

**Revisiting the Determinant of healthcare expenditure****Dr. Archana Rathore, Assistant Professor,****IBS Business School, The ICFAI University****Abstract**

Asymmetrical nature of Health expenditure around the world is highly notable. Healthcare spending in India (3.9 per cent) is slightly higher than the average spending of her South Asian neighbours, but considerably lower than the developed nations. Most important of this is 67 percent of this total healthcare expenditure is the out of pocket expenditure which pushes the major portion of the population under poverty. There is a need for policymakers to understand the determinants of healthcare expenditure so that the effective allocation of the budget can be made. There is extensive literature on the determinants of health expenditure in OECD countries, but the same is not true for developing countries. The main purpose of this study is to investigate determinants of health care expenditure in India. This study discusses the theoretical literature related to healthcare expenditure and tries to extract the determinants through Meta analysis for further research and policy purposes.

Keywords: Health care Expenditure, Out of pocket payment, Determinant

**Introduction**

Healthcare has become one of India's largest sectors - both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players. Indian healthcare delivery system is categorized into two major components - public and private. The Government, i.e. public healthcare system comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of primary healthcare centers (PHCs) in rural areas. The private sector provides majority of secondary, tertiary and quaternary care institutions with a major concentration in metros, tier I and tier II cities.

Against the estimated spending of five percent of gross domestic product (GDP) in 2013 on health care , the current level are expected to remain same through 2016. Total health care spending in local-currency terms is projected to rise at an annual rate of over 12 percent, from an estimated \$96.3 billion in 2013 to \$195.7 billion in 2018. While this rapid growth rate will reflect high inflation, it will also be driven by increasing public and private expenditures on health. According to Health outlook 2015 by Deloitte, Indian public health care system is surrounded with underfunded and overcrowded hospitals and clinics, and inadequate rural coverage. Reduced funding by the Indian Government has been attributed to historic failures on the part of the Ministry of Health and Family Welfare (MHFW) to spend its allocated budget fully. This is despite increasing demand, due, in part, to growing incidence of age- and lifestyle-related chronic diseases resulting from urbanization, sedentary lifestyles, changing diets, rising obesity levels, and widespread availability of tobacco products. India's health care sector witnesses close to 50 percent spend on in-patient beds for lifestyle diseases, especially in urban and semi-urban pockets. In addition, India has one the world's highest numbers of diabetes sufferers, at more than 65 million individuals. This trend has resulted in the mushrooming of super specialty hospitals to combat lifestyle diseases. The government's low spending on health care places much of the burden on patients and their families, as evidenced by the country's out-of-pocket (OOP) spending rate, one of the world's highest. According to the World Health Organization (WHO), just 33 percent of Indian health care expenditures in

2012 came from government sources. Of the remaining private spending, around 86 percent was OOP. The objective of the paper is to identify the key determinant of healthcare expenditure from plethora of literature for the policy making perspective. So that an attempt can be made to reduce the increasing burden on household which is pushing them below them the poverty line.

### Literature Review

The global literature on health has recognized that public spending on health is essential for fighting with major diseases and meeting Millennium Development Goals (MDGs) targets.

Kleiman (1974) reached the conclusion that if the income elasticity of medical care expenditures across countries exceeds one then the countries with high expenditure, the marginal unit of medical care is more likely to produce improvements in so-called subjective components of health, such as relief of anxiety and more accurate diagnoses, rather than improvements in morbidity and mortality rates.

Newhouse (1977) work, examined the degree to which this discrepancy in health expenditure is explained by income of a country. The focused remained to examine the magnitude of income elasticity of health expenditure. Health is described a luxury good if the responsiveness is sensitive to income change (i.e., if elasticity  $>1$ ) and as a necessary good if the responsiveness is insensitive to income change (i.e. if elasticity  $<1$ ).

The results of the study by Karatzas (2000) suggested that per capita real private expenditure is both income inelastic and price inelastic. This indicates that per capita health care expenditure is a necessity in contrast with the argument that it is a luxury good. Karatzas (2000) found that apart from per capita real income, non-income factors such as that of supply-related also determine per capita real health care outlay. However, he singled out ageing population as being insignificant in most subcomponent of his analysis. There is no supporting evidence indicating that the rise of the US's ageing population had any significant impact on per capita real health care outlay during the sample period

Bac and Le Pen (2002) argues that there is not only a strong positive correlation between per capita health expenditure and per capita income in developed countries, but also that per capita income explains a high percentage of the variation in per capita health expenditure. They questioned whether the income elasticity of health expenditure is greater or less than 1. If the elasticity is higher than 1, national health expenditure would increase faster than income, while if it is less than 1, health expenditure would increase more slowly than income. In summary, the empirical literature on the determinants of national health expenditure shows that aggregate income is one of the most important factors in explaining health expenditure.

Peters et al. (2002) Studies on economic consequences of health shocks provide important insights for policy makers. Health policies are concerned not only with improving health status of population but also with protecting households from financial catastrophe of illness. Studies examining out-of-pocket (OOP) health expenditure throw light on effect of illness on economic wellbeing of household. The concept of catastrophic OOP health expenditure assumes importance in this context. Catastrophic OOP health expenditure is concerned with high levels of OOP health expenditure which might affect household's standard of living.

Murthy and Okunade (2009) examined the major determinant of health care expenditure in African countries. They used ordinary least square (OLS) and two-stage least square (TSLS) method by employing cross-sectional data for the year 2001. Murthy and Okunade concluded that there are two major determinants, namely, per capita real GDP and per capita real foreign aid (FA). In general, studies on the

determinants of health care expenditure discussed above employed different methods and types of data. Somehow a number of variables were included, such as age of the population, public health care expenditure and relative price of health care. Per capita income is found to be the major determinant of health care expenditure in most.

Xu and Sakesena (2011) focused on examination of other important factors that influence the government expenditure on health of a country and theoretical underpinning on the subject remained low. According to them, it is highly likely that health expenditure varies in countries with same level of economic development. Secondly, factors that influence the variation in government health expenditure across countries may be different within a country across its states/regions.

### **Determinant of Health Care Expenditure: Key findings from previous studies**

**Demographic structure:** An ageing population is the most obvious factor behind increasing health care expenditure over the recent decades. Constantly growing life expectancy together with permanently low fertility rates have resulted in the gradual evolution of the demographic structure of populations that began with the last baby-boom period in the 1950's and 1960's and is not expect to shift sharply over the next decades. The effect of those changes has been a gradual increase in the share of older people in the population and – more recently – relative shrinkage of the young cohorts. This evolution has had an obvious impact on the demand for health care. Although the use of health care depends ultimately on the health status and not the age of a person itself, elderly people use health care more often and more intensively than young cohorts. Thus, the relative increase in the proportion of the elderly population contributes to the increase in demand for and expenditure on health care. (Dybczak , 2010)

**Income:** Most studies agree that the link between health care expenditure and the demographic structure is becoming weaker over time, as, despite generally improving health status, the consumption of health care keeps increasing. This phenomenon is due to the growing share of health care expenditure both in household budgets and in the public government spending which, in turn, is driven by the increasing awareness of the health status, growing public expectations on the level of health care provision guaranteed by the state and growing availability of new technologies allowing to tackle new, previously untreatable, diseases. While it is generally agreed that the growth in national income brings about the increase in health care spending, the strength of this relationship, or the value of income elasticity of demand, remains uncertain. Income (per capita GDP) has been identified as a very important factor for explaining differences across countries in the level and growth of total health care expenditures. (Kea Xu, 2011)

**Medical technology:** Medical technology is arguably the most important supply factor affecting the entire process of development, production, delivery and financing of health care. While precise estimates of its contribution to the improvement in longevity and health status are still lacking, recent studies tend to attach to it an ever more crucial role in the explanation of health expenditure. Technology, defined as 'the drugs (pharmaceuticals and vaccines), medical equipment, health-care procedures, supportive systems, and the administrative systems that can tie all these disparate elements together'<sup>9</sup> are considered as the main driver of health care costs in today's developed societies. The first attempt to quantify the impact of technology is attributed to Newhouse (1992), who found that the bulk of health care expenditure growth in the industrialized countries can be attributed to technological growth. (Kea Xu, 2011)

**Disease pattern:** Disease patterns have a direct link with the amount and types of health services that are needed. The impact of certain dominant diseases on national health expenditure by the government and

by households would be worth exploring. For the infectious diseases we used the incidence of tuberculosis per 100,000 people (tb) as a tracer for disease prevalence. Other diseases can also be considered, such as HIV and malaria. Non-communicable diseases, such as diabetes, hypertension and cancer, have been becoming more and more important in high income countries as well as in developing countries. However, the time series data for other infectious diseases and non-communicable diseases is not available.

**Health system characteristics:** The way a health system is organized, in particular the design of health financing functions, are likely to have impact on health expenditure. We included out-of-pocket expenditure as a percentage of total health expenditure in the regression of total health expenditure. A larger share of prepayment would allow better access to services which in turn may increase utilization and total health expenditure. However, a larger share of prepayment would also give more leverage to control costs.

*Service provision:* The use of primary care gatekeepers seemed to result in lower health expenditure.

*Health financing:* In terms of financing structure very few empirical studies found that the extent to which health care expenditure was financed by the government has a relationship with levels of health expenditure.

*External funds:* Recently, there has been much interest in relationship between external funds and national health expenditure in developing countries.

*Provider payment mechanisms.* Fee-for-service systems tended to lead to higher expenditure on average than capitation systems (Gerdtham & Jönsson 2000). A shift from financing hospitals through budgets to fee-for-services or patient-based payment mechanisms was associated with increases in both public and private components of health expenditure in a study from ECA countries.

**“Baumol effect” or “cost-disease” :** The so-called Baumol effect is the tendency for relative prices of some services to increase vis-à-vis other goods and services in the economy, reflecting a negative productivity differential and the equalization of wages across sectors. In particular, prices for health services will rise relative to other prices because wages in low productivity sectors must keep up with wages in high productivity sectors. With a price-inelastic demand, the share health care expenditure in GDP would tend to increase over time (Hartwig 2008). Therefore, the Baumol effect may also be an important factor for the growth of health care expenditures, but not necessarily for their levels, although it seems natural to assume that the costs of health care, which is a labor intensive good, will be higher in high wage economies. However, the Baumol effect is a phenomenon that affects mainly developed economies and it seems to be logical not to include it in studies on developing countries.

### **Conclusion**

Review of previous studies concludes globally the total amount of expenditure on health is increasing as countries are becoming richer. While it is useful to know what drives health expenditure increases, it is important for policymakers to know whether increased spending on health facilitates achieving universal coverage, and ultimately improves people's health. This study provides that policy should be focused on the determinants of healthcare expenditure .Out-of-pocket payments and prepayment follow different path, but are inter-linked. The further research will be carried out to analyze the impact of each determinants.

**References**

Bac, Catherine, and Yannick Le Pen. "An international comparison of health care expenditure determinants." (2002).

Dybczak, Kamil, and Bartosz Przywara. *The role of technology in health care expenditure in the EU*. No. 400. Directorate General Economic and Monetary Affairs (DG ECFIN), European Commission, 2010.

Gerdtham, Ulf-G., and Bengt Jönsson. "International comparisons of health expenditure: theory, data and econometric analysis." *Handbook of health economics* 1 (2000): 11-53.

Hartwig, Jochen. "What drives health care expenditure?—Baumol's model of 'unbalanced growth' revisited." *Journal of Health Economics* 27.3 (2008): 603-623.

Karatzas, George. "On the determination of the US aggregate health care expenditure." *Applied Economics* 32.9 (2000): 1085-1099.

Kleiman, Ephraim. "The determinants of national outlay on health." *The economics of health and medical care* 29 (1974): 124-135.

Kea, Xu, Priyanka Saksena, and Alberto Hollyb. "The determinants of health expenditure: a country-level panel data analysis." *Geneva: World Health Organization* (2011).

Newhouse, Joseph P. "Medical-care expenditure: a cross-national survey." *The Journal of Human Resources* 12.1 (1977): 115-125.