to controlling the market failure government intervention is necessary in healthcare sectors (Economic Research Foundation, 2006). Abel-Smith (1963, 1967) found that GDP is the key determinant of healthcare expenditure of any country. Later on, many studies (Kleiman, 1974; Newhouse, 1977; Gerdtham et al., 1992; Hitris and Posnet, 1992; Hansen and King, 1996; Gerdtham and Lothgren, 2000; Karatzas, 2000) also show that amount of healthcare expenditure (both private and public) depends on gross domestic product (GDP) of the country. Further, it is also recommended that every country should at least spend 5 percent of their GDP on health to achieve better health outcomes of the people (Savedoff, 2007). But, in many developing countries including India, government finance in health sector is very less or limited ( Lee and Mills, 1983). This less or limited government spending on healthcare forces economically disadvantaged households to seek healthcare facilities from private sources with significant detrimental effects of out-of-pocket health expenditure (Doorslaer, 2006; Xu et. al, 2011). Economists are also concerned with the impact of high healthcare costs imposed on the government, patient, patient's family and relatives, the local community, as well as on the other agencies (Lee and Mills, 1983). The cost of healthcare falls on an individual not because of his own individual choices but the choices of the others (Culyer, 1971).

### **Objective of the study**

The broad objective of the study includes the following:

1. To study the variation of OOPHE according to health disorder of the people of SMCA.
3. To study the relationship between OOPHE and preference of care of the people of SMCA.

### **Materials and Methods**

Present study used multi-stage sampling method. Sample size has been calculated using standard formula  $n = Q / (P * \alpha^2)$ ; where  $n$  = Sample size to be estimated,  $P$  = Prevalence rate of disease among the households (without multiplying 1000),  $Q = (1-P)$  and  $\alpha$  = Standard error of the estimated prevalence rate (i.e. level of margin for the study). Thus, for the SMCA as a whole, primary data from 400 households or 1684 persons was collected by interviewing the respondents with some structured open-ended and some close-ended schedules regarding health disorders, health seeking behavior and healthcare expenditure. The study calculated the total OOPHE by summing up the payments made by the households for all the sick members of the family on different components of healthcare expenditure (i.e. public hospital card/ registration fees, doctors'/consultation fees, diagnostic test charges, medicine costs, hospital or nursing home charges (including surgery not covered by any health insurance benefits), special diets taken as per the advice by the doctors, transportation cost incurred to visit the health facilities including ambulance fares, other miscellaneous expenditure such as tips, rituals, helper costs, food taken outside etc.) during the reference

period of one year. Total 696 illness episodes were observed from the whole 1684 persons, but the present analysis is based on 638 episodes which were utilised healthcare facilities in the study area as few illness episodes were not utilized any healthcare facilities during the reference period.

## Results and Discussion

### Components of Out-of-Pocket Healthcare Expenditure (OOPHE)

Table 1 displays how total OOPHE is distributed among the different components of healthcare expenditure incurred by the households of SMCA. Data expectedly reveal that maximum OOPHE was spent on making payment of hospital or nursing home bills. Beside hospitalization charges, expenditure on medicine constituted major part of OOPHE, followed by doctor/ physician fees, payments for diagnostic tests, other miscellaneous expenditure, transportation costs and special diet costs. Further, it is to be noted that OOPHE is also largely affected by the payments for diagnostic tests. On the other hand, miscellaneous expenditure (e.g. registration fees, tips, rituals, helper costs, costs for food taken outside etc.) incurred during the different phases of treatment had also considerable role for high average annual OOPHE.

**Table 1: Distribution of different components of OOPHE**

Components of OOPHE	Avg. Annual OOPHE (in Rs.)	Percent to total annual OOPHE
Doctor/ physician fees	1264.80	12.70
Medicine Costs	2645.64	30.55
Charges of Diagnostic Tests	1412.78	11.74
Hospital /Nursing Home Charges ( Excluding other payments)	26655.51	32.97
Special Diet Costs	725.89	2.60
Transportation cost	427.46	3.97
Other Misc. Expenditure	823.66	5.47
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data, Note: OOPHE= Out-of- Pocket Healthcare Expenditure

### Analysis of OOPHE according to Burden of disease of the people of SMCA

#### *OOPHE and Category of Disease*

Table 2 displays the average annual OOPHE and percentage of healthcare expenditure to the total OOPHE for the treatment of various categories of diseases. Data show that annual OOPHE per illness episode for

GII category diseases was Rs. 10397.04, which is about 57 percent of total OOPHE. Further, it was worked out that average annual OOPHE for GI and GIII category of disease were Rs. 6466.04 and Rs. 6040.90 respectively. It clearly indicates that major part of average and total healthcare expenditure was incurred on curing GII category diseases, followed by GIII category diseases and GI category diseases.

**Table 2 : Distribution of average annual OOPHE and percentage of healthcare expenditure to the total OOPHE by Category of disease of the people of SMCA**

Category of Disease	Avg. OOPHE (in Rs.)	Percent of healthcare Exp. to total OOPHE
GI	6040.90	18.2
GII	10397.04	56.7
GIII	6466.04	25.1
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data, Note: GI: Communicable, maternal, peri-natal and nutritional conditions; GII: Non-communicable diseases; GIII: Injuries and accidents; OOPHE= Out-of-Pocket Healthcare Expenditure

#### *OOPHE and Severity of Disease*

It is expected that the more is the severity of disease, the more is the utilization of healthcare services which leads to increase in OOPHE as evident in the table 3. Data reveal that when severity of disease was low, average annual OOPHE was Rs. 4014.10, but when the disease turned out to be highly severe, the same expenditure reached to Rs. 14779.76, indicating direct relation relationship between severity of disease and average annual OOPHE spending. On the contrary, it was worked out that while low severe diseases accounted for higher percentage of OOPHE (i.e. 39 percent), high severe diseases accounted for lower percentage of OOPHE (i.e. 26.2 percent).

**Table 3: Distribution of average annual OOPHE and percentage of healthcare expenditure to the total OOPHE by Severity of disease of the people of SMCA**

Severity of Disease	Avg. OOPHE (in Rs.)	Percent of healthcare Exp. to total OOPHE
Low	4014.10	39.0
Medium	9138.26	34.8
High	14779.76	26.2
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data, \*Note: Low: Normal activity with symptoms; Medium: Impairment of activities; High: Bed ridden for seven days or more; OOPHE= Out-of- Pocket Healthcare Expenditure

***OOPHE and Number of Days of Suffering***

Table 4 demonstrates that the number of days of suffering is another important factor for variation in OOPHE incurred by the households for the treatment of various types of diseases. Data reveal that while average annual OOPHE for 1 to 3 days suffering is Rs. 1482.66, same expenditure increases by nearly 8 times (i.e. Rs. 11382.67) for disease episodes suffering for more than 10 days, indicating there is a direct relation between number of days of suffering and average in the study area. Data on percent of healthcare expenditure to total OOPHE also support the fact.

**Table 4 : Distribution of average annual OOPHE and percentage of healthcare expenditure to the total OOPHE by Number of Days of Suffering of the people of SMCA**

Number of Days of Suffering	Avg. OOPHE (in Rs.)	Percent of healthcare Exp. to total OOPHE
1-3	1482.66	5.1
4-6	4266.23	16.0
7-10	5713.40	19.9
>10	11382.67	59.1
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data; OOPHE=Out-of-Pocket Healthcare Expenditure

***OOPHE and Nature of Disease***

Table 5 displays the variation of OOPHE according to change in nature of disease of the people of the SMCA during the reference period. Data reveal that average annual OOPHE for acute diseases was Rs. 7809.70 and for chronic diseases, it was Rs. 8949.57. On the other hand, percentage of OOPHE data expresses the remarkable difference between acute diseases and chronic diseases. It was worked out that while 29 percent of total OOPHE spent on curing acute diseases, nearly 71 percent of total OOPHE was incurred on treatment of chronic diseases during the reference period.

**Table 5: Distribution of average annual OOPHE and percentage of healthcare expenditure to the total OOPHE by Nature of disease of the people of SMCA**

Nature of Disease	Avg. OOPHE (in Rs.)	Percent of healthcare Exp. to total OOPHE
Chronic	8949.57	70.9

Acute	7809.70	29.1
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data, Note: Acute Disease: Suffering for less or equal to 30 days; Chronic Disease: Suffering for more than 30 days continuously; OOPHE= Out-of- Pocket Healthcare Expenditure

## Analysis of OOPHE according to Healthcare Utilization pattern of the people of SMCA

### *OOPHE and System of Medicine Utilized*

Choice of system of medicine is another significant bearing on the healthcare expenditure. Table 7 displays how healthcare expenditure varies as the adoption or choice of system of medicine by the sick persons or households varies in SMCA. It was worked out that average annual OOPHE for adopting allopathy, ayurveda and others, homeopathy, yoga and combination of any two or more system of medicines were Rs. 9875.02, Rs. 4223.64, Rs. 830.00, Rs. 2662.00 and Rs. 4457.33 respectively. In percentage figures, these are around 83, 2, 8, 1.4 and 5 of total OOPHE respectively. It indicates that percentage of healthcare expenditure to the total OOPHE is highest for following allopathy system of medicine, followed by homeopathy, combination of any two or more systems of medicine and others etc.

**Table 7: Distribution of Average annual OOPHE and percentage of healthcare expenditure to the total OOPHE by System of medicine utilized by the people of SMCA**

System of Medicine	Avg. OOPHE (in Rs.)	Percent of healthcare Exp. to total OOPHE
Allopathy	9875.02	83.1
Yoga	1505.56	1.4
Homeopathy	830.00	7.7
Ayurveda and others	4223.64	1.7
Combination of any two or more	4457.33	5.2
Physiotherapy	2662.00	0.8
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data; OOPHE= Out-of- Pocket Healthcare Expenditure

### *OOPHE and Source of Healthcare Facilities Utilized*

Source of healthcare facilities to be utilized during any illness episode is a vital consideration for treatment costs. Table 8 presents the difference in OOPHE incurred by the households for seeking treatment from

different sources of healthcare services. The individuals received treatment from private sources spent more than 74 percent of the OOP healthcare total expenditure, followed by public sources (i.e. 11.5 percent), purchasing medicines from chemist's shop (i.e. 5.8 percent), self-medication (i.e. 4.3 percent) and NGO or other charitable organizations (i.e. 3.9 percent). On the other hand, average annual OOPHE data reveal that individuals spent Rs. 10686.50 for using private sources of care, Rs. 4053.29 for public sources, Rs. 1807.60 for NGO or charitable organization, Rs. 1707.32 purchasing medicines from chemist's shop, Rs. 657.41 for adopting self- medication or home therapy per disease episode during the reference period of one year.

**Table 8 : Distribution of Average annual OOPHE and percentage of healthcare expenditure to the total OOPHE by Source of healthcare facilities utilized by the people of SMCA**

Source of Healthcare	Avg. OOPHE (In Rs.)	Percent of healthcare Exp. to total OOPHE
Self-medication	657.41	4.3
Private	10686.50	74.4
Public	4053.29	11.5
NGO or charitable org.	1807.60	3.9
Chemist's shop	1707.32	5.8
Total (All)	8618.23	100.00

Source: Self-elaboration with survey data; Note: Public includes Urban Primary Health centre, Govt. Hospital, Medical etc., Private includes Chambers, Clinics of the doctors or Private Nursing Homes), Others include NGOs, Charitable Organizations and others trusts etc.; OOPHE= Out-of- Pocket Healthcare Expenditure

## Conclusion

Results reveal that average annual out-of-pocket healthcare expenditure per illness episode is Rs. 8618.23 which is very high for low income groups. Medicine costs contributed a major part of OOPHE in SMCA, but charges of diagnostic test is quite expensive, policy should be framed to regulate the price to make healthcare expenditure affordable to all segments of the society. Higher prevalence of non-communicable diseases contributed higher percentage and higher average annual OOPHE, so public healthcare infrastructure should be developed to deal with this huge burden of non-communicable diseases. Low quality of service and lack of proper infrastructure at public healthcare institutions compel people to take treatment from private clinics or nursing homes might have resulted into higher annual average OOPHE per illness episode for high severe diseases. Further, treatment of chronic diseases continues for long duration which may be the reason for higher OOPHE. It is to be pointed out that free doctor fee, availability of fair price medicine, free bed charges, no payment for diet, minimum user fees/registration fees etc. might have



lead to comparatively lower OOPHE incurred by the households for seeking treatment from public sources than the private healthcare services. Finally, the study found that hospitalization in private nursing home or inpatient stay is very expensive phenomenon in SMCA. Therefore, government, policy makers and other concerned agencies should formulate a comprehensive policy, so that public healthcare facilities are made accessible, available and affordable for all types of diseases and price of healthcare services at private sources should be controlled to achieve the goal of 'Health for All'.

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