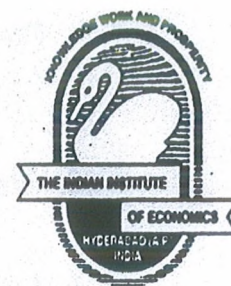


# The Asian Economic Review



Journal of the Indian Institute of Economics

Volume 53

August 2011

No.2

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## DETERMINANTS OF HOUSEHOLD HEALTHCARE EXPENDITURE: CASE OF URBAN COIMBATORE

*People Spend Their Health in Gaining Wealth and Then Spend Their Wealth to  
Regain Their Health - Spanish Proverb*

V.L.LAVANYA\* AND MALARVIZHI.V\*\*

### ABSTRACT

*Human Resource Development is fostered by a series of factors such as education, health, water supply and housing that constitute the basis needs. The delivery and quality of healthcare services available in a country to large extent to determine the development and conservation of human resources to their maximum potential. Health expenditure consists of all expenditures or outlays for medical care, prevention, promotion, rehabilitation and regulation and capital formulation with the regulation and capital formation with the predominant objective of improving health. To substantiate the objective, i.e., to find out the pattern of health care expenditure of the sample respondents 225, regression analysis is used and descriptive statistics are estimated. Mainly, four variables are used for this purpose; i.e. household health expenditure, income of the sample respondents, age and education of the sample respondents. Therefore, the study concludes that health literacy efforts should be made integral to preventive, promotive, curative and rehabilitative health care.*

### Rationale of the Study

Despite the remarkable economic and social progress achieved in the 20<sup>th</sup> century, they are still around 1.3 billion people leading their lives in the swamp of poverty in our planet. Attacking poverty by enhancing the human capital of the poor through the provision of efficient and accessible education and health services is an important objective of the development paradigm in many developing countries. It is obvious that in a developing country like India whose population goes on increasing in that case basic needs and services cannot be produced in the same proportion. To support the existing standard of living it needs much more investment. The rapid rate of population increase adversely affecting progress in providing more health, medical and social services and requires more capital investment (Human Development Report 1993). If the quality of human capital is not good, physical capital and natural resources cannot be properly utilized and growth is neither sustained nor qualitative. Health is major segment of human capital.

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Health is an important determinant of social and economic development because disease creates a vicious circle depletion of human energy leads to low productivity and less earning capacity, deterioration in quality and quantity of good consumed and low standard of living. Economic growth and development affect the health of the people by increasing their level of income and consumption of goods and services (Barro 1996). It means, there is a positive relationship between health and economic growth and development. The real strength of the country lies in the development of human mind and body. Human resources play an important role both as means and as ends in economic development of a country.

Health is also an important entitlement that enhances "capabilities" of the poor people leading to increase in "commodities" and further improvement in health status. As investment on health increases, the productive capacity of the working population and the level of income tend to increase. India faces, the demoralizing challenges of health care of its vast population and ensuring accessibility, efficiency, equity and quality of health care and thereby achieving the objective of growth of equality and social justice. It is clear that in order to strengthen the beneficial relationship between health care and economic development to establish mechanisms that solve the problems of lower income group in the adverse of health shocks. People's health are resolute by numerous factors such as per capita income, nutrition, housing, social infrastructure, health and medical services, incidence of poverty, geographical climate, occupation, and education status. (Dadibhavi and Bagalkoti, 1994)

Health spending consists of health and health related expenditure. Health includes both the health of individuals as well as groups of individuals or population. Health expenditure consists of all expenditures or outlays for medical care, prevention, promotion, rehabilitation and regulation and capital formulation with the regulation and capital formation with the predominant objective of improving health. Total healthcare expenditure incurred for medical treatment received to reference of 365 days for both hospitalization and non-hospitalization includes expenditure on items like fee for medical and paramedical services, medicine, bed charges, charges for diagnostics test, operation and therapies etc... Total healthcare expenditure is divided into two categories direct and indirect expenditure. The direct expenditure on healthcare is defined as the expenditure incurred on item which directly related to the treatment. It includes provider's fee, expenditure incurred for payment to doctor/consultation fee, medicine expenses incurred on purchasing medicine, test expenses incurred on diagnostics test (i.e. blood, urine, stool, X-rays, ECG etc...) as a partial fulfillment of the treatment. Hospitalization fee expenses incurred for paying hospitalization fee to utilize the facilities and surgery expenses incurred to surgery gets performed. The indirect health expenditure on healthcare is defined as the expenditure incurred on items which are not directly related to the treatment, but are associated with treatment. It includes special diet expenses suggested by the provider to patient for early recovery, transport expenses incurred on transportation for patient and accompanying person from residence to the source of care, and expenses incurred on

accompanying person for food and stay arrangements during the course of treatment, the loss of earning to patient and accompanying person for providing support or company to the ill person during the course of treatment (Reddy.K.N, 1995).

Health expenditure is often unexpected and catastrophic in nature. Poor people for a variety of reasons such as malnutrition, unhygienic living condition etc., fall sick more frequently than the rich. Apart from the expenditure on healthcare, poor people have to bear the subsidiary expenditure like food expenses, transport cost, accompanying person and loss of wages for sick etc... and because of high costs many poor people do not seek healthcare services. According to NSS 52<sup>nd</sup> round in urban areas, 21 percent of the sick people doesn't avail medical treatment because of financial reason (Acharya and Ranson, 2005) expenditure on healthcare has become increasingly a necessity for the people for the survival. Healthcare expenditure is very big burdening to the people especially for poor and middle class who unable to meet healthcare spending out of their pocket. In India even though government is allocating large shares of budget every year for health but the health of poor is not improving.

### Healthcare Expenditure in India: An Overview

Total healthcare expenditure in India has covered around 5 per cent of Gross Domestic Product (GDP), with public fund contributing less than 1 per cent of GDP. Limited public funding on healthcare in the country has necessitated out-of-pocket spending to be the dominant component i.e. 76 per cent of the total healthcare expenditure. In countries like India and a number of other developing countries, which still rely mostly on out-of-pocket payments, universal access to healthcare is exclusive. A significant proportion of the population is forced to make direct payments, often with a heavy burden of debt, to access healthcare from the market because the public provision is grossly inadequate or non-existent. When India became independent of British rule in 1947 the private health sector provided only 5-10 percent of total patient care.

Today it accounts for 82 percent of outpatient visits, 58 percent of inpatient expenditure, and 40 percent of births in institutions. Spending on health has not been a priority for successive governments and they have encouraged the growth of the private sector. They have subsidized the private sector by releasing prime building land at low rates (as long as a quarter of patients are treated free - a condition that is rarely met), by exemptions from taxes and duties for importing drugs and high tech medical equipment and through concessions to doctors setting up private practices and nursing homes (Sodani and Gupta, 2001).

Until about 20 years ago the private sector comprised solo practitioners and small hospitals and nursing homes. Many of the services provided were of exemplary quality, especially those hospitals run by charitable trusts and religious foundations. As the practice of medicine has become more driven by technology, however, smaller

organizations have become less able to compete in the private healthcare business. Large corporations, such as drug and information technology companies, and wealthy individuals—often from the Indian Diaspora (commonly called non-resident Indians)—have started providing healthcare to make money. They now dominate the upper end of the market, with five star hospitals manned by foreign trained doctors who provide services at prices that only foreigners and the richest Indians can afford. These hospitals are largely unregulated, with no standardization of quality or costs. Their success may be gauged by their large profits and ability to raise funds through foreign investments. The medical system is failing its own people. The government of India has stated: "To capitalize on the comparative cost advantage enjoyed by domestic health facilities in the secondary and tertiary sector, the policy will encourage the supply of services to patients of foreign origin on payment." Medical tourism to India is expected to become a billion dollar business by 2012 and is starting to change the financing and regulation of certain private hospitals by encouraging private health insurance and international accreditation.

The private health sector in India has made some impressive strides but has done so at the cost of the public sector. A better solution might be to impose greater social accountability on private providers, making a certain proportion of private services available to the poor. The first priority must be to increase public expenditure on healthcare. The government's common minimum programme promises an increase in the spending on healthcare from 0.9 percent to 2-3 percent of GDP in five years with a health insurance scheme for poor families. In the past two years, although expenditure on health has increased in absolute terms, the proportion of GDP represents has declined. In India, each year tuberculosis kills half a million people and diarrhea diseases more than 6, 00, 000. It is time for the government to pay more attention to improving the health of Indians rather than to enticing foreigners from affluent countries with offers of low cost operations.

### Spending on Healthcare Sector in India

India has 16 per cent of the world's population, 18 per cent of its mortality, 20 per cent of morbidity, yet the country's healthcare expenditure is a miniscule one per cent of global expenditure. As one of the fastest growing economies, we cannot continue to be ranked 171 out of the 175 countries surveyed by World Health Organization for percentage of Gross domestic product spent on public healthcare and India ranks 17th in terms of private health spending that are now at 4.3 per cent of GDP. It is, therefore, time India gave the necessary impetus for growth of the healthcare sector as follows:

- Give infrastructure or national priority status to the sector to support and improve the overall investment both at the urban and rural levels.
- Raise spending on healthcare to 2 per cent of GDP from the current 0.9 per cent, for expansion and provision of healthcare infrastructure. The combined public and private

spending should target to reach 7 per cent of GDP

resources, with higher outlays for health insurance schemes to widen equity and accessibility.

National Disease Surveillance Authority under the Ministry of Health to map, and survey the prevalence of disease segments amongst the people.

Immediate impetus to grow the health insurance sector. Introduce and pass the Health Insurance Reform Bill to increase FDI in health insurance companies to 49 per cent. Move towards compulsory health insurance coverage.

Introduce Healthcare Investment Zones to provide medical technology companies a tax-exempt manufacturer's subsidized real-estate and 10-year tax holiday to help the growth of this industry.

Reform the medical education system to enable higher private sector participation.

#### Methodology and Database

The study is based on primary data collected from Urban- North Coimbatore, which is chosen on the basis of judgment sampling method. The study area appropriately represents urban Coimbatore city. Coimbatore is all set to emerge as one of the important cities for medical tourism. So we have taken the North Coimbatore due to more multi-specialty hospitals with high quality of health care and services with good infrastructure and latest medical technology. There are many super specialty hospitals in North Coimbatore like Ganga Hospital (Orthopedics, Neuro-Surgery), Ellen Hospital (Cardiology), Ashwin Hospital (Radiation), Richmond Hospital (Orthopedics), Sheela Hospital (Gynecology), Vinayak Hospital (Accident Care), Ramakrishna Hospital, GEM Hospital (Endoscopic procedures), Lotus Eye Care Hospital, Eye Foundation, Coimbatore Diabetes Foundation etc. There are many other hospitals with different specialization.

Multi-stage random sampling method is adopted to select households (HHs), in Urban Coimbatore i.e., the sampling unit, from each street. In the first stage units are the wards and for the second stage units are the households. In Coimbatore totally 72 wards, among them there are four blocks, and each block consists of 18 wards. The researcher has chosen 18 wards residing north Coimbatore. In each street collected only 13 households randomly. Totally there are 234 households are surveyed. Data of Nine households are deleted because after cross-checking, it was found counterfeit and also irrelevant. Hence, our sample size confined to Two Hundred and Twenty Five only.

To substantiate the objective, i.e., to find out the pattern of health care expenditure of the sample respondents, regression analysis is used and descriptive statistics are estimated. Mainly, four variables are used for this purpose; i.e. household health

expenditure, income of the sample respondents, age and education of the sample respondents. To represent the household health care expenditure, per head health care expenditure (PHCE) is calculated by dividing total annual health expenditure of the household by the household size. Similarly, for income of the household, per head income of the household (PHI) is calculated by dividing total annual household income by size of the household. Dummy variable is used for age and education in the regression analysis; those head of the family the value one is assigned for age and for others zero value is assigned and in similar way for education those head of the family is educated the value one is assigned and those of uneducated, zero value is assigned.

### Discussion of Results

The descriptive statistics found that PHI is Rs.4231.482 per annum with 3650.298 as standard deviation and 0.144 as coefficient of variation respectively where as PHCE is Rs.315.0593 per annum with 516.3984 as standard deviation and as 1.754 coefficient of variation respectively. The mean age is 42.46 with 10.215 as standard deviation and 0.005 as coefficient of variation and mean education is 3.46 with 1.246 as standard deviation and 0.001 as coefficient of variation respectively.

Table 1: Descriptive Statistics

Variables →	Per Head Income	Per Head Health Care Expenditure	Age	Education
<b>Descriptive Statistics ↓</b>				
Mean	4231.482	315.0593	42.46	3.46
Standard Deviation	3650.298	516.3984	10.215	1.246
Coefficient of Variation	0.144	1.754	-0.005	0.001
Highest Value	20000	5000	75	6
Lowest Value	500	16.67	26	1
Range	19500.00	4983.33	49	5

Source: Primary Data

The following table explains the goodness of fit of this model which explains R value is 0.60 per cent. The factor which determine the dependent variable in simple linear regression are statistically significant. The ANOVA table explains statistical significance of the constructed model. This is significant at one per cent level.

$$Y = \hat{a} + \hat{a}_1 X_1 + \hat{a}_2 X_2 + \hat{a}_3 X_3 + \dots + \hat{a}_n X_n + e$$

Where,

Y = Total Health Care Expenditure

X<sub>1</sub> = Age

- X<sub>1</sub> = Income
- X<sub>2</sub> = Education
- e = Random Error Term

To find out the impact of household income, age and education of the head of the household on the pattern of health care expenditure (PHCE) a linear regression model is fitted (Table-2) as  $Ln(HE) = 1.754 + -0.005(Age) + Ln(0.144) Monthly Income + .001 education$  with  $R^2$  value 0.60 which indicates that a rupee increase in income that brings one rupee increase in health care expenditure of a person.

Table- 2

Model summary <sup>b</sup>					
Model	R	R Square	Adjusted R square	Standard Error of the Estimate	Durbin-Watson
	.771 <sup>a</sup>	.595	.589	.27943	1.846

a. Predictors: (Constant), Education, Age, Log Of Per Head Income

b. Dependent Variable: Log Of Per Head Health Care Expenditure

ANOVA<sup>b</sup>

Model	Sum of squares	Df	Mean Square	F	Sig
Regression					
Residual Total	24.310	3	3.103	103.784	.000 <sup>a</sup>
	16.553	212	0.78		
	40.863	215			

a. Predictors: (Constant), Education, Age, Log Of Per Head Income

b. Dependent Variable: Log Of Per Head Health Care Expenditure

Coefficients<sup>a</sup>

Constant	1.754	.213	-	8.227	.000
Age	-.005	.002	-.114	-2.599	.010
Log of per head income	.144	.059	.109	2.4511	.015
Education	.001	.000	.741	6.785	.000

Dependent Variable: Log Of Per Head Health Care Expenditure

Source: Primary Data

Following are the factors which determine the pattern of health care expenditure.

**Age:** Age of the respondents is the most significant factor to determine the health care expenditure. The occurrence of morbidity status is positively correlated with the age of the respondents and it has negative impact on the health care expenditure.

**Income:** Many socio-economic factors affect the health care expenditure in that level income appears to be important and it related to greater influence on demand for the health care. The income of the sample respondents has positive influence on health care expenditure in both rural and urban areas, but the influence is more in urban areas than rural areas.

**Education:** Among the human capital variable education has a positive influence on the demand for health care services. The education of the sample respondents is statistically significant and it has positive impact on health care expenditure. The level of education is very important because it makes people to aware of health and health care services.

### **Conclusion**

Illness pushes households into poverty through loss of wages, high spending for catastrophic illnesses, and repeated treatment for other illnesses. The share of household non-food expenditures spent on health is higher among poor than richer groups. Patients sell assets to finance health care. Health expenses are estimated to have pushed almost three million Vietnamese into poverty in 1998. Out-of-pocket spending pushes poor households deeper into poverty, but it also pushes households that were not poor into extreme poverty. The poor seldom enroll in voluntary insurance schemes and rarely benefit from compulsory schemes, even when they do; they still incur significant direct health care costs in the form of insurance premiums and payments for non-covered services.

The study finds that income and education of the respondents has significant influence on its health care expenditure where as the age of the respondents have negative impact on it. The factors which determine the dependent variable in simple linear regression are statically significant. The positive association between health and socio economic status, whether measured by education, income or age is largely due to the effects of socio economic status on health. The problems of health care are enormous. Greater stress on preventive health care, medicine and health education should be laid. Poor health limits the productive capacity of the affected person including his ability to enjoy good health. Therefore, the study concludes that health literacy efforts should be made integral to preventive, promotive, curative and rehabilitative health care. At the present time utilization of health services is high because the health problems arising as saddle to an individual in that case health expenditure is lofty to them. When the people are unable to meet their health and healthcare expenses they need health insurance.

Nowadays without health insurance one may not be able to afford expensive medical and health service. Health insurance can help anyone to get better quality healthcare and health plan of his own. It lends to improve health status, utilization of health services and to meet unacceptable healthcare expenditure among the people in a

Public health investment and expenditure in India has increased substantially over the last decade, but this has been enough to secure a decent standard of health care for the country and there is a lack of suitable health insurance schemes for illness

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