Unravelling Healthcare Dynamics: Trends in Out-of-Pocket Expenditure in India & healthcare spending among Mapusa and Panaji Households

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DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled, "Unravelling Healthcare Dynamics: Trends in Out-of-Pocket Expenditure in India & healthcare spending among Mapusa and Panaji Households" is based on the results of investigations carried out by me in the (Economics) at the Goa Business School, Goa University under the Supervision of Mr/Ms/Dr/Prof. (Sumita Datta) and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that Goa University or its authorities / College will be not be responsible for the correctness of observations / experimental or other findings given the dissertation.

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COMPLETION CERTIFICATE

This is to certify that the dissertation report "Unravelling Healthcare Dynamics: Trends in Out-of-Pocket Expenditure in India & healthcare spending among Mapusa and Panaji Households" is a bonafide work carried out by Ms JOSSNA RAMU HARIJAN under my supervision in partial fulfilment of the requirements for the award of the degree of (Masters of arts) in the Discipline (Economics) at the (Goa Business school), Goa University

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PREFACE

This study endeavours to unravel the intricacies of healthcare expenditure trends and insurance coverage within the Indian context, with a particular focus on the regions of Mapusa and Panaji. Delving into the historical trajectory of out-of-pocket expenses in India, we aim to discern significant fluctuations and patterns over the selected time period. Additionally, our research seeks to determine the average monthly healthcare expenditure borne by households in Mapusa and Panaji, shedding light on the financial burdens they face. Furthermore, we intend to assess the extent of health insurance coverage among households in these areas and evaluate its efficacy in mitigating the financial strain associated with healthcare costs. This preface sets the stage for an in-depth exploration of these objectives, encompassing methodologies, data sources, analytical frameworks, and the invaluable contributions of individuals and institutions that have facilitated this study.

Acknowledgement

As a student of Goa University, Taleigao; I would like to express my gratitude to all those who helped us in the completion of our project work.

I take great pleasure in presenting this project report on 'Unravelling Healthcare Dynamics: Trends in Out-of-Pocket Expenditure in India & healthcare spending among Mapusa and Panaji Households'. My sincere appreciation goes to the individuals and households in Mapusa and Panaji who generously shared their experiences and insights regarding healthcare expenditure and insurance coverage, without whom this study would not have been possible.

I would like to thank Prof. Jyoti Pawar (Dean of Goa Business School), and Asst. Prof. Heena Gaude (Programme Director, Economics), for their encouragement and moral support.

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Abstract

Healthcare expenditure and financial protection against healthcare costs are critical aspects of ensuring access to quality healthcare services for individuals and households. In India, like many other countries, out-of-pocket (OOP) expenditure plays a significant role in healthcare financing, reflecting the financial burden borne directly by households. The study examines historical trends in out-of-pocket (OOP) expenditure in India over the selected time period. By analysing OOP expenditure data, we aim to understand how healthcare spending has evolved and identify any significant fluctuations or patterns. The study investigates health expenditure patterns in households from Mapusa and Panaji, Goa, focusing on factors like age, education, income, and employment. Older households tend to spend more on health care, affecting their income, especially among the self-employed. Higher education and health insurance correlate with lower out-of-pocket health spending. Income sufficiency for health care is a concern for many households, with disparities noted based on employment status. The study underscores the need for targeted policies to enhance health care affordability and access in these areas.

Chapter 1: INTRODUCTION

Health is the state of being physically, mentally, and emotionally well, enabling individuals to live life fully and without major limitations. Health is considered to be one of the primary need for every individuals. World health organization's definition for health is" a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1946). It's something everyone needs, and different factors like education, income, and environment play a role in our health. Even with all the advances in medicine, some people still can't get the care they need because they're poor or don't have access to healthcare services.

Health system of India

India's healthcare system is pretty complex, with both public and private sectors providing medical care. The government has been trying to improve things by investing more money and using technology better, especially in rural areas where healthcare is scarce. Even though there are challenges like not enough doctors and uneven access to care, there's hope that things will get better with these efforts. As for spending, the Indian government is putting more money into healthcare each year, and the healthcare industry is growing fast. People used to pay a lot more out of their own pockets for healthcare, but that's slowly decreasing as a percentage of total healthcare spending.

India's health system is a mix of public and private healthcare services. The public sector, led by the government, provides healthcare through facilities like primary health centres, community health centres, district hospitals, and tertiary care hospitals. These services are often subsidized or provided free of cost to certain segments of the population. The private

sector, on the other hand, includes hospitals, clinics, and healthcare providers that are privately owned and funded. This sector caters to a significant portion of the population, especially those who can afford private healthcare services or have health insurance. Challenges in India's healthcare system include accessibility to quality healthcare, especially in rural areas, affordability of services, and shortage of healthcare professionals, infrastructure limitations, and disparities in healthcare between urban and rural areas. Efforts are being made to address these challenges through initiatives like the National Health Mission, which aims to improve healthcare infrastructure, accessibility, and affordability, as well as programs to train more healthcare professionals and promote preventive healthcare measures.

Out-of-pocket expenditure

Out of pocket expenditure means the money you spend directly from your own pocket, without help from insurance or other sources, typically for the things like medical bills, medicines, etc. Out-of-pocket expenditure plays a significant role in healthcare financing, particularly in countries with less Developed or fragmented healthcare systems. It can have substantial financial implications for individuals and households, impacting their access to and utilization of healthcare services. Out-of-pocket expenditure encompasses various types of healthcare expenses, including payments for doctor consultations. Medications, diagnostic tests, hospital stays, surgeries, and other medical procedures. These expenses can vary widely depending on factors such as the type of healthcare system, insurance coverage, and the level of healthcare infrastructure. High levels of out-of-pocket expenditure can act as a barrier to accessing healthcare services, particularly for vulnerable populations or those with limited financial resources. Individuals may forego necessary Healthcare services or delay seeking treatment due to concerns about affordability, which can lead to adverse health outcomes.

Out-of-pocket expenditure can impose a significant financial burden on individuals and households, especially in the absence of adequate insurance coverage or social protection Mechanisms. High healthcare costs can result in catastrophic health expenditures, pushing households into Poverty or exacerbating existing financial hardships. Out-of-pocket expenditure can contribute to healthcare Inequities, as individuals with lower incomes or marginalized groups may face disproportionately higher financial barriers to accessing healthcare services. Addressing disparities in out-of-pocket spending is Essential for promoting equitable access to healthcare and achieving universal health coverage goals. Policymakers often seek to mitigate the financial burden of out-of-pocket expenditure through various Strategies, including expanding health insurance coverage, implementing cost-sharing mechanisms, providing subsidies for healthcare services, and strengthening healthcare delivery systems. These efforts Aim to improve financial protection for individuals and households while ensuring equitable access to Essential healthcare services.

1.2 Research problem

The financial burden of healthcare expenses on households in Mapusa and Panaji, India, and the effectiveness of health insurance in mitigation this burden as well as the trends in out- of – pocket expenditure in healthcare across India over time.

1.3 Research gap

In the existing literature on healthcare expenditure in India, there is a noticeable gap in the analysis of regional disparities and the impact of health insurance on households' financial burdens. While studies have provided a general overview of national trends in out-of-pocket expenditure, there is limited research that delves into specific geographical areas such as Mapusa and Panaji to understand localized spending patterns. Additionally, while some studies have touched upon the role of health insurance in reducing healthcare costs, there is a lack of comprehensive analysis comparing different types of insurance coverage and their effectiveness in mitigating financial burdens across varying income levels. Addressing these gaps is crucial for developing targeted policies and interventions that address regional disparities and enhance the effectiveness of health insurance schemes in India.

1.4 Research questions

1. What is the average monthly household expenditure on healthcare in Mapusa and Panaji?
2. How prevalent is health insurance coverage among households in Mapusa and Panaji, and to what extent does it mitigate the financial burden of healthcare expenses?
3. What are the historical trends in out-of-pocket expenditure on healthcare in India over the selected time period?
4. Are there any significant fluctuations or patterns in out-of-pocket healthcare expenditure in India over it?

1.5 Objectives

1. Examine trends in out- of-pocket expenditure in India over the selected time period to understand how it has changed historically and identify any significant fluctuations or patterns
2. Determine the average amount households spends on healthcare monthly in Mapusa and Panaji
3. Assess the extent of health insurance coverage among households and its effectiveness in mitigating the financial burden of health care expenses

Chapter 2: Literature review

1. Study published by Frederick Mugisha, Bocar Kouyate, Adjima Gbangou, Rainer Sauerborn named “Examining out-of-pocket expenditure on health care in Nouna, Burkina Faso: Implications for health policy” on 21 March 2002. The objective was to examine household out-of-pocket expenditure on health care, particularly malaria treatment, in rural Burkina Faso. The result said that Households will spend less on malaria, either in or outside the health facility, if given the choice to do so, because they feel confident to self-treat malaria. Seeking health care from a qualified health worker incurs more out-of-pocket expenditure than self-treatment and traditional healers, and if necessary, households sell off assets to offset the expenditure. More than 80% of household out-of-pocket expenditure is allocated to drugs.

2. Study published by T. K. RAY, C. S. PANDAV, K. ANAND, S. K. KAPOOR, S. N. DWIVEDI was named “Out-of-pocket expenditure on healthcare in a north Indian village” in 2002. The results said that the private health sector was utilized in 59.4% of total episodes. Utilization of the private sector was directly associated with a higher socioeconomic status ($p=0.002$). Of the total expenditure on non-hospitalized cases, 83.6% was incurred in the private sector. The mean per capita annual out-of-pocket expenditure on health was Rs 131. The median expenditure per episode was Rs 15.

3. Study by Abdur Razzaque Sarker, Marufa Sultana, Khorshed Alam, Nausad Ali, Nurnabi Sheikh, Raisul Akram, Alec Morton named “Households’ out-of-pocket expenditure for healthcare in Bangladesh: A health financing incidence analysis” on 3 july 2021. The objective of this study is to assess the burden of out-of-pocket (OOP) cost on different socio-economic groups by assessing the health financing incidence because OOP cost dominates household expenditure on health in Bangladesh.The study showed the overall OOP healthcare expenditure was 7.7% of the household monthly income while the poorer income group suffered more and spent up to 35% of their household income on healthcare. The Kakwani index indicated that the poorest quintile spends a greater share of their income on healthcare services than the richest quintile.

4. Study by Farhat Yusuf and Stephen Leeder named”Recent estimates of the out-of-pocket expenditure on health care in Australia” on Submitted: 21 September 2018 Accepted: 29 April 2019 Published: 13 September 2019. The aims of this study were to estimate the average annual out-of-pocket (OOP) expenditure on health care by households in Australia in 2015–16, and to compare this with the estimate for 2009–10. The result said that The average annual OOP expenditure was A$4290 per household, representing 5.8% of the amount spent on all goods and services. Private health insurance (PHI) premiums, although not a direct expenditure on health care, were 40.6% of the total OOP expenses. Of the remaining 59.4%, nearly half was spent on doctors and other health professionals, and approximately one-third was spent on medicines. Dental treatments and specialist consultations were the most expensive, whereas visits to general practitioners incurred the least OOP expenditure.

Households with PHI (58.6%) spent fourfold more on health care than those not insured. Compared with the 2009–10 survey, the biggest increases were in the cost of PHI (50.7%) and copayments to specialists (34.8%) and other health professionals (42.0%).

5. Study by Azaher Ali Molla, Chunhuei Chi & Alicia Lorena Núñez Mondaca named "Predictors of high out-of-pocket healthcare expenditure: an analysis using Bangladesh household income and expenditure survey, 2010" on 31 January 2017. This study aims to investigate the predicting factors of high out-of-pocket household healthcare expenditure targeting to put forward policy recommendations on equity in financial burden. The results revealed Presence of chronic disease and household income were found to be the most influential and statistically significant ($p < 0.001$) predictors of high household healthcare expenditure. Households in rural areas spend 7% less than urban dwellers. The results show that a 100% increase in female members in a family leads to a 2% decrease in household health expenditure. Household income, health shocks in families, and family size are other statistically significant predictors of household healthcare expenditure. Proportion of elderly and under-five members in the family show some positive influence on health expenditure, though statistically no significant.

6. Study by Samuel Marshall, Kathleen M. McGarry & Jonathan S. Skinner named "The Risk of Out-of-Pocket Health Care Expenditure at End of Life" in July 2010, The data from 1998 to 2006 exit interviews, comprising 6,631 individuals, reveals key patterns in end-of-life expenditures. The sample, predominantly elderly with an average age of

79.4, shows a rising trend in out-of-pocket expenditures, peaking in 2004 before a decline in 2006. Notably, nursing home and hospital expenses are the largest category. Wealth and income before death exhibit significant variation, with net worth averaging $178,469 and income averaging $31,713. Out-of-pocket expenditure distribution is skewed, with a mean of $12,120 and a median of $5,175, highlighting substantial variation among individuals. Moreover, analysis suggests a stronger association between expenditures and wealth rather than income, indicating that end-of-life costs are primarily determined by available wealth.

7. Study by Sanjay K. Mohanty, Rajesh K. Chauhan, Sumit Mazumdar & Akanksha Srivastava named “Out-of-pocket Expenditure on Health Care Among Elderly and Non-elderly Households in India” on 10 February 2013. Over the past two decades, India has witnessed a remarkable increase in life expectancy, expected to surpass 70 years by 2023. However, this longevity comes with challenges such as heightened economic insecurity, dwindling familial support, and declining health. With low public spending and insurance coverage on healthcare, out-of-pocket expenditures (OOP) have become a significant burden for households, often leading to catastrophic financial consequences. Studies highlight the link between rising morbidity at older ages and increased healthcare expenses. As demographic shifts and the prevalence of non-communicable diseases rise, healthcare costs are projected to escalate, potentially plunging families into poverty. Mitigating this burden requires strategies such as increasing public spending on healthcare, expanding health insurance coverage, and reallocating resources to cater to the specific needs of the elderly. The findings underscore the necessity for enhanced geriatric care, targeted spending on non-communicable diseases, and improved health insurance accessibility. Additionally,

incorporating questions on health insurance in national surveys can provide valuable insights into healthcare financing and expenditure patterns in India.

8. Study by Jayakrishnan T1, Jeeja MC2 , Kuniyil V1 and Paramasivam S1 named "Increasing Out-Of-Pocket Health Care Expenditure in India-Due to Supply or Demand?" on Received date: October 21, 2015; Accepted date: February 22, 2016; Published date: February 29, 2016 . This paper was done with the objectives to study the OOP health expenditure and factors affecting it and to understand the impact of PFHI on OOP in India. The results revealed that Proportion of Ailing Persons (PAP) was 104 per 1000 with 13 points increase during the last ten years. The utilization of public services for outpatient (O P) care like subcenters, primary health centers , Community health centers were 25% and inpatient (IP) care was 40%. OP expenditure has increased > 100% and IP care expenditure almost 300% increased during the last ten years. More than 80% of the expenditure are met by out of pocket (OOP).Rural households primarily depended on their 'household income / savings' (68%) and on 'borrowings' (25%), the urban households relied much more on their 'income / saving' (75%) for financing expenditure on hospitalizations, and on '(18%) borrowings. Even from the upper quintile, both rural and urban areas have borrowed money to meet the hospital expenditure which was 23%and 14% respectively. Only 12% urban and 13% rural population received any protection coverage through any of the PFHI like "Rashtriya Swasthya Bima yojana" (RSBY)

9. Study by Obinna E Onwujekwe, Benjamin SC Uzochukwu, Eric N Obikeze, Ijeoma Okoronkwo, Ogbonnia G Ochonma, Chima A Onoka, Grace Madubuko & Chijioke

Okoli named “Investigating determinants of out-of-pocket spending and strategies for coping with payments for healthcare in southeast Nigeria” on 17 March 2010. This paper provides information that would be required to improve financial accessibility and equity in financing within the public health care system. The results reveal that All the SES groups equally sought healthcare when they needed to. However, the poorest households were most likely to use low level and informal providers such as traditional healers, whilst the least poor households were more likely to use the services of higher level and formal providers such as health centers and hospitals. The better-off SES more than worse-off SES groups used OOPS to pay for healthcare. The use of own money was the commonest payment-coping mechanism in the three communities. The sales of movable household assets or land were not commonly used as payment-coping mechanisms. Decreasing SES was associated with increased sale of household assets to cope with payment for healthcare in one of the communities. Fee exemptions and subsidies were almost non-existent as coping mechanisms in this study.

10. Study by Laishram Ladusingh,Sanjay Kumar Mohanty, Melody Thangjam named “Triple burden of disease and out of pocket healthcare expenditure of women in India” on May 10 2018. The objective of this study is To assess prevalence of triple burden of disease of currently married women and to contrast out of pocket maternal care expenditure of these diseases in India.the result revealed that Overall medical and non-medical expenses of non–communicable disease are much higher than those of other disease and disability, reproductive health related and communicable diseases. OOP expenditure for treatment of non-communicable diseases, reproductive health and related diseases and other disease and disability are significantly higher than the

inpatient treatment of communicable diseases and the differences are statistically significant.

11. Study by Anushree S. Panikkassery named “Impact of Out of Pocket Health Expenditure on Consumption Pattern of Below Poverty Line Households in India” on March 6, 2020. This article aims to study the impact of out of pocket health expenditure on the constituents of consumer expenditure and how the composition of consumer expenditure differs with the levels of out of pocket expenditure among different consumption quintiles. The results show that there exists a significant difference in the share of different consumption items in the consumption bundles of households with and without out of pocket expenditure. Despite having a larger share for food expenditure, poor households tend to protect the consumption of food share in the bundle. Compensation for rise in medical expenses is reflected in the reduced share of non-food expenditure items like fuel, education, entertainment, clothing and footwear. With high share of out of pocket expenditure, poor households in the states with high public health expenditure mainly reduced their education expenditure whereas consumption of most of the non-food items were reduced by poor households in low public health expenditure states.

12. Study by Charu C Garg, Anup K Karan named “Reducing out-of-pocket expenditures to reduce poverty: a disaggregated analysis at rural-urban and state level in India” on 17 December 2008. This paper aims to assess the differential impact of OOP expenditure and its components, such as expenditure on inpatient care, outpatient care and on drugs, across different income quintiles, between developed and less

developed regions in India. It also attempts to measure poverty at disaggregated rural-urban and state levels.

13. Study by Sen Bhabesh, Sekhar Rout Himanshu named “Determinants of household health expenditure: Case of Urban Orissa” on 2017. The main objective of the paper is to increase awareness – not only among health researchers but also among policy makers and practitioners who use health research findings – about the influence of socioeconomic characteristics in terms of income and education on household health expenditures, as well as to encourage improved approaches. The study finds that income of the household has significant influence on its health expenditure where as the effect of education is insignificant. From the study it is found that as disposable income of the household increases, individual takes more care of his life, hence, health expenditure increases but at a particular level of income, due to high life risk, health expenditure becomes independent of income and perfectly elastic, which is termed as “High Life Risk Path (HLRP)”. The health expenditure during HLRP depends on household’s past saving and loanable capacity.

14. Study by Noah Olasehinde, Olanrewaju Olaniyan named “Determinants of household health expenditure in Nigeria” on 2017. The purpose of this paper is to examine the determinants of health expenditure at the household level in Nigeria with specific focus on the household and individual unique characteristics. The study aims to expand the domain of household health expenditure by analysing at national, urban and rural levels. The result shows that individual characteristics like age, religion, education and household characteristics like income, size and headship commonly influence healthcare expenditure in Nigeria significantly. The household-level

variables possess stronger significant effects among the rural households while marital status and employment had differential effects in both urban and rural locations. It also confirmed that Nigeria engages in intergenerational transfer of healthcare by the working population to the young and older generations.

15. Study by Indranil Mukhopadhyay, Montu Bose, Vyom Anil, Chandrakant Lahariya named "Analysis of household expenditure on health from the primary data of 75th and 71st rounds of survey by the National Sample Survey Office (NSSO)" on 2022. The aim of the paper is to study the health seeking behaviour and service utilisation of different types of public and private facilities; estimate the Out-of-pocket expenditure (OOPE) on account of outpatient, inpatient care and its components. It compares the unit level data of NSS 71st round for the year 2014 and NSS 75th round for the year 2017-18 to estimate rates of hospitalization, out of pocket expenditure on in-patient and out-patient care, insurance coverage, share of OOPE to HCE and financial catastrophe caused due to these expenses. Our analysis suggests significant decline in the hospitalization rate in 2017-18 compared to 2014 and utilisation of public facilities have increased considerably for both hospitalisation care and out-patient care in both rural and urban areas. When compared to 2014 figures, OOPE has increased across all income classes in the rural areas except for the richest income quintile.

16. Study by Jennifer Prah Ruger, Hak-Ju Kim named "Out-of-pocket healthcare spending by the poor and chronically ill in the Republic of Korea" in 2007 . The lowest income quintile spent 12.5% of their total income out-of-pocket on medical expenditures, which was 6 times that of the highest income quintile (2%). Among

those with 3 or more chronic conditions, low-income Koreans had the highest out-of-pocket spending burden ratio (20%), whichh was 5 times the spending burden among high-income Koreans (4%). In multivariate analyses, the number of chronic conditions, insurance type, health care use, and health care facility type were associated with out-of-pocket spending.

17. Study by Rama Pal named “Out-of-pocket health expenditure: Impact on the consumption of Indian households” on 2013. This paper examines whether out-of-pocket health expenditure affects the composition of household consumption. Based on Indian data, conditional Engel curves for 10 broad categories of goods and services, namely food, intoxicants, fuel, clothing and footwear, education, entertainment, travel, rent, durables and other goods have been estimated. Conditional Engel curves show whether the share of a particular good is increased or decreased in household consumption due to health expenditure. The findings suggest that poor households decrease the share of clothing and education and increase the share of food, fuel and travel. It has also been found that households from less developed states and from states with lower public health expenditure were more affected.

18. Study by Yu-Chun Ku, Yiing-Jenq Chou, Miaw-Chwen Lee, Christy Pu named “Effects of National Health Insurance on household out-of-pocket expenditure structure” on October 2019. Achieving universal health insurance coverage is a major objective for many countries. Taiwan implemented its National Health Insurance (NHI) program with universal coverage in 1995. This study investigates whether the NHI program affects the level and structures of out-of-pocket (OOP) health

expenditures. We used data from the Taiwan Survey of Family Income and Expenditure released by the Directorate-General of Budget, Accounting and Statistics. We identified a case and a control group and then employed coarsened exact matching to match the two groups using several available variables. We then conducted a difference-in-difference analysis and determined that there was a statistically significant negative effect on OOP expenditure that was attributable to NHI (a reduction of 2.11 percentage points in total household expenditure). The largest reductions were found in health care services (−1.63%) and pharmaceuticals (−0.45%). We found a statistically significant positive effect on purchases of private insurance related to health care, which was attributable to NHI (an increase of 0.96 percentage points in household budget share). In addition, we discovered that the NHI program had a greater impact on households of a lower socioeconomic status compared with higher socioeconomic status households. The structure of OOP payments in the post-NHI period remained similar to that of the pre-NHI period in the full sample but varied slightly depending on the educational level of the head of the household.

19. Study by Adam Wagstaff, Patrick Eozenou, Marc Smitz, Adam Wagstaff named "Out-of-pocket expenditures on health: a global stocktake"

20. Study by Budi Aji, Manuela De Allegri, Aurelia Souares, Rainer Sauerborn named "The impact of health insurance programs on out-of-pocket expenditures in Indonesia: an increase or a decrease?" on 2019. They used panel data from the Indonesian Family Life Survey to investigate the impact of health insurance programs on

reducing out-of-pocket expenditures. We employed three linear panel data models, two of which accounted for endogeneity: pooled ordinary least squares (OLS), pooled two-stage least squares (2SLS) for instrumental variable (IV), and fixed effects (FE). The study revealed that two health insurance programs had a significantly negative impact on out-of-pocket expenditures by using IV estimates. In the IV model, Askeskin decreased out-of-pocket expenditures by 34% and Askes by 55% compared with non-Askeskin and non-Askes, respectively, while Jamsostek was found to bear a nonsignificant effect on out-of-pocket expenditures. In the FE model, only Askeskin had a significant negative effect with an 11% reduction on out-of-pocket expenditures. This study showed that two large existing health insurance programs in Indonesia, Askeskin and Askes, effectively reduced household out-of-pocket expenditures. The ability of programs to offer financial protection by reducing out-of-pocket expenditures is likely to be a direct function of their benefits package and co-payment policies.

21. Study by Diana N Kimani named “Out-of-pocket health expenditures and household poverty: Evidence from Kenya” on 2013. The results showed that Descriptive statistics indicate that 17 percent of those who reported illness did not seek health care, with more than 50 percent quoting lack of money as the main hindrance. Among those who utilized health care, 12 percent experienced catastrophic expenditures, and 4 percent (2.5 million individuals) were impoverished or made poorer by these payments. The poor experienced the highest incidence of catastrophic expenditures. The econometric analysis reveals that out-of-pocket expenditures are a deterrent to health service utilization, are significantly and positively associated with catastrophic expenditure and with household poverty. It is further shown that catastrophic

expenditures impoverish households through their large negative effects on health and wealth. Catastrophic expenditures exclude low-income households from health care, and conditional on them getting care, they get it in insufficient quantity, and are forced into indebtedness or sale of assets to pay for it. Furthermore, even when catastrophic health expenditure enables the household to improve the health of its members, labour market failures often prevent realization of potential gains from health investments. The findings of the thesis strongly point to a need to explore mechanisms for cushioning households against catastrophic out-of-pocket expenditures.

22. Study by Lubna Naz, Shyamkumar Sriram named Out-of-pocket expenditures associated with double disease burden in Pakistan: a quantile regression analysis in 2024. This study examines the percentile distribution of the determinants of the out-of-pocket expenditure on the double disease burden. Overall, 28.5% of households had double disease in 2018-19. The households with uneducated heads, male heads, outpatient healthcare, patients availing public sector healthcare services, and rural and older members showed a significant association with the prevalence of double disease. The out-of-pocket expenditure was higher for depression, liver and kidney disease, hepatitis, and pneumonia in the upper percentiles. The quantile regression results showed that an increased number of communicable and noncommunicable diseases was associated with higher monthly OOP expenditure in the lower percentiles (10^{th} percentile, coefficient 312, 95% CI: 92–532), and OOP expenditure was less pronounced among the higher percentiles (75^{th} percentile, coefficient 155, 95% CI: 30–270). The households with older members were associated with higher OOP expenditure at higher tails (50^{th} and 75^{th} percentiles) compared to lower (10^{th}

and 25th percentiles). Family size was associated with higher OOPE at lower percentiles than HI Expenditures.

23. Study by Sung Gyeong Kim, Seung Hum Yu, Woong Sub Park, Woo Jin Chung named "Out-of-pocket Health Expenditures by Non-elderly and Elderly Persons in Korea" in 2005. The purpose of this study was to determine the impact of the sociodemographic and health characteristics on the out-of-pocket health spending of the individuals aged 20 and older in Korea. The results showed that Out-of-pocket health expenditures for those people under the age of 65 averaged 14, 800 won per month, whereas expenditures for those people aged 65 and older averaged 27, 200 won per month. In the regression analysis, the insurance type, resident area, self-reported health status, acute or chronic condition and bed-disability days were the statistically significant determinants for both age groups. Gender and age were statistically significant determinants only for the non-elderly.

24. Study by Karthiyayini Loganathan, Pradeep R Deshmukh, Abhishek V Raut named "Socio-demographic determinants of out-of-pocket health expenditure in a rural area of Wardha district of Maharashtra, India". Of the 180 families, 18.9 per cent had catastrophic health expenditure over a period of one year. The median total out-of-pocket health expenditure was '1105.00 with median medical expenditure being '863.85 and median non-medical health expenditure being '100.00.

25. Study by Indrani Gupta, Samik Chowdhury named "Correlates of out-of-pocket spending on health in Nepal: implications for policy" in 2014. A key objective of

universal health coverage is to address inequities in the financial implications of health care. This paper examines the level and trend in out-of-pocket spending (OOPS) on health, and the consequent burden on Nepalese households.

26. Study by Shivendra Sangar, Varun Dutt, Ramna Thakur named “Burden of out-of-pocket health expenditure and its impoverishment impact in India: evidence from National Sample Survey” in 2022. The study employed nationally representative survey on ‘Health and Morbidity’ conducted by National Sample Survey Organization (NSSO) in 2014 in India. Standard catastrophic, inequality and impoverishment measures were used to analyse the burden and impact of OOP health expenditure. Findings revealed that although the overall incidence and intensity of OOP health expenditure was concentrated among the richer consumption groups, in-depth study of the same in terms of inpatient and outpatient care showed that the incidence of outpatient care was highly concentrated towards the poorer consumption groups. Study also revealed that around 8% of the population fell below the poverty line due to OOP health expenditure in which outpatient care was the main contributing factor (5.8%). Among different socio-economic covariates, rural population, Muslims, Scheduled Castes and casual/agriculture labour were most affected and had higher impoverishment impact. Our findings suggest that there is a need to revisit the approach towards health-care financing in India.

27. Study by Mukesh Shukla, Anil Kumar, Monica Agarwal, Jai Vir Singh, Abhishek Gupta named “Out-of-pocket expenditure on institutional delivery in rural Lucknow” in 2015. The purpose of this study was To estimate the out of pocket expenditure

incurred by households during delivery and its determinants.The mean out of pocket expenditure was found to be Rs. 1406.04±103.27 including spending's on drugs, travel, pathological tests and unofficial payments. Low socioeconomic class, residence outside the catchment area of delivery point, tertiary and secondary health care facilities as place of delivery and low literacy status of head of the family below high school were found to be significantly associated with out of pocket expenditure bivariate analysis ($p< 0.05$). On multivariate analysis low socioeconomic (OR 22.40; 95% CI 9.44-53.15; $p= 0.01$) and residence (OR 13.07; 95% CI (1.58-116.55); $p= 0.03$) outside the catchment area of delivery point were found to be independent predictors of catastrophic out of pocket expenditure during delivery.

28. Study by Dunfu Zhang, KM Atikur Rahman named "Government health expenditure, out-of-pocket payment and social inequality: A cross-national analysis of China and OECD countries" This study aims to assess the association between Chinese out-of-pocket payments and government health spending, investigating their variation ratio in the context of OECD countries. Aggregated time-series data of 37 countries (from China and official OECD members) were collected from the World Bank Open Data source and analyzed using the multiple linear regression models. Benchmarking approach was applied to evaluate the causes of healthcare expenditure rise per capita. The results showed that China's government health expenditure was positively associated with out-of-pocket payment rise, with a higher variation score of 42.70%. The association was statistically significant at 5%. Likewise, the association between government expenditure and out-of-pocket payment in the OECD countries was positively significant at 1%, and their variation score was 2.41%. Health financing in OECD countries showed higher stability and equity than that in China. Policy

implications for China is to reduce the distributional disparity of government health funds by tax adjustments in health services, universal health coverage, the removal of social health insurance disparities, and a single health payment method.

29. Study by Hilaire Gbodja Houeninvo, Venant Cossi Celestin Quenum, Melain Modeste Senou named “Out-Of-Pocket health expenditure and household consumption patterns in Benin: Is there a crowding out effect?” in 2023. In this study, they examine whether out-of-pocket health expenditures crowd out household consumption of non-healthcare necessities, such as education items in benin using a sample of 14,952 households from the global vulnerability and food security analysis survey. We estimated a system of conditional engel curves with three stage least squared (3sls) and seemingly unrelated regression (sure) for seven categories of goods using the quadratic almost ideal demand system (quaids) in the form of budget shares corresponding to proportions of total non-health expenditure. Findings show that out of pocket health expenditure leads households to spend more on health care that in fine crowd out expenditure in other necessity goods such as education item. These findings highlight the need for social protection programs to mitigate the impact of health shocks on vulnerable households in benin.

30. Study by Rama Pal named “Analysing catastrophic OOP health expenditure in India: Concepts, determinants and policy implications” in 2010. The present paper attempts to modify definition of catastrophic out-of-pocket health expenditure by characterising it based on consumption of necessities. In literature, catastrophic expenditure is defined as that level of OOP health expenditure which exceeds some fixed proportion of household income or household’s capacity to pay. In the present

paper, catastrophic health expenditure is defined as one which reduces the non-health expenditure to a level where household is unable to maintain consumption of necessities. Based on this definition of catastrophic health expenditure, the paper examines determinants of catastrophic OOP health expenditure in India. Findings suggest that it is important to carefully revise the concept of catastrophic health care spending and the method developed in this paper can be considered as one of the possible alternatives. We find that education is one of the important policy instruments that can be used to reduce incidence of catastrophic spending in India. The findings also suggest that even after efforts to reduce differences among various social classes in India, socially deprived classes are still vulnerable as they are more likely to experience financial catastrophe due to illness.

Chapter 3: Methodology

The methodology employed to achieve the objectives encompassed several key components tailored to address each objective effectively. To examine trends in out-of-pocket expenditure in India over the selected time period, a descriptive study design was adopted. Historical out-of-pocket expenditure data were obtained from reliable sources such as Data for out of pocket expenditure, health expenditure, consumption expenditure are taken from World Bank for the year 2000-2022. Forecasted other value of OOP expenditure to examine the fluctuations in the data. I have also surveyed in the household of Mapusa and Panaji to know about household health expenditure, income, health problems, etc. and have done descriptive analysis on it.

3.2 Significance of study

The significance of this study lies in its potential to provide valuable insights into the healthcare expenditure patterns and health insurance coverage in specific regions of India, namely Mapusa and Panaji. Understanding the average household spending on healthcare can shed light on the financial burden faced by families in these areas. Additionally, assessing the effectiveness of health insurance in alleviating this burden can inform policymakers and stakeholders about the efficacy of current healthcare financing mechanisms.

Furthermore, examining trends in out-of-pocket expenditure on healthcare across India over time can offer a broader perspective on the financial challenges faced by households nationwide. This analysis can help identify areas where interventions are needed to reduce the financial strain associated with healthcare costs.

Overall, the findings of this study can contribute to the development of targeted policies and strategies aimed at improving access to affordable healthcare and enhancing the effectiveness

of health insurance coverage, ultimately leading to better health outcomes and financial well-being for individuals and families in India.

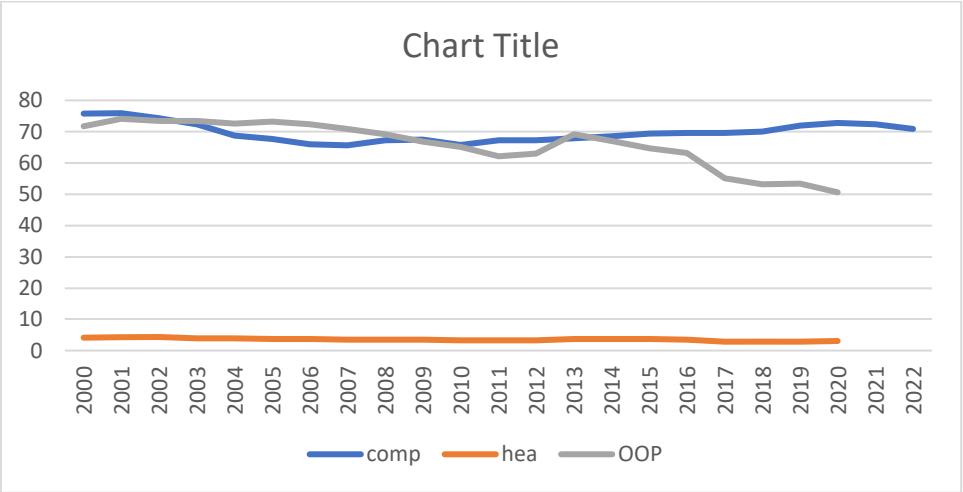
3.3 Limitation of study

- The study is limited to only Mapusa and Panaji
- Data available only till 2020 for out-of-pocket (OOP) expenditure

Chapter 4: Results and Analysis

4.1 Trends of health expenditure, consumption expenditure and Out of pocket expenditure

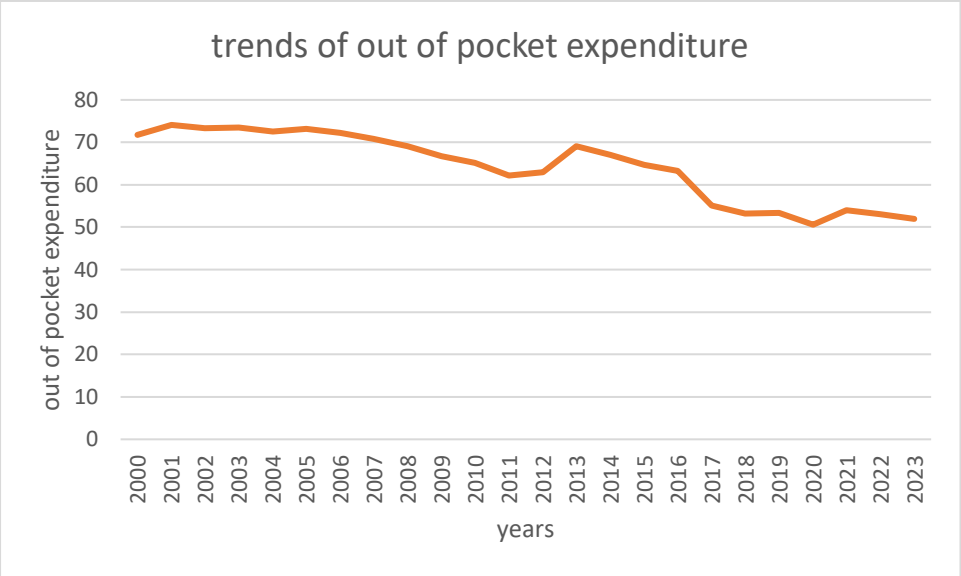
(Original dataset provided by World Bank)



The data from the years 2000 to 2022, focusing on different measurements related to consumption, healthcare, and out of pocket expenditure (OOP). There are ups and downs in these measurements over time. For example, in the 'comp' trend, which probably shows data about consumption expenditure, there's a pattern of going up in the early 2000s, then slowly going down until the mid-2010s, and a small increase after that. In the 'hea' trend line, which likely has healthcare expenditure data, there's a steady decrease from the early 2000s to around 2010, and then more ups and downs in later years. The 'OOP' trend, which might be about out of pocket expenditure, shows a general decrease but has some missing data in recent years.

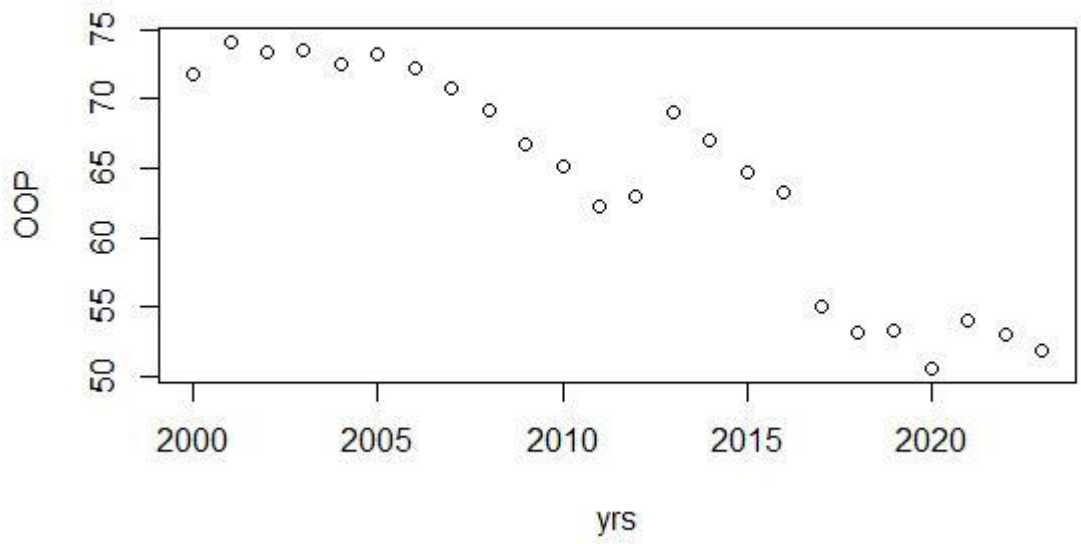
Basically, the dataset shows how these different things have changed over the years, probably because of advancements in technology, changes in healthcare policies, etc.

4.2 trends of out-of-pocket (OOP) expenditure



This trend of out of pocket expenditure of the years and its value from 2000 to 2020 and 2021 to 2023 percentage are being forecasted. From 2000 to 2013 are there can be seen a fluctuation but overall increasing trends in OOP peaking around 2013. However, from 2013 there seems to be decline in OOP expenditure and decline appears to continue steadily from 2013 and 2023 according to forecasted values. This can be because of changes in health care system, insurance coverage, government policies, etc.

4.3 fluctuations or patterns in out-of-pocket



The positive fluctuations observed from 2000 to 2001, where out of pocket (OOP) expenditure increased from 71.702 to 74.106, can be attributed to several key factors:

- Inflation: it occurs when the general price level of goods and services, rises, leading individuals to spend more money to acquire the same goods and services. Healthcare costs are notably impacted by inflation, as they involve various services and products, such as medical procedures and prescription drugs. The increase in healthcare expenses due to inflation results in elevated out-of-pocket costs for individuals in need of medical treatment.
- Changes in health care costs can be attributed to developments in medical technology, rises in pharmaceutical prices, and adjustments in the pricing model of healthcare services. Any significant increase in 2000 to 2001 would consequently lead to heightened out-of-pocket costs for individuals. For instance, if the expenses related to specific medical procedures or prescription medications experienced notably spikes,

individuals would be required to allocate more funds out-of-pocket to meet these financial obligations.

- Modifications in Health Insurance Coverage: Variations in health insurance coverage, including adjustments in deductibles, copayments, or coverage restrictions, can have a direct impact on the financial burden individuals face for healthcare services. Any policy changes or modifications to insurance plans that escalated the financial obligation of individuals, such as increased deductibles or copayments, would result in a rise in out-of-pocket expenses. Furthermore, reductions in insurance coverage or rises in premiums could have led individuals to incur greater out-of-pocket costs for healthcare services that were not covered by insurance.
- In terms of demographic changes, alterations in the demographic makeup of the populace, such as aging trends or fluctuations in income levels, have the potential to impact patterns of healthcare utilization and expenditure. For instance, an aging population often necessitates an increased demand for healthcare services, encompassing preventative care and management of chronic ailments, thereby contributing to a rise in overall healthcare costs. Likewise, variations in income levels or employment circumstances may impact individuals' capacity to access healthcare services, potentially leading to elevated out-of-pocket expenses for those experiencing financial constraints.
- Influence of Policy Changes on Healthcare Expenditure: The modifications made to government healthcare policies and regulations are crucial in determining the amount of money spent on healthcare. Adjustments to reimbursement rates, subsidies, or eligibility requirements for government healthcare programs can directly impact individuals' out-of-pocket costs. For instance, decreases in government subsidies or alterations in reimbursement rates for healthcare providers could result in increased

out-of-pocket expenses for patients. Likewise, revisions in regulations overseeing insurance coverage or healthcare service delivery methods can impact the level of insurance coverage and, as a result, the out-of-pocket expenditure of individuals.

The fluctuations in out-of pocket (OOP) expenditure from 2002 to 2003, with a slight decrease followed by an increase, are likely due to various factors:

- Economic Conditions: Changes in employment rates, income levels, and consumer confidence influence healthcare spending behaviour. Economic downturns can lead to reduced spending, while improvements can increase healthcare expenses.
- Healthcare Utilization Patterns: Variations in disease prevalence, healthcare-seeking behaviour, and service availability affect spending. Decreases in healthcare utilization can lower expenses, while increases or new health issues can raise them.
- Policy Changes: Alterations in healthcare policies, regulations, or insurance coverage impact out-of-pocket costs. Changes in copayments, deductibles, or subsidies can either decrease or increase expenses depending on the policy shift.
- Healthcare Cost Dynamics: Fluctuations in medical service, medication, and supply prices influence spending. Temporary decreases may lower expenses initially, but subsequent increases or stability can raise them.
- Seasonal Variations: Changes in weather, flu seasons, or holidays affect healthcare utilization and expenditure. Increased utilization during flu seasons or inclement weather raises expenses, while slower periods or holidays can decrease costs.

The significant decrease in out-of-pocket (OOP) expenditure from 2008 to 2009, dropping from 69.148 to 66.758, can be attributed to the global financial crises of 2008. A factors for this are:

- Increased Financial Strain: Households faced challenges meeting financial obligations, prompting them to cut back on non-essential spending like healthcare.

- Changes in Healthcare Utilization: Economic hardships led individuals to postpone non-urgent medical care, reducing healthcare utilization and associated expenses.
- Impact on Health Insurance Coverage: Job losses or reduced work hours affected access to health insurance, leading some to rely on public healthcare or limit healthcare usage to minimize costs.
- Government Responses: Governments implemented measures like increased healthcare funding, expanded access to subsidized services, or temporary cost reductions, contributing to lower out-of-pocket healthcare expenses during the crisis.

The significant decrease in out-of-pocket (OOP) expenditure from 2009 to 2010, dropping from 66.758 to 65.185, indicates a continued negative fluctuations following global crisis.

- Continued Financial Impact: Lingering effects of the crisis, like reduced savings and increased debt, continued to influence healthcare spending behaviour even as the economy stabilized.
- Healthcare Access and Utilization Changes: Despite economic improvements, concerns about cost and access to healthcare persisted, impacting individuals' willingness to seek medical services and contributing to reduced out-of-pocket spending.
- Policy Responses and Reforms: Governments responded with policies aimed at expanding healthcare access, reducing costs, and providing financial aid, which helped lessen the financial burden on individuals and contributed to lower out-of-pocket expenses.
- Demographic and Health Trends: Changing demographics, health trends, and advancements in medical technology also influenced healthcare expenditure patterns, affecting how individuals spent on healthcare services.

The significant Increase in out of pocket (OOP) expenditure from 2012 to 2013, rising from 63.000 to 69.073, reflects a period of Economic recovery and growth. The minor decrease in out of pocket (OOP) from 2013 to 2014, dropping from 69.073 to 67.014, reflects a period of stabilization or normalization following the significant increase in the previous year. Factors contributing to this minor fluctuation include adjustments in market demand, economic policy changes, global economic trends, and natural movements within the economic cycle. These factors collectively led to a slight dip in production levels during 2014, representing a minor fluctuation in OOP.

The substantial decrease in out of pocket (OOP) expenditure from 2016 to 2017, dropping from 63.206 to 55.112, indicates a significant Negative fluctuation.

- Healthcare Policy Changes: Reforms in public healthcare, increased subsidies, or regulatory changes could reduce out-of-pocket expenses.
- Economic Conditions: Improving economic conditions may lead to higher healthcare spending, while downturns can result in reduced expenditure.
- Healthcare Utilization Patterns: Changes in healthcare-seeking behaviour and advancements in preventive care or treatment can affect out-of-pocket costs.
- Technological Advancements: Medical innovations that improve efficiency or offer cost-effective options can lower healthcare expenses.
- Demographic Changes: Shifts in demographics, such as age distribution or access to insurance, can impact healthcare expenditure patterns.

In 2018, there was a minor decrease in out-of-pocket (OOP) expenditure, possibly due to ongoing economic challenges, market adjustments, and policy changes. The slight decrease might reflect a cautious approach by individuals in their healthcare spending amidst economic uncertainties and changes in healthcare policies.

In 2019, there was a minor increase in OOP expenditure, indicating potential economic recovery and improved consumer confidence. As economic conditions stabilized or improved, individuals may have felt more financially secure and willing to spend on healthcare services, leading to a slight uptick in out-of-pocket spending.

However, in 2020, there was a notable negative fluctuation with a significant decrease in OOP expenditure due to the impact of the COVID-19 pandemic. The pandemic led to widespread lockdowns, supply chain disruptions, reduced consumer spending, and economic uncertainties globally. These factors, coupled with concerns about contracting the virus and limitations on healthcare access, likely resulted in individuals reducing their healthcare utilization and spending, leading to a sharp decrease in out-of-pocket expenditure.

These fluctuations highlight the dynamic nature of economic conditions influenced by internal factors such as policy changes and market adjustments, as well as external shocks like the COVID-19 pandemic. Each year presents unique challenges and opportunities, impacting individuals' healthcare spending behaviour and contributing to fluctuations in out-of-pocket expenditure.

The forecasted increase in overall out-of-pocket (OOP) expenditure from 2020 to 2021 suggests a positive fluctuation due to post-pandemic recovery, pent-up demand, favourable economic Indicators, and policy support. As economies rebound from the COVID-19 pandemic, individuals May regain confidence in their financial situations, leading to increased healthcare spending. Additionally, government stimulus packages and supportive policies aimed at boosting Economic growth and healthcare accessibility could contribute to higher out-of-pocket Expenditure during this period.

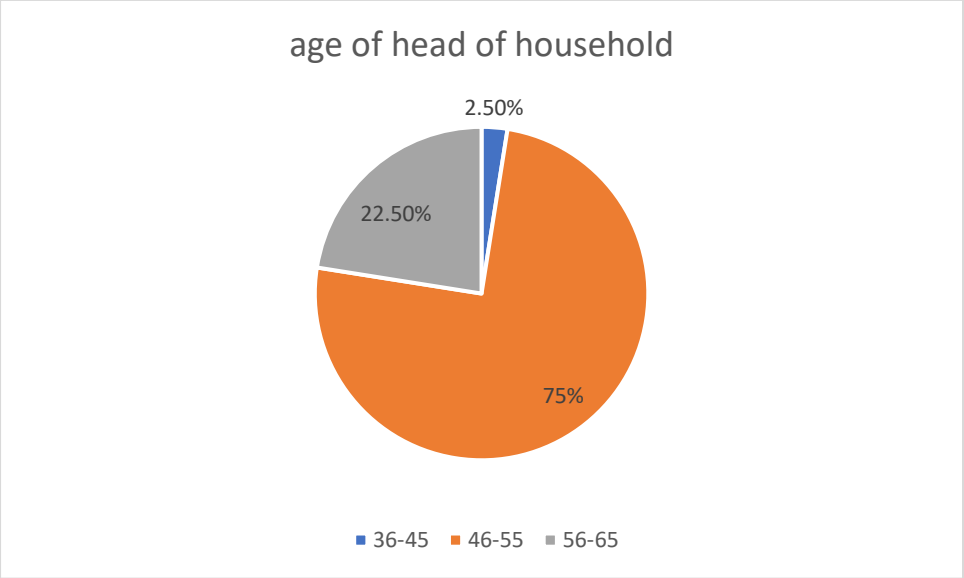
However, the forecasted decrease in OOP from 2022 to 2023 reflects potential economic Adjustments, global economic factors, policy changes or uncertainties, and market-specific

Dynamics. Despite initial recovery efforts, economic conditions may stabilize or face new Challenges, leading to adjustments in healthcare spending. Factors such as changes in Employment rates, inflationary pressures, shifts in consumer behaviour, and evolving healthcare Policies could influence individuals' out-of-pocket expenditure during this period. Additionally, Global economic factors and uncertainties may impact domestic economic conditions, further Affecting healthcare spending patterns. These forecasted fluctuations highlight the dynamic nature of economic conditions influenced by internal and external factors, policy interventions, and market dynamics. Understanding and anticipating these factors are essential for effectively managing healthcare expenditure and Navigating economic uncertainties in the years ahead.

4.4 Descriptive analysis of Household study from Mapusa and Panaji

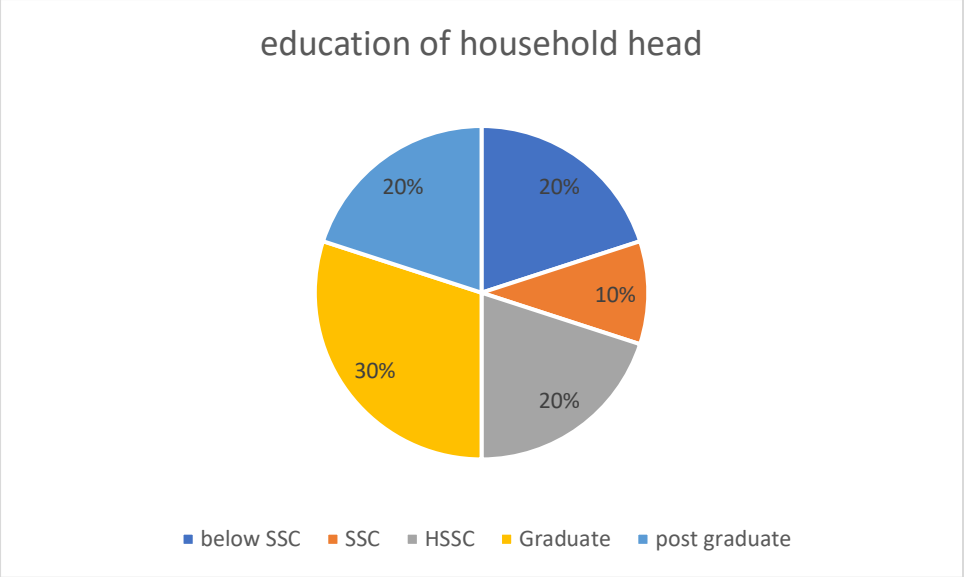
The survey has been collected from 20 household of Mapusa and Panaji to determine the average monthly household expenditure on healthcare in Mapusa and Panaji, and to study how health problem affect employment and household income.

4.4.1 Age of household head



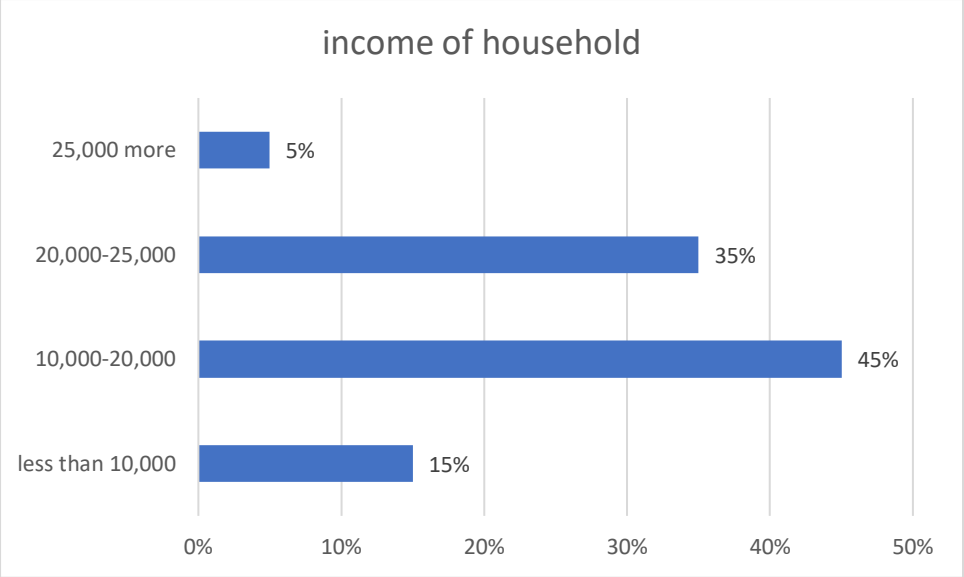
This pie chart shows that majority i.e. 75% household heads in Mapusa and Panaji are aged between 46-55 years old followed by 22.50% of head of household aged between 56-65 years old and very small percentage of household heads are between 36-45 years old. This shows that majority of household still stay in joint family.

4.4.2 Education of household head



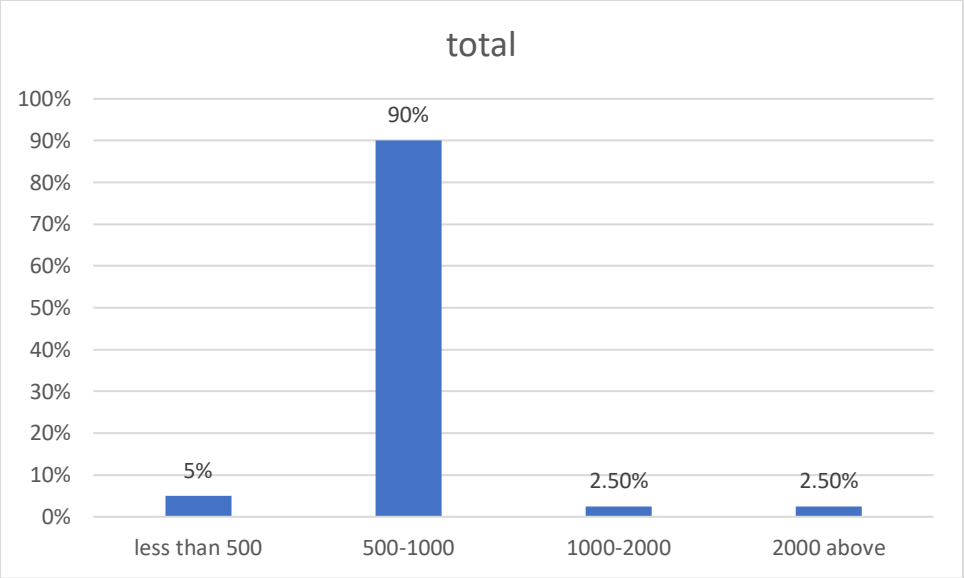
This data shows that majority of household head is graduate in Mapusa and Panaji which is around 30% followed by 20% of household is either below SSC, HSSC or post graduate and around 10% of household head has completed till SSC. This shows there is majority literate household head in every household of Mapusa and Panaji.

4.4.3 Income of household



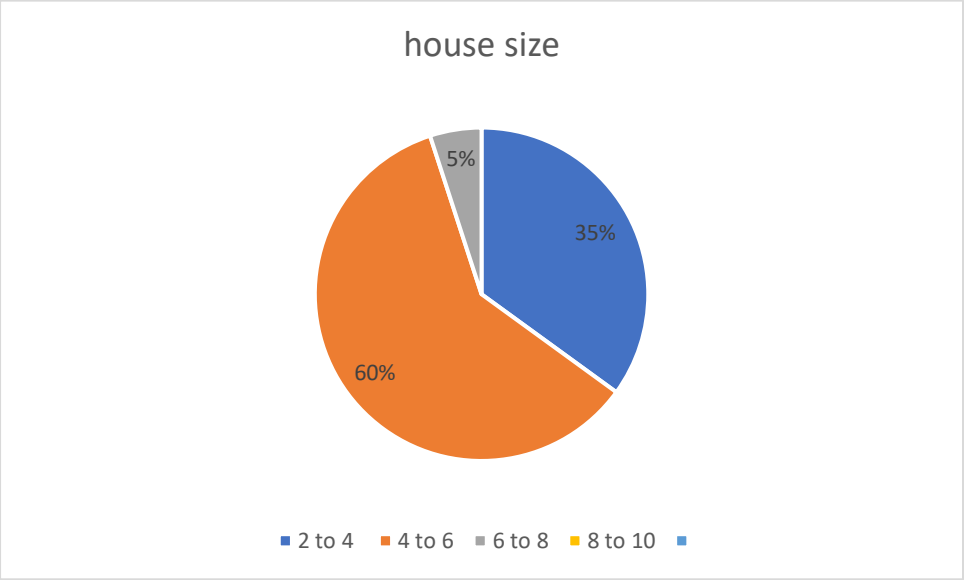
This clustered bar chart shows 45% of household income is between 10,000-20,000 followed by 35% of household income is 20,000-25,000 then 15% of household income is less than 10,000and very small percentage of income is above 25,000.

4.4.4 Income spend on healthcare



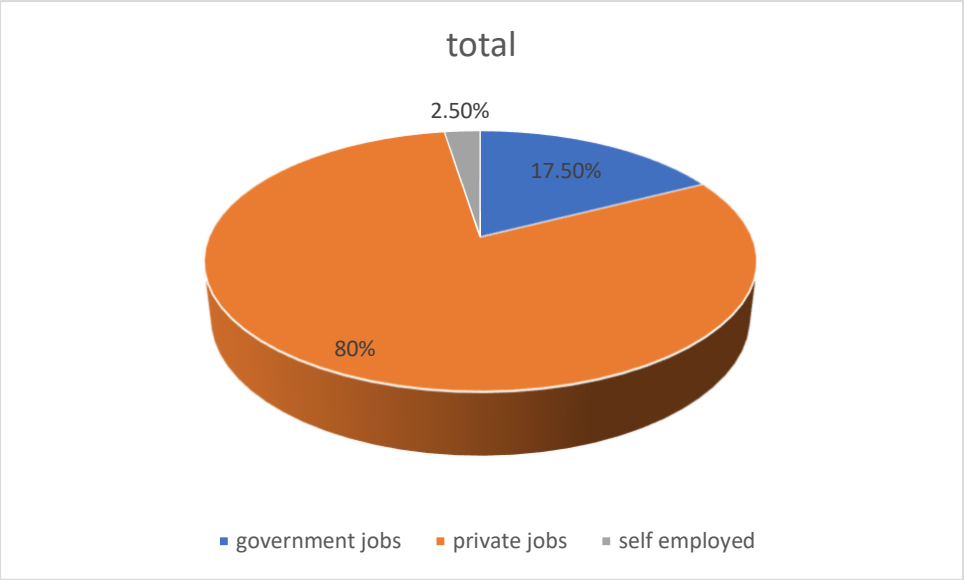
This clustered column bar chart shows that 90% of household spends around 500-1000 from their income per month for their healthcare expenses followed by 5% of household spent less than 500 on health expenses.

4.4.5 House size



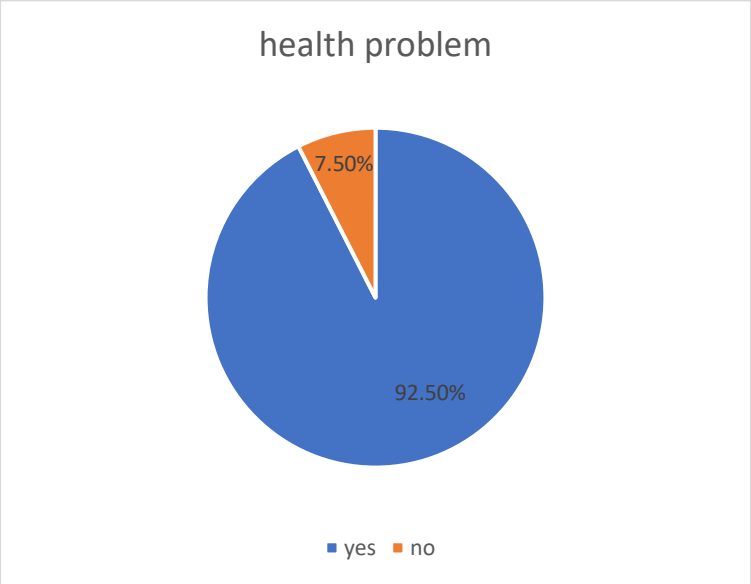
This data indicates that 60% of household have 4-6 people living in household followed by 35% of the people and 5% have 6-8 people in their household.

4.4.6 Jobs from where income is earned



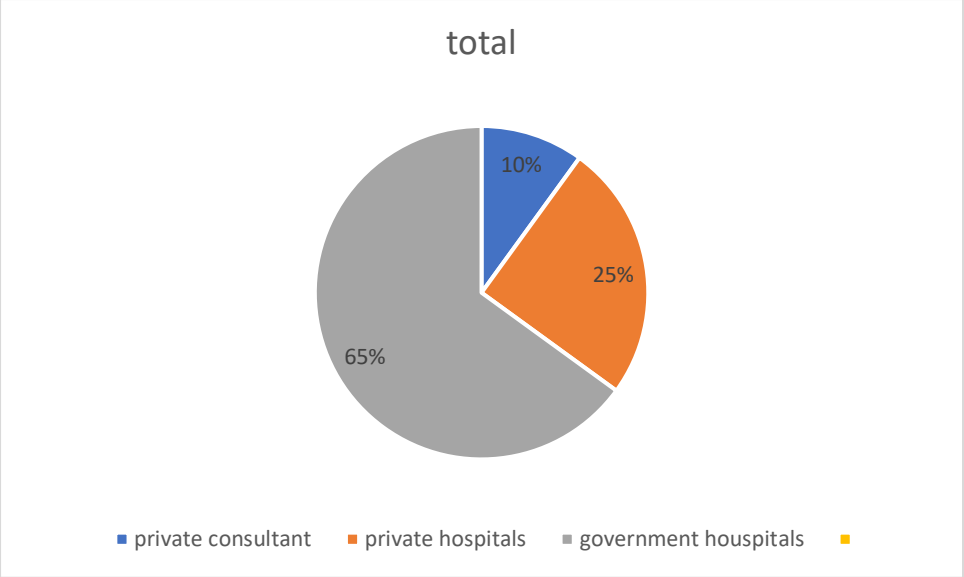
This data shows that 80% of people of household are working in private jobs followed by 17.5% are in government jobs and very small percentage are self-employed.

4.4.7 Health problem



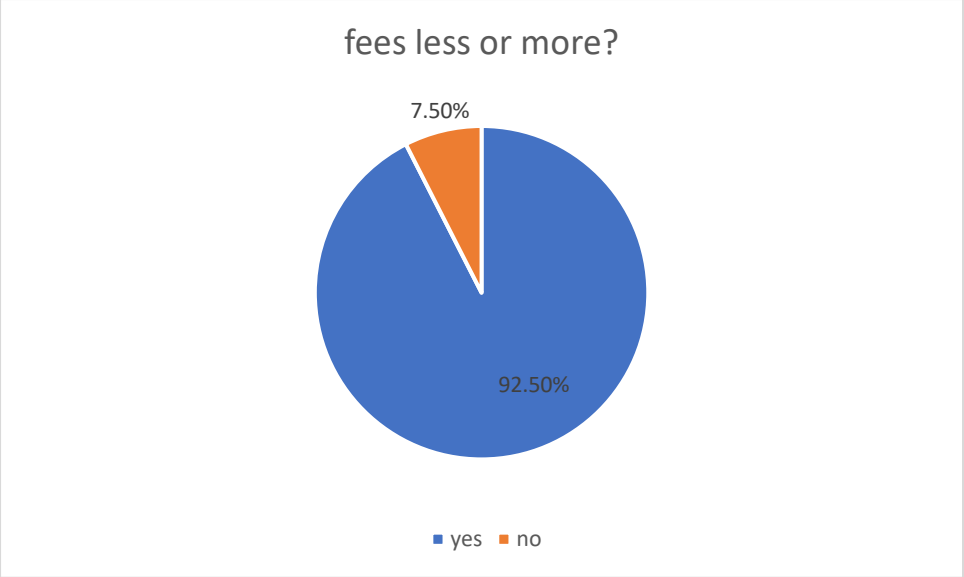
This shows that majority of people have health problem in household e.g. majority I.e. 92.5% people often suffer from short term diseases like fever, cold headache/stomach, etc. and in long term around 77.5% people is suffering from diabetes.

4.4.8 Place of consultant for treatment



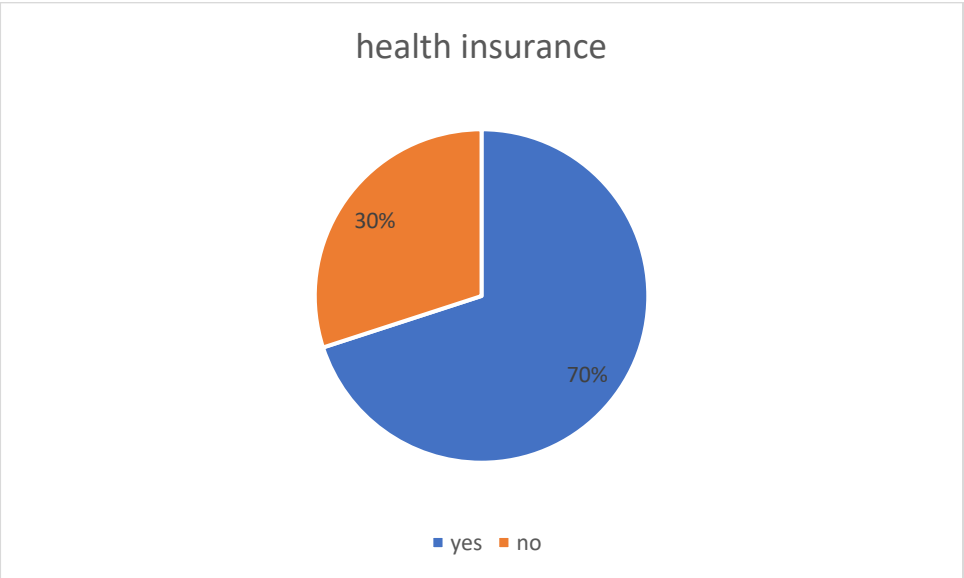
This shows that 65% of people prefer government because it is near to their house and has better treatment facilities as many respondent as 75% of people usually go to doctor whenever they feel illness and 25% of people go for monthly check-ups, majority of 82.5% of people have responded that their current state of heath is better than last year and 17.5% people have responded that their current state of health is same has last year and 55% people said that it consumes their 10% of their income whereas 27.5% and 12.5% people said that it consumes their 20% and 30% of their income.

4.4.9 Fees of the doctor



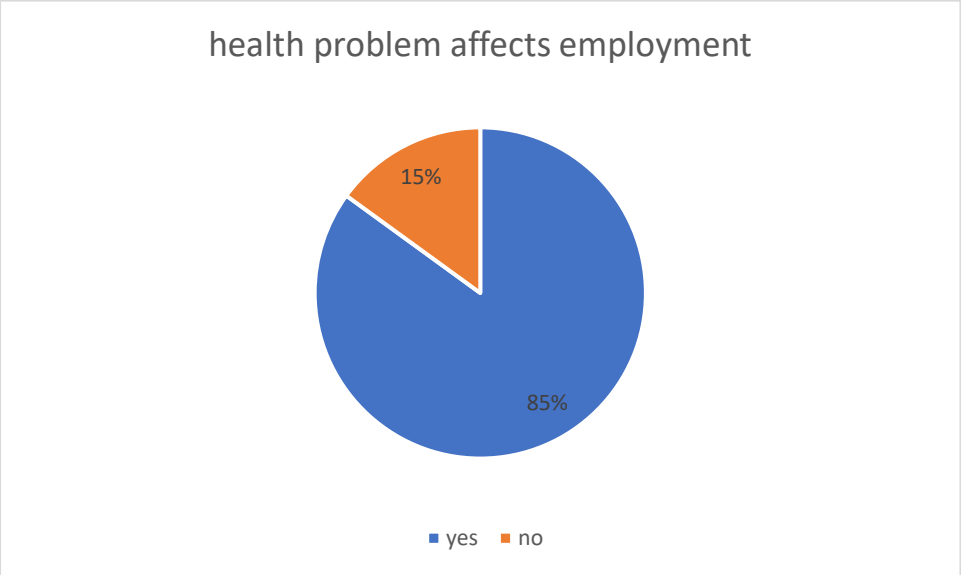
This shows that majority i.e. 92.5% of respondents said that doctors' fees are less than medicine while small percentage said the doctors' fees are more than medicine.

4.4.10 health insurance



This shows that 70% of people have health insurance while other does not have any insurance in which 62.5% have personal health insurance and 30% have does not any insurance. There are more than 87.5% people use saving from their income.

4.4.11 health problems affect employment



The link between health problems and employment is complex with physical and mental health issues posing significant barriers as 85% of people responded that it does affect employment even though it may be slightly losing 10% of their household income as majority of them very absent for around 1 week and health problem may be because of no time spend on exercise to keep their health perfect as more than 50% of people does not take time for their exercise.

4.4 Hypothesis

H0: Older heads of households spend more on health care expenses compared to younger heads of households.

H1: There is a significant difference in health care expenditure between different age groups of household heads.

H0: Household income is sufficient for health expenditure.

H1: There is a significant portion of households where income is not sufficient to cover health expenditure.

H0: Health insurance coverage reduces out-of-pocket health care expenses.

H1: Health insurance coverage does not reduces out-of-pocket health care expenses.

H0: Higher education levels are associated with higher health care spending.

H1: Higher education levels does not associated with higher health care spending.

H0: Employed heads of households experience less income loss due to health problems compared to self-employed heads.

H1: There is a significant difference in income loss due to health problems between employed and self-employed heads of households.

4.6 CONCLUSION

The comprehensive analysis of historical trends in out-of-pocket (OOP) expenditure in India from 2000 to 2023 revealed dynamic fluctuations influenced by a multitude of factors. Economic conditions played a pivotal role, with periods of economic growth associated with increased healthcare spending and vice versa during economic downturns. Healthcare policy changes, including adjustments to insurance coverage, co-payment, and government healthcare programs, also contributed to fluctuations in OOP expenditure. Technological advances in

medical treatments and healthcare services led to varying costs over time, impacting household spending. Additionally, demographic shifts, such as changes in population age distribution and disease prevalence, influenced healthcare expenditure patterns.

The assessment of average monthly healthcare spending In Mapusa and Panaji showcased nuanced differences driven by income levels, healthcare needs, and access to services in these regions. While health insurance coverage provided a degree of financial protection against healthcare expenses, disparities in coverage levels and regional variations were evident. Lower-income households often faced challenges in accessing adequate health insurance coverage, leading to higher out-of-pocket spending burdens.

Acknowledging the limitations in data availability, reliability, and the complexity of factors influencing healthcare expenditure trends, it becomes clear that a multifaceted approach is necessary to address financial barriers to healthcare access effectively. Improving data collection methods, enhancing data quality, and conducting detailed regional analyses are essential steps toward gaining deeper insights into healthcare financing dynamics and developing targeted policies.

Moving forward, future research should prioritize longitudinal studies to track changes in healthcare spending patterns over extended periods and evaluate the impact of specific policy interventions on healthcare affordability and access. Collaborative efforts between policymakers, healthcare providers, insurers, and researchers are crucial to implementing evidence-based strategies that enhance healthcare affordability and ensure equitable access to quality healthcare services across India.

Reference

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Questionnaire

NAME: **RESIDENTIAL PLACE:**

FULL RESIDENTIAL ADDRESS:

AGE:

1. **What is age of the head of the household?**
    - **25-35**
    - **36-45**
    - **46-55**
    - **56-65**
2. **What is the highest level of education of the head of the household?**
    - **Below SSC**
    - **SSC**

- **HSSC**
- **Graduate**
- **Post graduate**
- **Others**

3. **What is your approximate household income**
    - **Less than 10,000**
    - **10,000-20,000**
    - **20,000-25,000**
    - **25,000 more**
4. **How much do you spend per month on health care expenses**
    - **Less than 500**
    - **500-1000**
    - **10,000-2000**
    - **2000 above**
5. **How much do you typically pay for a single visits to the doctor?**
    - **Less than 100**
    - **100-200**
    - **200-500**
    - **500 above**
6. **How many currently live in your household?**
    - **2-4**
    - **4-6**
    - **6-8**
    - **8-10**
7. **Where do you work to earn the income?**

- **Government job**
- **Private job**
- **Self employed**

8. **What is the distribution of members of the household?**
    - **Children less than 18**
    - **Adult(18-60)**
    - **Seniors above 60's**
9. **Does your family members have any health problem?**
    - **Yes**
    - **No**
10. **In your household, is there any type of short term health problem?**
    - **Fever**
    - **Cold**
    - **Headache/stomach pain**
    - **Others**
11. **In your household, is there any type of long term health problem?**
    - **Cancer**
    - **Diabetes**
    - **Asthma**
    - **Others**
12. **What is your current state of health?**
    - **Better than last year**
    - **Same as last year**
    - **Worse than last year**
13. **How often you visit to doctor?**

- **Regularly**
- **Monthly**
- **When faced with illness**
- **Never**

14. What is the place of consultant for treatment by the household

- **Private consultant**
- **Private hospital**
- **Government hospital**

15. How much income your spend on health expenditure?

- **10%**
- **20%**
- **30%**
- **more**

16. What may be reason for choosing the treatment place?

- **Nearby**
- **Free of cost**
- **Better treatment facilities**

17. Are doctors' fees less then medicine?

- **Yes**
- **No**

18. Did you visit any other states for treatment?

- **Yes**
- **no**

19. Do you have health insurance?

- **Yes**

- **No**

20. Does each household member have their own health insurance coverage or collective plan?

- **Personal health insurance**
- **Collective plan**
- **Don't have**

21. What type of health insurance plan does household have?

- **Private insurance**
- **Employer sponsored**
- **Government program**

22. What are the source of money for carrying out health expenditure?

- **Insurance**
- **Borrowing**
- **Saving**
- **Sales of family assets**

23. Is your income sufficient for health expenditure?

- **Yes**
- **No**

24. Does your health problem effect on employment?

- **Yes**
- **No**

25. Does health affect the work ability

- **Slightly**
- **Moderately**
- **Severely**

26. How much did your house hold loss income because the earning members could not go for work during hospitalizations?

27. Did you go for any medical test for test 6 months?

- **Yes**
- **No**

28. If yes, what are the category and approximately expenditure?

Category	**No. Of time**	**Total expenditure**
Blood test		
X-ray		
Scan		
MRI test		

29. Number of days absent due to health problems

- **1 week**
- **15 days**
- **1 month**
- **More than 1 month**

30. How much time you spend on physical exercise?

- **Less than an hour**
- **More than an hour**
- **No time spend**

31. Did you go for any major operation in last 12 months?

- **Yes**
- **No**

32. If yes, what is the expenditure incurred on that operation?