

**NISHA.T.A. “HOUSEHOLD HEALTH EXPENDITURE IN
KERALA: AN ECONOMIC ANALYSIS” THESIS RESEARCH AND
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CHAPTER 1

DESIGN OF THE STUDY

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1.1. Introduction

The role of health in human capital formation is immense to enhance the productivity of population of a nation. Spending on health is a significant variable in determining the health capital. Reasons behind spending on health are differ from person to person. The motive behind spending on health may be preventive health care, promotive health care and tertiary health care. Both microeconomic and macroeconomic aspect of spending on health is crucial for economic analysis of expenditure on health. In microeconomic perspective health is considered as an input to generate income which in turn to buy goods and services. Government involvement in health spending and its effect on individual decision constitutes the macroeconomic perspective of spending on health.

Health, a leading component of human capital, emerged as a major element of 'pro-poor' economic growth strategies to enhance economic growth, and thereby reducing economic inequality. There exists a close relationship between income and health. Higher income prospectively allow individuals to access to better health care and to afford better nutrition; better health increases productivity; and boost the ability

to earn more. Ill health can lead to lost earnings on account of missed working days, jointly with extensive expenditures incurred on account of medical treatment, can impoverish families, especially living on the margins of survival. Investing in health is investing in economic development and economic growth (GoI, 2005). Health is potentially influential for knowledge and human capital production. Improved health contributes to economic growth in four ways: it reduces production losses caused by worker illness; it permits the use of natural resources that had been totally or nearly inaccessible because of disease; it increases the enrolment of children in schools and makes them better able to learn; and it makes alternative uses of resources that would otherwise have to be spent on treatment.

Health itself is an interesting economic issue, which deals both positive and normative aspects. Production function of health raises the issue of measurement whether higher consumption of medical services contributes better health. The demand function of health care raises the issues of determinants of quantity and quality of health care in its positive aspects while in normative aspects it specifies the investigation of the condition of production and distribution of health care (Zweifel, 2009). Hence spending on health has both positive and normative aspects.

Health is multidimensional. As per the Constitution of World Health Organisation (WHO) "Health is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity" (WHO, 1948). WHO definition captures physical, mental and social dimensions. An individual's demand for medical services is irregular and unpredictable. There are many factors contributed to good health such as nutritious food, pure drinking water, pollution free environment, opportunity for work and mental peace. Health status will never be the same for all. Different people need different treatments. Different treatments entail different costs. Their illness and their cures will not impose the same economic burden. Every system of risk pooling must face up to the challenge of heterogeneity. Heterogeneity makes health care a thing apart. The risk and uncertainty are crucial elements in medical care (Akerlof, 1970).

The main reason for government intervention is redistribution of income in the health sector. Health care is considered as a merit good. The government has a responsibility to impart the provision of health care irrespective of the desire of the consumers regarding the use of health care goods and services (Central Statistical Organisation, 2015). It is therefore important to assess the relative role of the public

sector in health care provision. The national output of a country can be allocated to various fields such as education, food, communication, housing, health care, transportation, and national defense. The share of Gross Domestic Product (GDP) allocated to health care services is a measure of the size of nation's health sector with respect to its national output. A country's share of GDP allocated to health care is positively associated with its income level suggesting that health care is a normal good (Sloan and Hsieh, 2017). In developed countries, government health spending accounts more than 5% of GDP. There exist high variations across countries in health expenditure as a share of GDP, which ranges from less than 5% to 15% (Ke et al., 2011). In India, the proportion of government health expenditure is very low compared to that of less developed countries. Public health expenditure as a proportion of GDP gradually accelerated from 0.22% in 1950-51 to 1.05% in the 1990s and then decelerated to less than 1% till 2004-05 and increased to 1.35% of GDP in 2010-11 and decreased to 1.02% in 2015-16. The central government spends directly on health and also provides grants-in-aid to state governments for health spending. As health is a concurrent subject the state government undertakes the larger share of public health expenditure. The state governments also transfer funds to local bodies for health spending. The local bodies can also incur health expenditure from their own resources. More than 70% of health expenditure is carried out by the households (Garg and Karan, 2009; Ravi, 2016).

An expenditure for medical care becomes financially catastrophic when it endangers the family's ability to maintain its customary standard of living and the incidence of catastrophic medical expenses is relatively small in the population as a whole, it is quite large among the poor (Berki, 1986). World Bank report (2002) highlights how ill-health can lead to out-of-pocket payments leading to further impoverishment and indebtedness. The WHO convened the Commission on Social Determinants of Health in 2005 to provide advice on how to reduce health inequities. The growing incidences of catastrophic expenditure due to health care cost are presently estimated to be one of the major contributors of poverty (Flores et al., 2008; Joe and Mishra, 2009). An increase in the health care expenditure is a burden for an individual. The health care expenditure both in private and public sector is in increasing rate. To finance this health care expenditure is a challenge for a developing country like India. The poor and deprived households spend a much larger proportion of their meager income on health care compared with socio-economically better off

households (Baru and Bisht, 2010; Mukherjee et al., 2011; Joe, 2015). The soaring cost of health care is a matter of concern the world over. In this context the review of literature is inevitable to get more idea on health expenditure.

1.2. Review of Literature

Various aspects of health and expenditure on health are considered for literature review. It helps to examine the various concepts of health expenditure and pattern of expenditure on health between countries and within the country. It throws light on significance of expenditure on health both by the government and households.

1.2.1. Determinants of Health

The literature on health has recognized various determinants on health such as social, cultural, economic, ecological and political. They are interlinked to each other.

Marmot (2005) examined the social determinants of health which would help in reducing inequalities in health all over the world. The study stresses on the importance of social determinant of health which is based upon food, transport, work, social exclusion, early life, unemployment, stress, addiction, social gradient and stress. Apart from social policy, the health outcome would sensitive to the effects of absolute material deprivation.

Ekbal et al. (2012) analysed the social determinants of health in Kerala. The study considers the social determinants of health as the conditions in which people are born, grow, live, work and age. The study reveals that the factors which influences inequality in health in Kerala such as distribution of money, power, power relations in politics and availability of resources. The study stresses a policy of an effective intersectoral action to reduce disease burden.

Thresia (2014) examined the socio-economic and political determinants of health of women in Kerala. The study finds that the factors weakening progress in health of women in Kerala in the 21st century. These factors consist of various socio-economic and political deterrents like gender, poverty, caste, class, ethnicity, education and employment, income and politics. The study concluded that the present health care system in Kerala faced challenges like medical poverty, chronic morbidity, declines in mental health and health inequalities across different class among the people. The study highlights the role of government in providing health care to reduce deterrents in health care.

1.2.2. Determinants of Expenditure on Health

Gerdtham et al. (1992) empirically examined the aggregate health care expenditure among 19 OECD countries by using log functional form of variables. GDP per-capita, population above the age of 65 years and institutional factors of health system are significantly contributed to the expenditure on healthcare among these countries. The study finds that institutional factors of health system include the mixture of public-private funding, inpatient and outpatient care and the way physicians are paid in outpatient care.

Siddiqui et al. (1995) examined the public health policy and changes in socio-economic factors in Pakistan during 1974 to 1993. The study highlights the complex and multidimensional nature of health policies. Health policies are based on various socio-economic and political factors. The study finds that socio-economic variables like per-capita gross domestic product, urbanisation and effect of education would be significant determinants of health resources in Pakistan. Government health policy was analysed by using the variables like public health expenditure per person, number of doctors, nurses, and hospital beds.

Angko (2009) analysed the demand side macroeconomic determinants of government health expenditure in Ghana by using time series data from 1970 to 2006. The study used Augmented Dickey-Fuller test and Phillip Perron test for unit roots. The study noticed that health care is a luxury good in Ghana. The study proved that the variables like gross domestic product, life expectancy at birth, urbanisation rate, proportion of population below 15 years and above 65 years and accessibility of health care facilities are the long run determinants of health care expenditure in Ghana.

Imoughele and Ismaila (2013) identified the factors that influence public health expenditure in Nigeria using error correction technique and time series data from 1096 to 2010. The result shows that demand for health in Nigeria is price inelastic. The study finds that proportion of population below 14 years of age and younger age young and government development policy on health are the major determinants of health expenditure in Nigeria. Unemployment rate, consumer price index and political instability are insignificant in the determination of health expenditure.

Samadi and Rad (2013) examined the determinants of health expenditure in Economic Cooperation Organisation countries by using panel data econometrics methods like Westerlund panel co-integration test. The study analyses to answer whether long term relationships exist between the variables and fixed effects estimator for short term analysis. The study found that there is a long term relationship between per-capita health expenditure and per-capita gross domestic product, proportion of population below 15 and above 65 years old, number of physicians and urbanisation. Here health is considered as a necessary commodity.

Hosoya (2014) studied the determinants of health expenditure of 25 OECD countries over the periods 1985-2006, 1990-2006 and 1997-2006. The study considered health care as a necessary commodity. The study found that there is a positive correlation between ageing of population and health expenditure. Gross domestic product, unemployment, percentage of female labour from female population aged from 15 to 64 and time variable affect the health expenditure.

1.2.3. Health Infrastructure and Expenditure on Health

Kumar and Gupta (2012) studied condition of health infrastructure in India which is in pathetic condition based on the secondary data obtained from National Health Profile 2010. The study discussed the present scenario of healthcare facilities and personnel in India. The study suggested some suggestions like geo-coding, reduction of urban bias and a model health plan of United States of America which can be helpful in providing answers to the Indian Health Problems. The study reveals that the issue of health is no longer a localized concern, in today's globalised society diseases and health problems have crossed all boundaries and this is a matter of great concern as diseases continue to become more radical the means of fighting them are still primitive and insufficient.

Kumar (2013) analysed the relationship between infrastructural health facilities and public expenditure in class-I towns of Uttar Pradesh in India. The main data source of this study is 'Town Directory', 2001 census of India. Pearson's correlation values show positive and significant results for the correlation between health expenditure and health infrastructure. Regression results between health expenditure and health infrastructure are weak. There is high inconsistency between health expenditure and health infrastructure. It indicates that private sector is much more active in providing health care facilities than that of public sector. There is a

skewed distribution of health care facilities across the class-I towns of Uttar Pradesh, which ultimately would lead to costly and poor health care facilities for the urban poor.

Lakshmi and Sahoo (2013) calculated the elasticity coefficients of health indicators with respect to health infrastructure in Andhra Pradesh during 1980-2010. By using double log simple regression technique the analysis confirms that health infrastructure has significant and positive bearing on health indicators. The study confirms that only building good health infrastructure does not yield good health outcomes; operational efficiency, implementation, maintenance of health infrastructure and efficient utilisation of available infrastructure are some of the factors contributed to the health outcomes. The study recognized that public health facilities are crucial for meeting the basic requirement of the people.

Dey et al. (2013) remarked that social health issues, natural calamities and disasters, nutritional aspects have accumulative effect on the wide disparities in the existing health infrastructure. Lack of proper infrastructure facilities has limited the ability of the facilities to drive the health care standards in the majority of the people in the country. The high morbidity and mortality levels in the country indicates the unsatisfactory health indices which in turn indicates the limited success of the public health system in meeting the preventive and curative requirements of the general population in India.

Santos et al. (2015) assessed the public health care infrastructure in Himachal Pradesh where the health care challenges of rural communities were unique due to difficult terrain, distance between health centres and diseases patterns. By using semi-standardized interviews the researchers developed a rural healthcare assessment model to assess the infrastructure across the dimensions of locations, facilities, services and stakeholder perceptions of quality. The study emphasized more resources to remove the bottlenecks in the health system.

1.2.4. Public Expenditure on Health

Bhat and Jain (2004) examined the relationship between income and health care in India using state level data. The study revealed that there exist severe imbalances between public and private health care; and within public health care between preventive and curative services; between primary, secondary and tertiary health care services and between salary expenses and other recurrent expenditures.

The study argued that the declining allocation to the health sector at state level would have detrimental effect on public health delivery. Private health care expenditures are generally demand driven and it depends on the consumers and their behavior. Public expenditure is more supply driven which depends upon how much government allocates to health care in a given year.

Varatharajan (2004) studied on the existence of government health care sector in India. The dissatisfaction of people by using government facilities would encourage the private health care sector. The failure of government in health sector is the success of private health sector. The study provides ethical view to assess the performance of government health care provision and argues that the poor are the most affected when the government health care system ignores economic principles. The budgetary allocation to the health sector is less than required level in India and this would force the poor to use private health care facilities where the cost of health care is high.

Ke et al. (2011) examined the path of health expenditure in developing countries using the panel data of 143 countries during 1995 to 2008. The study pointed out that there exist great variations across countries in health expenditure as a share of GDP, which ranges from less than 5 percent to 15 percent. Income, demographic factors and health system characteristics contributed this variation. The study revealed that the government health expenditure and out-of-pocket payments follow different paths. Moreover the study discovered that growth of health expenditure is different for different countries at different levels of economic growth.

Nyamwange (2012) examined the effect of per-capita GDP on public healthcare expenditure in Kenya for period 1982-2012 employing Ordinary Least Square regression. The study found that health care is a necessary good in Kenya. Underfunding and increased demand of quality and availability of health care services are some of the challenges in the health care sector. The study explained the minimum amount of funding that the government should direct to public health care expense given future predictions of GDP per-capita by institutions like World Bank.

Choudhury and Nath (2012) provide an estimate of health expenditure in India for the period 2004-05 to 2010-11. The study provided estimates for various definitions of health expenditure, depending on whether one uses only health expenditure or health in combination with water supply, sanitation and nutrition. The study estimates that health expenditure has increased by about 0.2 percent of GDP between 2004-05 and 2010-11 and in per-capita terms there has been a significant rise

in health expenditure from around ₹263 in 2004-05 to about ₹486 in 2010-11 at 2004-05 prices. The distribution of centre's health spending across states in recent year would appear to be an area of concern.

Hooda (2013) analysed the implications of changing pattern of government health expenditure in India during the period 1987-88 to 2011-12. The study found that the existing level of health spending is much lower than the required level of resources. The spending in rural area on preventive services is not only very low compared to urban and curative care but also shows declining trends over the period. The increasing trend in central allocation under National Rural Health Mission (NRHM) to states considered as a healthy indication but the funds remained unutilised in many states. It is desired to ensure the allocated funds get spend effectively across states.

Rajeshkumar and Nalraj (2014) examined the causal relationship between health care expenditure and economic growth in Kerala, Orissa, Tamil Nadu and Madhya Pradesh during 1991-2010. The study considered that good health is a decisive factor in the reduction of poverty and promotion of sustainable development. The study finds that there exists a unidirectional causality from health expenditure to economic growth. The increase in demand for better health care leads the private health providers to supply such goods and services. This shift from public to private health care utilisation reduced economic growth contribution on public health care expenditure.

Hooda (2015) pointed out that income of the states plays a significant role in influencing the public expenditure on health across various states in India. Health is considered as a necessary commodity in India. The demographic factors were less likely to influence the spending on health. The study found that there is high inter-state variation in public expenditure on health in India. The study revealed that the responsiveness of health spending is sensitive to change in per-capita income of the state. The expenditure on health is recorded significantly higher after the implementation of NRHM than the pre-NRHM period.

Kurt (2015) tests the direct and indirect effects of health expenditure on economic development in Turkey between 2006 and 2013 using Feder-Ram model. The study found that there is a positive direct effect of government health expenditure on total expenditures, aggregate demand and total production. The negative impact of

diseases, accidents and business disruptions on the output of other sectors and the exclusion effect of government health expenditure were found to be negative.

1.2.5. Household Expenditure on Health

Xu et al. (2003) examined multicounty analysis on household catastrophic health expenditure using regression analysis. A study of household expenditure of 59 countries revealed that the proportion of households' out-of-pocket expenditure varies differently between countries. The study defined expenditure as catastrophic expenditure if the household's financial contribution of the health system is more than 40 percentage of income. The study found that there are three key preconditions for catastrophic payment such as low capacity to pay, availability of health services requiring payment and lack of health prepayment. The study suggested risk protection policies would be significant in the situation of catastrophic health expenditure of households.

Flores et al. (2008) illustrated how taking account of the financing of payments of inpatient care affects measures of the impact of health payments on household consumption, welfare and poverty in India by using 1955-1996 NSSO data. The study demonstrated how measures of catastrophic payments and impoverishment that ignore the means of financing can give a seriously misleading impression of the short-term consequences of high out-of-pocket medical expenditures. The study revealed that hierarchy of coping strategies in which health care financed first from current income or savings, recourse is made to borrowing and asset sales if income and savings are insufficient and healthcare is forgone, if collateral is lacking.

Bonu (2009) examines the incidence and correlates of catastrophic maternal expenditure in India using data from the 60th round of National Sample Survey of India. By using multivariate regression analysis the study measures the maternal expenditure in India which is higher in private hospitals than public hospitals. Maternal expenditure is calculated in relation to households' capacity to pay. Low income households severely affected by the high catastrophic maternal expenditure. The study suggested some measures to reduce the burden of maternal expenditure such as improve the performance of public sector, appropriate regulation of and partnership with private sector and effective directive cash transfer to pregnant women in low income households.

Garg and Karan (2009) assessed the differential impact of out-of-pocket healthcare expenditure and its components, between developed and less developed regions in India based on Consumer Expenditure Survey data from the National Sample Survey conducted in 1999-2000. The study revealed that both the increase in the number of poor as a result of out-of-pocket expenditure were higher in rural areas and poorer states than in urban areas and wealthier states. Expenditure on drugs was found to constitute the major part (70%) of out-of-pocket healthcare expenditure in India. Among all the major states, Uttar Pradesh shows the highest increase in poverty, followed by three other poor states; Bihar, Orissa and Madhya Pradesh. These four states taken together constitute 58% of the total increase in poverty headcount because of out-of-pocket payments. Out-of-pocket expenditures have a striking impact on increasing the poverty ratios in the country.

Joe and Mishra (2009) analysed the magnitude and distribution of out-of-pocket spending in India using NSSO consumer expenditure survey for 2004-05. The study narrates the poverty impact of out-of-pocket payments. This analysis revisits the distribution of healthcare payments in India and examines the incidence of disproportionateness in out-of-pocket spending. The results revalidate that richer sections of the population are spending more on health care as compared with the poor. In a relative sense, poorer sections continues to spend a major share of the out-of-pocket payment expenditure on purchase of drugs and medicines and only a smaller share is allocated on diagnostics and services charges.

Berman et al. (2010) made a new approach to correct some of the biases in assessments of the impoverishing effect of health spending in India. By using NSSO 60th round data on morbidity, the analysis linked household out-of-pocket spending on health with poverty line of India and calculate the increase in poverty headcount related to health spending. The result indicates that health expenditure related impoverishment in India is very high. Out-patient care is more impoverishing than inpatient care in urban and rural areas alike.

Ghosh (2010) measures catastrophic payments and impoverishment due to out-of-pocket payments for health care. The study used cross sectional data from NSSO for 1993-94 and 2004-05. The study discovered significant changes in the 1990s and early 2000s which have occurred as a result of out-of-pocket spending on health care among the states in India. Income inequalities in out-of-pocket payment were highest in Orissa and lowest in Kerala.

Mukherjee et al. (2011) identified caste-based inequalities in out-of-pocket health expenditure of households in Kerala. The study points out that there is inadequate provision of public health care, the near absence of health insurance and increasing dependence on the private health sector have impoverished the poor and the marginalised, especially the scheduled tribe population. Caste-based inequality in household health expenditure reflects unequal access to quality health care by different caste groups. Households with high health care needs and chronic health care needs are most affected by this inequality. Households in the most marginalised castes and with high health care need require protection against impoverishing health expenditure.

Ghosh (2011) measures catastrophic payments and impoverishment due to out-of-pocket expenditure for health care using data from NSSO for 1993-94 and 2004-05. The study used two measures of poverty for measuring impoverishment such as the poverty head count and the poverty gap. The proportion of households facing catastrophic out-of-pocket health payments varied widely among states from 3.46 percent in Assam to 32.42 percent in Kerala during 2004-05. The price of drugs is several times higher than in established market economy and there is overuse of drugs in India. New policies had a major impact in increasing the incidence of catastrophic expenditure and impoverishment.

Pal (2012) made an attempt to provide a new measure of catastrophic out-of-pocket expenditure in India based on consumption of necessities. According to the new measure, out-of-pocket expenditure is catastrophic if it reduces the non-health expenditure to a level where the household is unable to maintain consumption of necessities. The revised measure shows that the incidence of catastrophic payment goes down when income increases. The findings from the multivariate analysis show that economic and social status of Indian households is an important determinant of incidence of catastrophic health expenditure.

Abolhallaje et al. (2013) studied the determinants of health expenditure in Iran using data on expenditure from 2002-2008. The study found that high inflation rates in the health sector, growing the number of physicians, lack of well organized public health sector services and insufficient social health insurance mechanism are the reasons for high out-of-pocket spending on health in Iran. The study considered three categories of determinants of catastrophic payments of household such as socio-economic status of households, equality or inequality conditions of the distribution of

financing risk and economic aspect of distribution of health expenditure. The study suggested that increasing share of government spending on health care and prepayment sources of health service financing would be able to reduce the household out-of-pocket payment.

Arun and Kumar (2013) viewed that the state has a significant role to play in the delivery of health services in India. They tried to study the rationale behind promoting regulated private expenditure for the development of effective health infrastructure. The study found that health expenditure is affected by host of structural deficiencies such as high dependence on private sector investment and foreign donors. To increase the process of structural transformation, transformation of health care facilities is essential.

Ladusingh and Pandey (2013) made an attempt to evaluate impoverishment effect of the out-of-pocket expenditure in India on households and determinants of household health expenditure with an objective to serve as inputs in strengthening of public health. The study found that high out-of-pocket expenditure on health is a major source of inequity in financing health care and its impoverishment effect on households varies across states and sub groups in India. The study found that out-of-pocket payment tends to increase significantly with inequality in income distribution and shortage of physicians at the state level. Health system inadequacy measure by population density per physician has escalating effect on impoverishment.

Leone et al. (2013) assessed the economic burden of maternal health care services on Indian households using cross-sectional population data from NSSO for 2004. By using regression techniques the study proved the high burden of maternal health care expenditure across states according to the level of health care utilisation. There exists heterogeneity in maternal health care expenditure at household and community levels in India. The expenditure in private hospitals is almost four times more than that of public hospitals.

Mohanty and Srivastava (2013) explained the differentials in out-of-pocket expenditure on delivery care analysed with respect to demographic and socio-economic characteristics of women, type of health care provider and delivery characteristics. By using unit data from District Level Household Survey-3, the analysis found that the propensity and rate of out-of-pocket expenditure increases with an increase in economic status and educational attainment of mothers. The

predicted expenditure for a caesarean delivery was six times more than for a normal delivery.

Joe (2015) examined the incidence and correlates of health care financing in India by using cross sectional data from the Morbidity and Healthcare Survey 2004 conducted by NSSO. With the help of multivariate logistic regression the study found that there exist significant socio-economic gradient in the distribution of distressed health care financing for marginalised sections of the society. The financial burden of non-communicable diseases is high among backward social groups. The treatment cost of elderly and female members can be financed mainly by the contribution from friends and relatives.

Jayakrishnan et al. (2016) studied the out-of-pocket expenditure in India and factors affecting it by using the NSSO survey conducted during 2014. This paper also analyses the impact of public funded health insurance schemes on out-of-pocket expenditure in India. The study analysed the supply and demand factors in affecting the out-of-pocket expenditure. Cost of diseases per episode and morbidity level was increased in India due to supply induced demands. The drain on family income due to high expenditure on health care can neutralize the gains of income. The study found that morbidity level increased considerably due to the increase in life expectancy and demographic change of old age population.

Ravi (2016) made a comparative study of health care in India over the years 2004-2014 using the NSSO data from round 60 and round 71. This paper analyses the changes in health seeking behavior of Indian households and changes in their out-of-pocket expenditure. There exist significant variations across states in terms of health spending. There is no change in the impoverishment effect of health care cost for the period from 2004 to 2014. There exist variations in health care financing of households over the ten years.

Sinha et al. (2016) analysed the factors of out-of-pocket expenditure using cross sectional data from 986 sampled households in the state of Jharkhand in India. Out-of-pocket expenditure was high among households headed by persons above sixty years which indicates the high health care requirements of aging population. Moreover out-of-pocket expenditure was high for those families which had childbirth in the family in the past two years. The households from lower expenditure quintiles and women headed households had lower out-of-pocket expenditure due to the health care seeking from informal providers which would increase the risk of poor health.

On revisiting Kerala model of health care, Sunilkumar (2017) examined the utilisation and financing pattern of health care among three types of working class in Kerala. By using multi-logistic regression model the study found that there exist a significant difference between public and private health care facilities across households; and the size of households and utilisation of private health care service shows an inverse relationship. The economic status, size of household and insurance status were treated as the determinants of utilising private health care facilities. Economic status, level of care and nature of illness were considered as significant determinants of health seeking behavior of the households.

1.2.6. Gender and Expenditure on Health

Navaneetham and Dharmalingam (2000) examined the patterns and determinants of maternal health care use across different social settings in south India especially Andhra Pradesh, Karnataka and Tamil Nadu. They used data from the National family Health Survey (NFHS) carried out during 1992-93 across the states in India. The study emphasized that the differences in access to health care facilities between rural-urban area is the main factor for lower maternal health care services especially for institutional delivery and delivery assistance by health personnel in rural areas. The study argued that health workers would play a pivotal role in providing antenatal care in the rural areas.

Sen et al. (2007) present empirical evidence and analysis of health inequities in Koppal district of Karnataka. Using a cross sectional survey the paper seeks to find out intra and inter-household inequities in health care seeking during sickness and pregnancy. This study highlighted the interplay of systematic hierarchies and failures in determining health outcomes of poor women. It is found that women with poor entitlements within families and in health systems tolerate high levels of pain, discomfort and humiliation. Women and their families invest high effort and resources in many instances in seeking health care for general illness. The study noticed that explicit gender bias operates which disempowering normative local traditions.

Kumar and Prakash (2011) examined the utilisation of public and private health services at regional level and analysed the extent of inequality in choice of health care services using secondary data at national level. By using logistic regression models, the study found that Kerala recorded the lowest economic

inequality in utilising different reproductive and child health care services from public and private sources. For seeking health services for general ailment, the people from lower income group uses public health care centers and the people from higher income group uses private health care centers in Kerala.

Jose et al. (2014) examined the utilisation of maternal and health care services by tribal women as compared to non-tribal women in Kerala and identified the factors affecting their differential utilisation. The study conducted in Wayanad district in Kerala. General awareness, affordability, accessibility and quality of services along with motivation by health workers are the determinants of utilisation of health services in tribal women. Among tribal women 85 % utilized maternal health care facilities fully compared to 100% among non-tribal women. Lower levels of education and lack of transport facilities are prime factors contributing to underutilization of maternal health care services by tribal women.

Annandale and Hunt (2000) analysed the general trends in research on gender and health since 1970s. The paper describes widespread social change, concentrating on changes in employment, educational qualifications, and the household and family, using Britain as a case study. The study draw out three frame works such as the traditional, the transitional and the emerging new. These workouts are mainly for summarize shifts in the theoretical and methodological approach to research on gender and health since the 1970s. Gender structures are changing in ways that are likely to impact differentially upon different subgroups of people, even at the same time as some similarities may be emerging between women and men.

Alvarez-Dardet and Vives-Cases (2012) examined the link between gender and health in Spain. There are three main waves responsible for linking gender and health. The first wave is the visibility and legitimatisation of gender issues and women's health as objects of scientific study and positive policy action; and the second involves acceptance of gender as a genuine health determinant; and the final crucial wave in this political process of creating true gender policies. Public policy on gender aims to reduce the negative effects of gender on both sexes. These waves did not occur consecutively. Conversely, the three waves must occur in aspecific political setting to reach an effective state of parity.

Cogoy and Tamburlini (2012) examined the gender approaches to adolescent and child health. Gender is recognized as one of the most important social determinants of health. A lifestyle approach to gender in child and adolescent health

puts into evidence how from very early on gender, together with all other main social determinants of health, has a powerful impact on the ultimate good health of children and adolescents.

Piang et al. (2010) examined National Health Programmes and the gender component associated with these programmes in India. The study reveals that major National Health Programmes in India do not really reflect the initiative of mainstreaming gender perspective. Gender sensitivity does not mean that the National Health Programmes have to give special schemes for women; rather it is to identify which gender group is more vulnerable than the other in relation to disease deals by the programme. This would require an analysis not only of the epidemiological factors of the disease, but also of the differential impact of morbidity and mortality on more vulnerable group, identification of social factors that would enhance identification of cases like leprosy and HIV, and how to ensure sustainable treatment strategy for such identified women.

Mehrotra and Chand (2012) focus on various determinants of health care facilities in India such as residence, media exposure, females and partner's education and females and their partner's employment, religion of household head and economic status of females. Using household data from demographic health survey from demographic health survey and by using orders logistic regression analysis, this paper seeks to examine factors responsible for poor health status of women in India on the basis of parameters like delivery at health facility, antenatal care, level of anemia, family planning and prenatal care. The study finds that women in India are marginalised or neglected when it related to health care.

Batra et al. (2014) investigated the gender differences in health expenditure and treatment seeking behaviour among adults for the period 2004-07. Using a longitudinal survey on rural patients suffering from cancer in a public tertiary health centre in Odisha, the study found that expenditure on female adults was significantly lesser than those on males. It can be found that gender discrimination is the main reason for differences in expenditure in treatment seeking and before coming to the tertiary centre.

1.2.7. Health Insurance and Expenditure on Health

Ellis et al. (2000) examined a variety of health insurance system in India, their limitations and the role of General Insurance Corporation as an insurer agency. There

is a need for competitive environment for medical insurance at a much wider level. This analysis is an attempt to develop a prospectus of strategy for greater regulation and increased health insurance coverage by making suitable changes in claim settlements and exclusion clause.

Gumber (2002) addresses some critical issues with regard to extending health insurance coverage to poor households in general and those working in the informal sector in particular. Low income households face issues regarding formulating, designing, operating and managing an affordable health insurance scheme. The expectations of low income households from a new scheme indicate that coverage of illness, coverage of services, amount of premium to be paid as well as the procedural aspects such as filing claims are critical in the decision to buy insurance.

Devadasan et al (2004) viewed that community health insurance programmes in India offered valuable lessons for the policy makers. The objectives of community health insurance programme ranges from 'providing low cost health care' to protecting the households from high hospitalisation cost. An effective and credible community based organisation, an affordable premium and a comprehensive benefit package are some of the conditions pointed out in this study for the success of these schemes.

Reshmi et al. (2007) carried out a community-based cross-sectional study to find out the awareness of health insurance in urban population in south India. The study argues that government should come out with a policy, where the public can be made to contribute to a health insurance scheme to ensure unnecessary out-of-pocket expenditures and also better utilization of health care facilities. The high socio-economic group of the population preferred private health insurance schemes (47.05%) over government schemes (35.29%). Among the middle group, they preferred government schemes (61.4%) rather than private (30.7%).

Escobar et al. (2010) analysed the evidence of impact of insurance programs in China, Colombia, Costa Rica, Ghana, Indonesia, Namibia, and Peru. This study aims to contribute to current policy debates on scaling up health insurance in low and middle-income countries by shedding light on the two issues; its impact on measures of health status and reducing out-of-pocket spending.

Reddy et al. (2011) examined the issue of prepayment and risk pooling in India. The three models, Central Government Health Scheme (CGHS), Employment State Insurance Scheme (ESIS) and Rashtriya Swasthya Bhima Yojana (RSBY)

independently facilitate health care treatment for different sets of population in India where as levels of care differ. Tertiary care, especially privately, provided care can be expensive. One of the prime reasons for the denial of coverage of drugs and outpatient coverage in the insurance scheme is that all the stakeholders - physicians, pharmacists, patient, etc, can easily influence the outcome.

Acharya et al. (2012) examined the impact of social health insurance schemes on health care utilisation, health outcomes and healthcare payments among low and middle income people in developing country settings. The study examines the insurance uptake. There was some evidence that health insurance schemes increased healthcare utilisation in terms of outpatient visits and hospitalisation. There was weak evidence to show that health insurance reduced out-of-pocket health expenses; the effect for the poorest was weaker than for the near poor.

Giedion et al. (2013) investigated the universal health coverage initiatives the study provides guidance to countries on how to improve the design and functioning of their health systems based on evidence of what works for achieving the goal of universal coverage. Policy makers face difficult decisions on designing the depth and height of coverage they will provide within their budget constraints. Improving the affordability of health services has an effect on access and on financial protection.

Loewenstein et al. (2013) conducted a choice study to assess the impact of a simplified health insurance plan on choices between medical tests and services in America. The study analysed the relative appeal of a traditional or simplified insurance plan both before and after respondents had been asked to compute the cost they would incur for obtaining a routine medical expense. The study provided a strong evidence that consumers do not understand traditional plans and would better understand a simplified plan, but weaker evidence that a simplified plan would have strong appeal to change their healthcare choices. Simplification is likely to have a substantial effect on individuals' understanding of their own insurance policies making.

Mini (2013) studied the average satisfaction with the services provided through the Rashtriya Swasthya Bhima Yojana (RSBY)-Comprehensive Health Insurance Scheme (CHIS) in Kerala. The scheme is a boon and it would enhance the health status of the beneficiaries. It has really assisted them to reduce their hospitalization expenses and utilize better hospital facilities. The supply of health care in the rural and remote areas of our state is far from satisfactory. Even though RSBY-

CHIS has a positive role in reducing the hospitalization expenditure among the beneficiaries, low awareness level, limited number of private empanelled hospitals, poor implementation of the scheme, absence of effective monitoring mechanism and redressal of grievances, timely reimbursement to hospitals, ambiguities in the benefits of the scheme, etc. are some of the issues still persisting as constraints in achieving the desired objectives of RSBY-CHIS.

Sinha (2018) analysed the insurance instruments and health service utilization in India especially by the poorest quintiles of the population using NSSO Consumer Expenditure Survey data for the year 2007-08 and 2011-12. The analysis shows that the proportion of non-institutional medical expenditure is very high in both the reference years. The study revealed that there is no increase in institutional health care utilization even after 3-5 years of implementation of RSBY, and that the proportion of non-institutional medical expenses continues to be disproportionately high, with almost the entire amount being borne out of pocket, threatening the household financial stability.

1.2.8. Primary Health Care and Expenditure on Health

The Planning Commission (2001) undertook a study to evaluate the functioning of Primary Health Centres (PHCs) assisted under Social Safety Net Programme (SSNP) and their effectiveness in facilitating institutional deliveries in India. By using a multi-stage sampling design the analysis found that 89 percent of beneficiaries belonging to SSNP assisted PHCs and 96 percent of beneficiaries from non-assisted PHCs have expressed their preference for PHCs for seeking health care services compared to other alternative source of treatment.

Majumder and Upadhyay (2004) examined the primary health care system in India. The study focused on reproductive health care service system which can be assessed with five categories of variables such as availability, accessibility, family characteristics, social structure and quality of care. Quality of care appeared as a crucial determinant of utilisation of services in this analysis. The study points out the acute shortage of doctors and medical staff in rural health care system and this will lead the paramedical personnel to perform crucial task of providing services to the people in rural areas.

Bajpai et.al (2008) estimated the financial and human resourced required to scale up the primary health care services in rural Andhra Pradesh and Karnataka.

Considering the shortage of medical and paramedical staff in the health facilities, there is an urgent requirement of appointing new doctors, health assistants and other paramedical staff at all levels of health facilities. In order to improve the delivery of health services the study suggests supporting community oversight of village-level health services, to carry out frequent supervision of lower level health facilities in rural areas, to introduce accreditation system based on annual or more frequent visits to the health facilities for their infrastructure, human resources and drug and medical supplies.

Baru and Bisht (2010) provided an overview of the inequities in health outcomes and their variation across regional, social and economic groups in India. This study analyses the key drivers of inequities in health services such as weak public provisioning and extensive commercialisation. The study emphasized for a multipronged and comprehensive strategy in order to address inequalities in health. The inequalities in health services would affect the people especially the socio and economically marginalised sections of the society. The study found that health services are a determinant of health status. A radical rearrangement of health services delivery, greater political attention and addressing of socio-economic determinants of health are some of the measures to reduce the inequality in health services in India.

Rakesh et al. (2010) studied the availability of services and facilities at Primary Health Centers in Gujarat. The cross sectional study conducted among 10 randomly selected PHCs of Ahmedabad district in 2006 revealed existence of vacant staff deficits ranging from 11.3% to 30%. The study find that there is a necessity for suitable strengthening of these PHCs in line with their envisaged role in health care delivery line with our national guidelines. The continuous availability of good quality curative services satisfies people and motivates the community for preventive and promotive services.

Borooah (2018) examines the health status of the people in India with regards to economic and social status of the people. By using NSSO data during 2004-2014 the study tries to find out the relationship between social gradient to health and health outcomes in terms of age at death and self assessed health status of elderly people. The analysis found that age at death and self assessed health status of elderly people was significantly affected by their living conditions. The predicted age at death was significantly higher for urban households in the 71st round compared to 60th round and there was no significant difference in rural area.

1.2.9. Returns to Expenditure on Health

Wang (2002) examined the determinants of health outcomes using Demographic and Health Survey data from more than 60 low income countries between 1990 and 1999. The study found that public expenditure on health can significantly reduce child mortality. There exist differences in child mortality between rural and urban areas and reduction in child mortality is slow in rural area compared to urban area. Access to electricity and vaccination in the first year of life are the other variables affecting child mortality in this study.

Issa and Ouattara (2005) studied the relationship between health expenditure and health outcome by using dynamic and static panel data tests on data from 160 countries for the period 1980-2000. The study analysed the relative importance of public and private health expenditure on infant mortality rates at different development levels. The result of Ordinary Least Square (OLS) estimate shows a negative relation between health expenditure and infant mortality rates. The study argued that public expenditure on health is more effective during the early stages of development than private expenditure, while when a country develops private expenditure on health is more effective than public expenditure.

Anyanwu (2007) studied the relationship between health expenditure and health outcomes in 47 African countries between 1999 and 2004. The study detected that health expenditure have a significant effect on health outcomes in terms of infant mortality and under-five mortality. By using a robust OLS model the study noticed HIV prevalence and ethno linguistic fractionalization positively and significantly affect health outcomes. The study holds the view that health expenditure can be more effective in African countries in achieving the Millennium Development Goals target for health.

Farahani (2010) tries to estimate the effect of state-level public health spending on mortality across all age groups in India using second National Family Health Survey (NFHS). By using a multilevel probit model the study find that a 10% public spending on health in India decreased the average probability of death by 2% with effects mainly on the elderly, the young and women. Rural residence, poverty of households and access to toilet facilities are some of the factors contributed to mortality.

Maruthappu (2015) analysed the association between reductions in government health care spending and child mortality rates in high and low income countries between 1981 and 2010. The study incorporated comparative country level data of 176 countries from the World Bank and Institute for Health Metrics and Evaluation. By using multivariate regression analysis the study found that there exist significant increases in child mortality with the reduction in government health care spending among these countries. Compared to high income countries, low income countries experienced greater deterioration in child mortality.

Kulkarni (2016) examined the relationship between health expenditure and health outcomes in BRICS nations from 1995-2010. This study is based on panel data regression with fixed effects model using data from the World Health Organisation and World Bank databases. The study found a positive association between health outcome and the per-capita GDP, adult literacy rate and out-of-pocket expenditure. The study found that higher the public health expenditure lower the health outcomes in terms of IMR. The study also found that a negative relationship between age dependency relation and health production. Here health can be categorized as a quasi-public good. The study points out that the increase in public health expenditure is not sufficient to achieve the desired improvements in health outcomes.

Barenberg et.al. (2017) studied the impact of public health expenditure on infant mortality rate employing a pane dataset of Indian states between 1983-84 and 2011-12. The study finds out that there is a negative relationship between public health expenditure and infant mortality rate in India. The study shows that one percent increase in public health expenditure by state level net domestic product is associated with a reduction in the infant mortality rate by about nine infant deaths per 1000 live births. Other relevant covariates like political competition, urbanisation and female literacy reduce the infant mortality rate.

Rahman (2018) examined the nexus between health care expenditure and health outcomes in SAARC and ASEAN region by using World Bank datasets of 15 countries between 1995 and 2014. The study used fixed and random effects model to find out the effects of health care on health outcomes in relation to life expectancy at birth, crude death rate and infant mortality rate. The study found that private health care expenditure had a significant effect in reducing the crude death rate but public health expenditure exhibited the opposite result. Total health expenditure had a significant effect in reducing in infant mortality rate and extent of effect of private

health expenditure was greater than that of public health expenditure. The study emphasized transparency, accountability and efficient utilization of public sector health funds.

1.2.10. Morbidity and Expenditure on Health

Krishnaswami (2004) examined the morbidity rates for the various geographical regions of Kerala. There is a comparison of the morbidity rates for acute and chronic ailments for the different sectors (urban and rural and also highland, lowland, and midland within rural). A two-stage sampling design was adopted. For chronic ailments the reference period was 365 days and for acute ailments 15 days. The results show that acute morbidity is higher in the lower age group of 0-14, 45-59 and 60+ and that chronic morbidity is higher in the age group of 60+ and to a lesser extent in the age group 45-59. There is a sex differential within the age 15-44, females tending to have a higher morbidity, both acute as well as chronic. An examination of the acute morbidity figures shows that within the rural, the rate is higher in the low land (68.21) as compared to the high land (54.49) and the midland (54.63). The morbidity rate for chronic ailments in urban areas (68.73) is higher than rural rate (61.71).

Dilip (2007) examined the age pattern in reported morbidity in Kerala and its deviation from the national scenario. The study considered five age groups are such as (1) children (0-9 years), (2) adolescents (10-19 years), (3) prime working ages (20-49 years), (4) late working ages (50-59 years) and (5) elderly (60 years and above). Age-wise analysis clearly showed that a larger population of male than female children was falling sick. Greater vulnerability to illness in women began with the early-working- age group, peaked in the late working ages and diminished in older ages. Reported morbidity and the duration of life lived with a disease is higher in Kerala. Self-reported morbidity was 65% higher than proxy-reported morbidity. The study found that there is significant regional difference across all age groups.

Suryanarayana (2008) took up the issues pertaining to the health sector in Kerala in a larger comparative perspective in the Indian context. The study is based on the NSS 60th round survey. Incidence of morbidity is higher in Kerala compared to India. Incidence of morbidity is higher in the South than in the North Kerala, higher in rural than in urban Kerala, higher among women than men and higher among the poor than among the non-poor. At national level incidences of morbidity is lower in rural

than in urban. It focused on the incidence of morbidity across socio-economic dimensions and their implications for economic policy. In general, the poor depend relatively more on the public sector than on the private for inpatient and outpatient care.

Ghosh and Arokiaswamy (2009) presented evidence on levels, differentials and determinants of morbidity prevalence in India taking the NSSO 52nd and 60th round survey. In this analysis significant gender inequality is observed in morbidity prevalence with females at greater risk of ill health than males. It is observed that prevalence of illness increases with age. The study found that acute ailments are responsible for high morbidity prevalence among the children. The rise in morbidity prevalence among the elderly is due to chronic ailments. The rural-urban differences in reporting illness indicate that health conditions of the rural people are poorer than their urban counterparts. Morbidity and hospitalisation rates are more strongly associated with household expenditure on health.

The study of Navaneetham et al. (2009) is corroborated the paradox of low mortality and high morbidity, which is first brought out by the NSS survey in 1974. This study is based on a community survey conducted in 2004, in three districts of the state namely Thiruvananthapuram, Malappuram and Kannur. There exists significant gender inequality in morbidity. The age pattern of morbidity shows that the prevalence of ailments increases at a faster rate after 35 years of age. Females are more vulnerable to morbidity in the old age than males. The risk of ill-health is significantly higher for illiterates and non-formal literate than persons with higher education even after controlling other covariates. The study found that the probability of ill health for the poor is significantly higher than the rich, controlling other covariates.

Nimisha (2013) analysed the factors that determine morbidity in Kerala. This analysis is based on secondary data for a period 1991 to 2001. The study found that socio-economic factors such as ageing, literacy, per-capita income, health expenditure, health care, infant mortality rate, life expectancy and population determine morbidity in Kerala. There exist an inverse relationship between morbidity and health expenditure in this analysis. The increased government expenditure on health provides more health facilities which have an impact on morbidity in Kerala. The pattern of morbidity in Kerala changed due to the ageing of population. Co-

existence of high level of morbidity with low levels of mortality in the state attracts world attention.

Srinivas and Manjubhashini (2014) examined the morbidity profile among elderly population aged 60 years and above in Visakhapatnam district of Andhra Pradesh by using a community based cross sectional study. The study found that the most common history of previous illness of elderly population was hypertension and diabetes mellitus in both rural and urban area. Diseases of musculoskeletal system, diseases of circulatory system and diseases of eye are some of the diseases most commonly seen among elder population. The study recommended optional physical treatment and special attention and focus for the well being of elderly people.

Paul and Singh (2017) analysed the trend and pattern of self-reported morbidity across states in India using three rounds (52nd, 60th and 71st) of NSSO data. The analysis found an increasing trend of infectious diseases, cardio-vascular diseases and non-communicable diseases during 1995-2014. By using logistic regression model, the study detected sex, place of residence, education, age group, monthly per-capita consumption expenditure, caste, marital status and household size emerged as significant determinants of self-reported morbidity in India. There reported high prevalence of self-reported morbidity among the elderly and females in urban area.

1.2.11. Kerala Model of Health and Expenditure on Health

Kunhikannan and Aravindan (2000) examined the health status and medical expenditure in Kerala during 1987 to 1997. There is a hike in the morbidity rate considering the month July as one of the 'seasons of hospital' in Kerala. The mediflation, rise in medical expenditure, in various socio-economic classes and indebtedness and impoverishment due to the utilisation of health services are evident in Kerala. The ratio of annual per-capita medical expenditure to per-capita income exhibits in an uneven manner across social groups.

In the historical analysis of development of health care facilities in Kerala, Kutty (2000) examined the trend of social sector expenditure by the government. The study revealed that the revenue expenditure is higher than capital expenditure out of the public sector spending. The analysis argued that high literacy rate, increasing income of households and ageing of population with high burden of chronic illness are the determinants of demand for health care in the state. The role and growth of private medical institutions in the health care system of Kerala is immense especially

after mid 1980s. The study argued that the government would take leading role in quality maintenance and setting of standards in health care.

Narayana and Kurup (2000) studied the decentralisation of health care sector in Kerala. The study points out that there are three prominent problems of decentralizing the health care sector which are not adequately addressed. The problems are spill-over effect, role and relevance of a pre-existing body and the minimum level of health care services to be provided by health care institutions. The problem of benefit spill-over arises from the concentration of hospital beds in municipal towns. The study found that proper functioning and accountability of local self government institutions with regard to the provision of health care services through decentralisation would continue to attain accessibility of health care.

Arjunan et al. (2002) advocated the standardization of medical institutions under Health Services Department of Kerala. The study noticed that there is no standard pattern for categorization of medical institutions and unsatisfactory performance of these institutions. There exist no uniformity in service provision, bed strength and staff provision. Moreover there exist gross disparities in the number of institutions in across panchayaths, across municipalities, across taluks and across districts.

Nabae (2003) exposed new challenges in the health care system of Kerala. The author pointed out new challenges such as the fiscal problems of the government due to the sluggish economy, diseases burden of an ageing society, underutilization of public health facilities, raising tendency of household health expenditure due to excessive growth of private medical facilities, lack of regulation over private sector and existence of unsystematic training in private sector. The study suggested three recommendations such as investment in public sector to revitalize the health system, restructure the health system through decentralisation and public-private partnership in health system.

Varatharajan et al. (2004) made an assessment of the performance of primary health centres under decentralised government in Kerala. Panchayaths in Kerala allocated a lower proportion of resources to health than that allocated by the state government prior to decentralisation; while panchayath resources grew at an annual rate of 30.7 % and health resources grew at an annual rate of 7.9 %. The study found that decentralisation brought no significant changes to the health sector in Kerala.

Active panchayath support to primary health centres existed in only a few places, but the result is positive wherever it is present.

George (2005) calls for a rethink on the notion of 'good health at low cost' for Kerala. The analysis is based on NSSO 55th round data. The study found that there exist a substantial increase in the money spend for health by compromising the expenditure on essential items. Individuals at lower level of income spend a disproportionate share of their income for health care. Moreover the limited coverage of public health care facilities and growth of private sector would increase the financial burden of the low income people. The study questioned the quality and cost of health care in Kerala.

Padmaja (2005) analysed the operational efficiency of the primary health centers in providing primary health care to the rural people in Kerala. Performance evaluation of primary health centers is done through the opinion survey collected from the people relating to their awareness, accessibility, acceptability, and availability of the primary health care facilities. The study observed lower and declining rate of utilization of primary health centers because of their poor quality performance. Non-availability of medicines, doctors, treatment, and distance are the major reasons reported by the respondents for not availing any services from primary health center. There is much scope to increase the performance of public health care institution by improving the quality of services provided by them.

Soman (2007) analyses fifty years of primary health care experience of Kerala. During the fifty years (1956-2006) Kerala has made significant gains in health. Most indices of health rank favorably with those of developed, high-income countries. The dramatic decline in mortality and fertility that Kerala witnessed in second half of the 20th century has created new problems for the state. The proportion of aged people exceeds 10% of the population. Rapid changes in lifestyle have contributed to an alarming increase in non-communicable diseases. The study found that the public health machinery of the government has failed to respond to the new challenges either in fine-tuning public health care to meet the present needs or to regulate the exploitative nature of private healthcare. Healthcare has become very expensive and accounts for 30% of the total expenditure of poor households.

Gangadharan (2008) made an attempt to evaluate the changes that occurred in Kerala from 1991 onwards as the consequences of improvements in health. Kerala witnessed a demographical and epidemiological transition. This transition would lead

the problem of ageing and mounting the morbidity load. Pre-liberalisation and post-liberalisation period in the health care system was compared under this study. During post-liberalisation period the health indicators gradually started showing an unfavourable trend in many cases.

Oommen (2008) examined the issues relating to equity and sustainability concerning 'Kerala model of development'. The study points out that a model being tragedy, when it is not sustainable. Poverty and income inequality are hurdles in the way to the sustainability. The failure of trickle down growth paved the way for poverty and income inequality. Social, economic and moral foundations of the Kerala model criticized with this income inequality and poverty.

Thomas and Rajesh (2011) made an attempt to analyse the impact of the initiatives of local self governments to address the health issues in Kerala. The study found that local self governments succeeded in ensuring better household sanitation and drinking water facilities to the people. But local self governments are not address the challenges of nutritional imbalance, old age care, life style diseases and changing morbidity pattern in the state. Decentralisation in Kerala succeeded to an extent in improving the infrastructure of primary and secondary healthcare institutions.

Antony (2012) studied the efficacy of primary health care system in Kerala. The socio-demographic variables among themselves and with the levels of satisfaction of beneficiaries towards services provided at the PHCs. Manpower, infrastructure and behavioral pattern of staff and doctors of the PHCs towards beneficiaries are statistically tested to know whether they are significant or not. The study reveals that the existing infrastructure facilities, manpower and services are inadequate to meet the primary health needs of the community and it has no valid role in the promotion of the health of the people in the area of study.

John (2012) made an assessment of the effectiveness of Panchayath Raj Institutions in the health care system of Kerala with a special reference to impact of duality and role of bureaucracy. The study found that enhanced involvement and role of Panchayath Raj Institutions in the functioning of public health institutions in Kerala had resulted in the substantial improvement in the availability of health services and facilities especially medicines, health personnel and health infrastructure. Panchayath Raj Institutions and health personnel hold joint responsibilities and they share certain responsibilities. This would create dual responsibilities and control system in the health sector.

Nithya (2013) examines effect of neo-liberal policies on health sector in Kerala. The study pointed out that high per-capita health expenditure and the ratio between family expenditure and health expenditure in Kerala adversely affected the marginalised sections of people. Low budgetary allocation in health sector would increase commercialisation of health care sector. The study argued that quality in medical field is another issue in the health sector in Kerala.

Lekshmi et al. (2014) points out the present issues of government hospitals and health care system in Kerala. Lack of bed facilities, lack of equipment, lack of doctors and paramedical staffs and infections due to micro organisms are some of the major issues in government hospitals in Kerala. Patients are forced to utilize private health care facilities due to these issues in government hospitals. Insufficient infrastructure for treatment and rehabilitation are some problems observed in government mental hospitals in Kerala. Proper waste disposal is a threat to the health system in Kerala nowadays.

Mattam (2015) analyses the utilisation of health care facilities and health status of Below Poverty Line (BPL) families in Kerala in the era of economic reforms. The study found that operational inefficiency of government hospitals adversely affects the utilisation of health care facilities by the poor families. The study found that there is a positive relationship between treatment expenditure in government hospitals and debts among BPL families. Changing morbidity pattern and abnormal growth of private sector are the factors that contributed the hike in health care expenditure in Kerala.

Eldose (2018) examined the health care burden and health insurance of unorganized workers in Kerala. The study emphasized the importance of health insurance which will act as an effective instrument to reduce the burden of illness among the workers in unorganized sector. The incidence of catastrophic payment is higher among the workers of construction and manufacturing sector compared to agriculture and service sector. The study found that there is significant difference in the enrolment of RSBY scheme among the workers of various sectors. The study suggested that an enlargement of the number of empanelled hospitals under RSBY/CHIS scheme.

1.3. Statement of the Research Problem and Research Gap

There are various studies which examined the various dimensions of health expenditure. However, most of the studies in this area seldom identified the determinants of household expenditure on health and its policy implications. Further, the studies on health expenditure rarely addressed the disparity of health expenditure. Most importantly, socio-economic problems of households related to health expenditure received inadequate attention. The relationship between health achievements and health spending will be a great concern of the present study. But there is no such comprehensive study related to the determinants of household health expenditure in Kerala and returns from expenditure on health. The study tries to find out the factors which influence expenditure on health and their relative share in determining the expenditure on health. Generally, the spending on health both by the government and households has a good impact on health. The present study tries to find out the relationship between health spending and returns from expenditure on health in India and Kerala. The expenditure on health and its impact on macro economic variables is a matter under consideration. Influence of socio-economic variables on expenditure on health is also a matter of concern.

1.4. Research Questions

Based on this research gap the present study attempts to answer the following research questions.

1. What is the nature of public expenditure on health in India and Kerala?
2. What is the disparity of household expenditure on health in India and Kerala?
3. What are the major determinants of household expenditure on health in Kerala?
4. What are the major disparities of household health expenditure in Thrissur district of Kerala?

1.5. Objectives of the Study

The trend and tendencies of government and household expenditure on health at the national and state level is the core of the present study. The deviation of expenditure on health both by the government and the household and the corresponding burden are considered. The financing of health spending is a major concern for the government and the households. The study focuses the factors that related to the household health expenditure in Kerala. The study analyses the economics of spending on health. The specific objectives of the study are:

1. To analyse the public expenditure on health in India and Kerala.
2. To compare the disparity of household expenditure on health in India and Kerala.
3. To identify the major determinants of household health expenditure in Kerala.
4. To examine the major disparity of household health expenditure in Thrissur district of Kerala.

1.6. Methodology of the Study

The study is both analytical and theoretical in nature. The present study collected data both from primary and secondary sources. The secondary data were collected from Economic Reviews (various years) of the State Planning Board, Census Reports, Reports of the Directorate of Economics and Statistics, RBI Database, Economic Surveys, Human Development Reports, Sample Registration System Reports, National Family Health Survey Reports and Report of the Directorate of Health Service Trivandrum. Electronic database such as INFLIBNET and Google Scholar were also used. Relevant websites also forms source of secondary information.

In the primary data, both quantitative and qualitative aspects are considered for identifying the determinants of household health expenditure. Hence household is considered as the basic unit of analysis for analyzing the determinants of annual household health expenditure. The primary data analysis is based on cross section data collected through a household survey conducted among 336 households from rural and urban areas with the support of a structured questionnaire. The primary data collected information on socio, economic and demographic characteristics of the households, disease pattern, utilisation of health care facilities by type and level of care, health and non-health expenditure of the households and financing mechanism of household health expenditure and constraints faced by the households in relation to health care. A comprehensive and structured questionnaire was prepared for the collection of primary data. Here the study adopted the framework outlined by NSSO for its 71st and 75th rounds. The details of collection of primary data are presented in the forthcoming chapter.

Various statistical tools are used to analyse data. Annual Growth Rate (AGR), Compound Annual Growth rate (CAGR), percentage change, percentage, average etc. are some of the statistical tools used in this study. Simple and multiple regression analysis for linear and logarithmic equations are used to identify the determinants and

outcomes of health expenditure. χ^2 test and omnibus test are applied to test the statistical significant difference when comparing variables. Graphs and charts are used for presentation of data. Excel and SPSS are applied for statistical analysis.

A pilot survey has conducted to check the suitability of questionnaire. The questionnaire was testes on 25 households. The data was analysed. Based on this experience some modifications were made. The questionnaire contains three segments. First segment contains the general information of the respondents. The second segment carries questions related to socio economic characteristics of the households. The third section deals with the diseases pattern, expenditure on health and financing of expenditure on health.

1.7. Major Concepts of the Study

1. **Household Health Expenditure:** Household health expenditures are either direct expenditures (out-of-pocket payments) or indirect expenditures (Prepayments as health insurance contributions or premiums).
2. **Out-of-Pocket Expenditure:** It shows the direct burden of medical costs that households bear at the time of availing healthcare service. Out-of-Pocket Expenditures are expenditures directly made by households at the point of receiving healthcare.
3. **Public expenditure on health:** It constitutes spending under all schemes funded and managed by Union, State and local governments including quasi-governmental organizations and donors in case funds are channelled through government organizations. It has an important bearing on the health system as low government health expenditures may mean high dependence on household expenditures.
4. **Total Health Expenditure:** Total health expenditure is the sum of current health expenditure and capital health expenditure during the same year.
5. **Capital Expenditure on health:** Capital expenditures include expenditure on building capital assets, renovations and expansion of buildings, purchasing of vehicles, machines, equipment, medical /AYUSH/paramedical education, research and development, training (except on the job trainings) , major repair work, etc.
6. **Current Health expenditure:** It is defined as final consumption expenditure of resident units on healthcare goods and services net capital expenditures. It constitutes only recurrent expenditures for healthcare purpose net all capital expenditures.
7. **Current Health Expenditures as per cent of Total Health Expenditure:** It indicates the operational expenditures on healthcare that impact the health outcomes of the population in that particular year.
8. **General Government Hospital:** It includes medical college hospitals, district hospitals, sub district hospitals and community health centres.
9. **Non- Profit Institutions Serving Households (NPISH):** NPISH are a special type of non-profit organization. NPISH consists of non-profit institutions that provide financial assistance, goods or services to households free or at prices that are not economically significant.
10. **Out-of-Pocket Expenditures as per cent of THE:** This indicates extent of financial protection available for households towards healthcare payments.
11. **Per-capita Total Health Expenditure:** It indicates health expenditure per person in the country.
12. **Preventive Care:** It is defined as having the primary purpose of risk avoidance, of acquiring diseases or suffering injuries, which can frequently involve a direct and active interaction of the consumer with the healthcare system.

13. **Social Security Expenditure on health as per cent of Total Health Expenditure:** Social Security Expenditures include finances allocated by the government towards payment of premiums for union and state Government financed health insurance schemes (RSBY and other state specific health insurance schemes), employee benefit schemes or any Social Health Insurance scheme expenditures, This indicates extent of pooled funds available for specific categories of population.
14. **Total Health Expenditure as percent of GDP:** Total Health Expenditure as a percentage of GDP indicates health spending relative to the country's economic development.
15. **Infant Mortality Rate:** It is defined as the infant deaths (less than one year age) per thousand live births in a given period and for a given region.
16. **Birth rate:** It gives the number of live births per thousand population in a given region and year.
17. **Death rate:** It is defined as the number of deaths per thousand population in a given region and time period.
18. **Sex ratio:** It is the number of females per thousand males.
19. **Average household health expenditure Per-Capita:** Average medical and non-medical expenses for hospitalised and non-hospitalised treatment of a person in the last 365 days at any facility.
20. **Average medical expenditure per hospitalized case:** It takes into account all payments made towards treatment of a person during all episodes of hospitalization in the last 365 days at any facility.
21. **Average medical expenditure per non-hospitalized case:** Average medical expenses for non-hospitalized cases takes into account all payments made towards outpatient treatment of a person during the last 15 days at any facility.

1.8. Significance of the Study

The role of health in human capital formation is immense. The increasing tendency of health spending of the people is a great concern today. Both the government and households spent for health care. The government spending on health sector would have a redistribution of income. The investment in health capital would increase the productive capacity of the country. The household spending on health would have influence the expectation of life. Health is a multidimensional concept. The health condition of an individual is different from another. This will also lead the spending on health differently by different persons. The dual burden of diseases (both communicable and non-communicable diseases) mounting the morbidity level especially after the post-liberalisation period.

The study descriptively examined the present status of public expenditure and in comparison with global expenditure on health. The present study analyses the determinants of household health expenditure, various types of disparities and inequity. So it will help to examine the policy gaps and factors that hinder optimum expenditure on health. This study identifies the constraints of household expenditure on health. Hence it is helpful to society, household, policy makers etc. The study examines the returns from the expenditure on health on macroeconomic perspective.

Therefore the findings would be helpful to optimize the resources of the government and the private agencies. This will enhance and optimize the health capital and human capital stock in India as well as in Kerala. It will enhance the health capital in an equitable manner. Moreover, the present study examines income and expenditure. Therefore problem specific policies may be executed.

1.9. Limitations of the Study

The scope of the study is limited to explore the extent of household health expenditure and its various components. The study on household expenditure on health is constrained with non-availability of recent time series data for certain variables related to household expenditure on health. The analysis of secondary data of the present study is based on NSSO survey on consumption expenditure. The analysis on household expenditure on health is limited to a period 1995-96 to 2007-08. The study does not consider the qualitative aspect of expenditure on health such as personal hygiene, social hygiene, health habits of the households, malnutrition etc. The primary data collection is constrained with resources. The present study has focused mainly on the household direct financial expenditure on health. Both institutional and non-institutional expenditure on health are considered. Moreover the study has other limitations such as non-consideration of non-financial returns from expenditure on health and limited explanatory variables. In spite of these limitations, present study is a considerable attempt to recognize the determinants and related aspects of household health expenditure.

1.10. Scheme of the Study

The first chapter includes framework of the study. First chapter describes literature review on various aspects on health and health expenditure, research problems, significance of the study, objectives of the study and methodology of the study. The second chapter analyses the theoretical background of health expenditure. The third chapter describes the characteristics of health expenditure in India. The fourth chapter analyses the disparity of health expenditure in India based on different perspective such as area, gender and so on. The fifth chapter finds out the peculiarities of health expenditure in Kerala. The sixth chapter examines the determinants of health expenditure in India and Kerala. In this chapter the influence of macroeconomic variables on expenditure on health are analysed. The seventh chapter illustrates a

survey based analysis on household health expenditure in Kerala. The last chapter highlights the findings and policy implications of the study.