ABSTRACT

Title of the Thesis: Household Healthcare Expenditure and Health Financing Pattern: A Study in Rural Settings of Assam

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Period of Research: The study covers a period of 2017 to 2022

Statement of the Problem: Health is not the only factor that influences economic growth, but it is definitely among the most potent ones. Though the Sustainable Development Goal (SDG) 3 has emphasized on ensuring protection against health financial hazards, yet high out-of-pocket (OOP) health expenditure is a major challenge across the world. Although the OOP mode of payment is the most unequal and inefficient way of health care financing (Correa-Burrows, 2012), it is still very common in India. According to the National Health Accounts report (2019) for the year 2016-17, the per capita OOP Expenditure on health by households is 58.7 percent of total health expenditure whereas the government per capita health expenditure is around 32.4 percent of the same. The higher share of OOP health expenditures confirms the presence of heavy financial burden per capita on the households; without any adequate financial protection. According to the Health Index Round IV (2019-20) scores, developed by National Institution for Transforming India (NITI Aayog), Assam falls into the "Aspirant" states category, which is group one-third of the states having the lowest scores, despite positive improvements in incremental performance (NITI Aayog, 2021). The SDG India Index report (2021) has also affirmed Assam to be one of the worst-performing states in the health domain (SDG 3). This raises concern as there have been several financial interventions that are already in operation. Moreover, according to the report prepared by ICMR[1], PHFI[2], and IHME[3] (2017) under the India State-level Disease Burden Initiative, Assam is still juggling with the burden of communicable, maternal,

[1] ICMR: Indian Council of Medical Research
[2] PHFI: Public Health Foundation of India
[3] IHME: Institute for Health Metrics and Evaluation

neonatal, and nutritional diseases. According to the latest NITI Aayog report, overall scenario of financial security against health risk is also already relatively low across the country; despite having multiple health schemes in place with the potential to cover 70 percent of the total population, the actual coverage in terms of enrolment is pretty low in India (Kumar & Sarwal, 2021). The National Family Health Survey (NFHS-4) report (2017) also showed that only 10.4 percent households of Assam have a health scheme or health insurance coverage. In light of the specific health situation prevailing in the state, addressing the issue of high OOP expenses at the state or regional level would be the best approach, and accordingly the state-specific action plan will be more appropriate. Hence, this study proposes an assessment of the health care expenses, financing pattern, and its repercussions at the state level for Assam and intends to provide suggestions to address the issues better.

Objectives of the Research: The objectives of the study are

a) To estimate the household healthcare expenditure in both public and private health care facilities
b) To examine the health financing pattern for household healthcare expenses
c) To assess the impact of out-of-pocket health expenses on the financial condition of the households
d) To formulate modalities for minimizing out-of-pocket health expenses

Scope and Limitations of the Study: According to Census 2011, approximately an overwhelming 86 percent of the state's population resides in rural areas, and only 14 percent are urban residents. Moreover, the financial risk associated with health is much more concerning for rural households of Assam as according NFHS-4 report (2017) health insurance/scheme coverage is very low in the rural parts of the state. Considering the relatively higher financial risk, the study focused on the rural households of Assam.

The study has been planned following the international guidelines provided by United Nations, as well as World Health Organization, to eliminate potential conflicts in identifying the various components and factors associated with household health expenditure as well as to adapt the proper tools for assessing the outcomes as per objectives. Considering the lack of availability of the latest data on health expenditure and its various components, primary data on health expenses has been used for estimation and identifying the coping strategies for capturing the current scenario at the state. In light of the very limited literature on public opinion on various aspects of health expenses endured by the

households at large, the study design attempts to capture public opinion in the matter as well. These findings will contribute a fresh perspective on the matter from a different standpoint to the existing body of knowledge.

The study being for academic purpose with a fixed tenure is not without limitations, which can be listed as follows:

(i) The expense-related information collected through survey is based on respondents' recall ability.

(ii) In most of the IP cases, since the expenses are relatively higher, the respondents found it hard to provide the detailed break-up of the cost components like OT charges, service fees, cost of medicine, and diagnostic costs. So, for IP cases, we have considered the total direct cost of treatment, unlike OP cases.

(iii) The study is restricted to different types of treatment only; this study has not explored other aspects like types of ailments, the severity of medical conditions in depth.

Research Methodology:

(i) Study Area Selection: According to the CRISIL Inclusix Scores (CRISIL, 2018) and the National Family and Health Survey - 4 (NFHS 4) the financial vulnerability of Assam is very high. Since the majority of the state's population resides in the rural parts, the study has been designed in the rural settings of Assam.

(ii) Sampling Procedure and Sample Size: The rural households are the sampling unit for the study. A four-stage sampling method, combining both probability and non-probability sampling techniques, has been followed to select a sample of 1080 households for the survey.

(iii) Data Collection: The study is an empirical work based on primary data collected within the time frame of March 2019 - February 2020 through a household survey from the rural settings of Assam. An interview schedule was used to interview the head of the families or those familiar with their family's finances during the survey. The interview schedule covered questions about the demographics of the households, health conditions of the family members, their healthcare-seeking patterns, details of costs of different types of treatment, financing measures adopted for each of the reported cases, and households' opinion about healthcare costs incurred in the past years and its repercussions. The study has also tested the rural households' willingness to participate in a hypothetical contributory health scheme

and their opinion on service/cost coverage of such policies. The schedule had questions to assess the.

(iv) Tools for Analysis: Both descriptive and inferential statistics are used to understand the collected data and justify the objectives for the study. Primarily we used basic descriptive statistics to summarize the data gathered from primary and secondary sources. A series of Chi-Square tests, t-tests, and ANOVA tests were carried out to identify the relationships between different variables and determine the extent of variability with fixed/random effects, respectively. Moreover, correlation and regression analysis were also used to identify the specific variables influencing a household's healthcare expenses, household health financing decisions, and their impact on their economic conditions.

Findings of the study:

(a) Extent of Healthcare Expenses among rural households:

The study reveals that, on average, a rural household of Assam has to pay a significantly high amount of money out of their pockets. The range of OOP health expenses is quite widespread, with extensive variability from household to household. The majority of the reported IP, OP, and death cases in the survey were treated in public facilities, with a few ailments involving combined consultation from both public and private healthcare facilities. Although the reported visits to private healthcare facilities are relatively lower for the sample, the study captures a high level of discrepancy in the cost of treatment in public and private facilities. The cost of healthcare in public and private facilities stands at extreme ends, irrespective of the type of treatment (IP/OP).

According to the study, the most influential factors concerning the household's annual healthcare spending are different healthcare cost components. OP costs and especially OP treatment costs in private facilities have a bold impact on a household's overall health spending. The cost of the diagnostic test and medicines can steer up the OOP expenses for rural families extensively. The influence of demographic variables and ailment treatment patterns ranges from weak to moderate only.

(b) Financing Measure adopted by families from rural settings:

The study shows that when household earnings are not enough to pay the healthcare bills, the households mostly rely on micro-credits from SHGs/MFIs and borrowing

from relatives/friends. Although several health schemes/health insurance policies are already present to provide financial assistance in health care service deliveries, the utilization of such schemes is not that satisfactory. Health insurance schemes are considered the most efficient tools for financing healthcare costs, yet their utilization rate is quite low.

The financing strategies adopted by rural families to pay for the different healthcare treatments varied widely across the districts. Household demographics often play a significant role in any household related financial decision, including household healthcare financing decisions as well. Assam is a vast state with diverse cultures, and each of these cultures has its own belief. These beliefs and views have the potential to persuade households' healthcare financing decisions extensively. The income level of the houses defines the limit of affordability for every family, but it is a strong determinant of financing decisions as well. The study has also confirmed that rural households from all income groups are almost equally inclined towards the micro-credits from SHG/MFIs, and these micro-credits are not always exclusive to the healthcare needs only.

The treatment type and outcomes also affect a household's financing pattern. From the point of view of diseases and treatment patterns, cost varies extensively for different types of treatments. For the excessively high costs of treatment (witnessed in IP cases or ailments leading to the death of the patient), the adoption of extreme measures like sale of household sets or loans from different formal and informal channels are apparent. For relatively cheaper treatment costs (mostly in the case of OP treatments or prescribed treatments for pre-existing medical conditions), households mostly resort to financial help from relatives/friends or micro-credits from SHGs.

(c) Impact of OOP health expenses:

According to the survey, around one-third of the sample households have suffered from catastrophe caused by high direct OOP health expenses. Around one-third of households from each category have incurred catastrophic health expenditure in the past year, indicating that incidence of financial catastrophe is independent of households' financial status. The study has identified a set of variables influencing the incidence of catastrophic health expenditures. It has been found that both ailment severity and the frequency of visits to healthcare facilities for different types

of treatments can destroy a household's economic conditions. Amidst this, private healthcare facilities have a significant role to play. Due to the high cost of treatment, the financial risk extends multifold when ailment is treated in a private facility. The chances of catastrophe grow further when the high healthcare expenses force the families to sell assets, borrow money from different formal and informal channel like micro-credits from SHG/MFI, loan from moneylenders, and relatives/friends.

(d) Rural Households Perception about health expenses and its repercussions:

As per the analysis, the healthcare costs are so high that it is mostly not affordable for the low-earning families as their earnings are often not enough to pay the bills. Apart from that, financially backward households have also suffered the most from the exhaustion of household savings, the substantial increase in debt levels, and asset depletion. Very few families from rural settings have to compromise with their treatments or have made adjustments in the food and non-food expenses of the households, and most of these families belonged to the bottom earning categories only. The weaker section of society is most uncertain about their financial security in the future with such high healthcare expenses. The study revealed that religious and social beliefs also influence the variations in perceptions about healthcare expenses in recent times. At the time of emergency, smaller families have easily readjusted their food consumption to meet healthcare needs. Compared to Muslim families, Hindu families share a positive outlook about their affordability of healthcare and sufficiency of household incomes in this context. Thus, Hindu households have neither witnessed any substantial increment in debt because of healthcare nor been forced to compromise their food and non-food expenses. As a result, Hindu families are least concerned about the future consequences of their annual healthcare needs and their respective costs. The views of the backward classes of society are highly pessimistic regarding healthcare costs and their impacts. The healthcare costs are not affordable for the SC families, and in their opinion, their income is insufficient to meet their healthcare needs. Hence, most of them have to go through the depletion of saving money and surge in debt load. Contrarily, OBC families are least likely to experience a decline in asset counts since they do not quickly resort to selling off assets to pay medical bills. The study found that high health expenses forced general and SC families to adjust to their food consumption during medical emergencies. In light of high healthcare costs, the

SC households fear that the high healthcare expenses might deteriorate their financial condition in the long run.

The different types of treatment, including IP, OP, and chronic cases, have a significant influence on rural households' opinions about the various aspects of their annual healthcare expenses. OP visits and chronic conditions are more prevalent among rural households, and families mostly pay for it from their regular earnings. Thus, with more such events, the healthcare costs become so high that it almost becomes unaffordable for the families. At times, the monthly income of the houses also fails to suffice these needs. It further raises concern for the families in the long run about their financial stability. For severe cases (IP cases, death of family member post/during treatments), the consequences of high healthcare costs constantly outweigh the issue of affordability. In the event of IP or death cases, families often suffer from excessive loss of savings, extended debts, and loss of assets. The families also have to make adjustments with other essentials. But these high costs for each of these cases (excluding the death cases) have also made the families realise the need for financial protection. These opinions grow stronger whenever households have received the required treatments from private facilities. The study showed that rural households barely compromise their healthcare remedies, despite the high costs. The expensive healthcare service from private providers makes the families highly vulnerable to different financial consequences. The vulnerability for the households quickly intensifies for IP cases treated in private facilities; IP treatments in public facilities are not very affordable. While in the case of OP visits, the role of the provider is not very significant, which is quite alarming since the government has been making several attempts to make healthcare affordable under the banner of the National Health Mission over the years.

High healthcare costs have often forced rural households to draw money from several other sources. Whenever the regular earnings are not enough to afford the needed healthcare, the household savings reserve is the first alternative for most families in rural areas. It might not be enough every time, and families have to rely on other options. But excessive loans from friends/relatives or SHG/MFIs often force the households to give up treatments halfway through, and families have to make compromises with non-food expenses because of such borrowing and sale of

assets at times. Such financing often left households feeling unsure about their financial stability in the future, and hence, strongly feels the need for adequate financial protection against the unseen health risks. Limited insurance coverage has also failed to leave any notable mark among rural households. Despite the enrolment under health insurance policies, rural households feel that health care costs are too high to be affordable. Health insurance enrolments could neither prevent the decline in the household's savings level nor stop the families from giving up other essentials to pay for healthcare. Many houses with health insurance enrolments have admitted that they have ignored treatment due to the high costs at many times. Most importantly, the households' enrolled under health insurance policies still feel vulnerable to the healthcare cost and uncertain about the future.

(e) Financial Security against OOP health Expenses:

Although there are several health insurance schemes available in India offered by the public and the private sector, only 19.5% of the sample households are familiar with the concept of health insurance in general, and approximately one-fifth of the interviewed families have health insurance registrations. The study found that the sample households have the enrolment of one of the following three government-funded policies; Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (97.1%), Atal Amrit Abhiyan (2.4%) policy, and ESI scheme (0.4%). Affordability issues and lack of awareness are the two main reasons reported by the rural households for non-enrollment. Moreover, one-fifth of the families without any health insurance enrolment stated that they don't prefer such enrolments. Out of the enrolled families, only 9.4% of the houses had received financial assistance under these policies in the past 365 days.

The study findings suggest that the largest segment of the enrolled families from rural areas lack basic understandings of several aspects of their health schemes, like policy-related terms, knowledge of doctors, hospitals, and services covered under these policies. They are also unaware of how to avail the benefits and the grievance redressal procedure for their respective policies. Most families even failed to differentiate between the costs covered by the schemes and the additional payments made out of their pockets. But the majority is aware of the amount of contribution they have paid for these enrolments. The majority of the enrollees shared vague viewpoints about the range of services, networks of doctors/hospitals, medical cost

coverage, and the quality of care delivered under these policies. According to a large section, the premium share of the policies justifies the benefit coverage. But despite the enrolments, most of the enrollees do not feel safe from the financial consequences of healthcare costs, as there no significant reduction in their OOP health expenses post-enrolment. According to them, the schemes have not been able to turn the health care services utilization into a hassle-free process.

There is no significant difference in the perception of health insurance plans between households with and without health insurance enrolments. The majority of families from both groups agree that health insurance is essential at present times, and it is vital for shielding both health and financial risks. They even believe that the concept of health insurance policies has the competency to improve the accessibility of quality healthcare services and deal with rapidly rising costs of treatments efficiently; thus, it should be made mandatory for every individual. But for most of them, the health insurance policy is not an affordable product in general. Around 74.6% of the households are willingness to participate in a contributory health insurance (CHI) scheme is observed with wide variation across demographics. Households with experience of medical treatment are more likely to enroll in CHI policies. Surprisingly, the households that are familiar with the concept of health insurance are reluctant to appreciate the idea of CHI, and the majority still lacks proper knowledge about the benefits of health insurance schemes. The households' annual income level moderately influences the premium willing to pay for a safety net.

(f) Salient features of the proposed model to minimize OOP health spendings:

The findings of the study have clearly highlighted the gaps in the existing health system and its financing arrangements. Based on the findings of the study, it is evident that the exiting health financing approach will have to be modified to better resolve the issue of high OOP expenses in healthcare. Strong interventions are highly required for resolving the high price differential between public and private sector and to achieve the progressive realization of the right to health care. The price-setting strategies for private healthcare providers are mostly demand based, competition based or cost based. But here also it is necessary to introduce price-schedules for the different healthcare services (including medications as well as diagnostics tests) to ensure access to healthcare without extensive financial burden.

The financing model also must focus on ensuring financial security of the entire population against healthcare risks. It is high time make health insurance enrolment mandatory for every citizen. Such enrolments can reduce the exposure to financial risks to a great extent. For that the government must also ensure that there are multiple alternatives (both public and private) available catering to the different requirements of the different segments of the society.

Suggestions:

A. Suggestions to the Government and Policymakers

(a) Regulating the costs of services in the private health care sector:

(i) Controlling the cost of medicines and diagnostics tests in the private sector: The elaborate price control mechanism of Indian government has pulled the costs for most medicines below the global median. But India still belongs among the countries with the highest out-of-pocket expenses on health and the cost of medicines, including over-the-counter purchases, is responsible for a large share of. It means that although the existing price control mechanisms have failed to provide relief to the citizens from high out-of-pocket spending, and in current circumstances, the policy-makers need to re-evaluate the existing price control policies to regulate drugs' costs more adequately

(ii) Monitoring of private healthcare providers' pricing policy: The highly competitive nature of the private sector has turned healthcare into a luxury good, and it is essential to regulate and continuously monitor the private sector healthcare providers to prevent them from exploiting the people in need of care. To make the process more efficient, academicians and experts have recommended strategies like the public-private partnership model, financing the private providers through prospective payment mechanisms. However, each of these strategies calls for public spending to a certain extent, so policymakers must decide on the appropriate approach keeping in mind the fiscal constraints.

(b) Advancing the financial protection in sync with the need of the hour: Post COVID-19 pandemic, the government has already made it mandatory for employers to provide health insurance to all their employees. But this is only for the formal sector. With all the uncertainties surrounding health, the government should now focus on making health insurance/assurance enrolment mandatory for every citizen of the country. There must be initiatives to familiarize people with the concept of

health insurance and its various advantages and raise awareness among the beneficiaries of publicly-funded health insurance policies' benefits. The government (central/state) can adopt a public-private partnership model for implementing a contributory comprehensive health scheme. However, factors like health risks, family size, and family income must be accounted for to ensure a fair estimation of the annual charges for them. In light of the rural population's familiarity with the operating MFIs in their region, their faith, and reliance on them, policymakers and insurance providers can utilize these MFIs as a distribution channel for delivering different health insurance policies to the rural mass. Moreover, these MFIs can be also utilized for raising awareness and acceptance of health insurance policies in the rural parts of the state. Promoting life insurance riders, such as Critical illness and disability cover riders, can be considered as a short-term alternative to provide financial security against critical medical conditions.

Affordability has always been an issue in the uptake of health insurance policies. The micro health insurance products could be the answer to this issue of affordability. These products propose to provide limited financial protection against health risks for a low premium. With proper customization based on consumers' demands, these policies could assist in reducing the burden of healthcare costs in India, specifically in the rural parts. Moreover, the MFIs could also play a significant role in the distribution of these policies. The MFIs can promote these policies among their rural customers as an add-on to their existing products for a nominal fee. Lastly, to ensure adequate financial security against health risks, the policymakers will also have to emphasize on providing a good network of healthcare facilities and a comprehensive package of healthcare services.

B. Alternatives to improve financial protection at community level

In case of low-income countries with fiscal constraints, community-based health insurance (CBHI) has been used as an alternative for risk pooling and management of resources at the community-level. There are several CBHI schemes such as ACCORD, SEWA, etc. are already operating across India, and studies claim that they have been successful in providing partial protection against the healthcare burden (Devadasan, et al. 2007; Dror, et al. 2016). In light of the noticeable positive impact these schemes across India, the contributory health insurance discussed in

the study could be pilot tested following the same CBHI model at the community level by collaborating with Non-Government Organizations (NGOs) or any other non-profit organizations or institutes at a small scale. Such initiative involving the local community in the implementation and management process will also help in building trust for health insurance policies at grassroot level. The same associated organizations could play significant role at the community level in spreading awareness regrading importance of health insurance policies, benefits of different policies currently in action and raising literacy among the policyholders as well.

C. Strategies for reducing Out-of-pocket (OOP) health expenses at the household level

(a) Amidst the rising costs for healthcare, every household should properly plan for their household finance properly, and rather than relying on borrowing they should start investing on their health as well. Health insurances are the best alternative in such scenarios in case of hospitalization cases. Apart from that for regular day to day healthcare and illnesses the households should adopt a habit of creating a reserves for medical expenses as well, just like they do it for other necessities. In specific cases, the households can also opt for Health Savings Accounts with financial institutions for low impact high frequency healthcare needs.

(b) The findings of the study reported that the rural households lack proper understanding of health insurance policies in general. More surprisingly, many of the households with pubic-funded health insurance enrolment are also unaware of the details and benefits of these schemes. During survey it has been observed that due to lack of awareness they failed to utilize the benefits of these schemes at the time of medical emergencies. To ensure household receive the benefits, it is also their responsibility to be proactive in the matter. They will have to put extra effort and keep themselves updated with necessary information so that they can utilize the aids that they are entitled to.

(c) In today's time, non-communicable diseases (NCDs) one of the prime contributors to the overall disease burden (Indian Council of Medical Research, Public Health Foundation of India and Institute for Health Metrics and Evaluation, 2017), thus also responsible for a significant portion of the healthcare spendings as well. The unhealthy lifestyle and consumption habit (use of tobacco, unhealthy diet, physical inactivity and harmful consumption of alcohol) are fueling the uprising of these NCDs in India and across the globe (WHO, n.d.). This means that adopting a healthy

lifestyle and protective measures at households-level could actually help in preventing NCDs and thus, minimizing the associated healthcare costs to a great extent.

Contribution to the body of knowledge: The present study documents the current situation of the rural households of Assam in terms of their annual healthcare expense and various consequences. It is an original attempt to estimate the healthcare costs in rural settings and identify the different financing measures adopted combinedly in one study. The study reveals the determinants for the rural households' financing patterns while catering to their healthcare needs. Apart from quantifying the impact of out-of-pocket health expenses at the state level using primary data, the study captures the public's perspective on the issue of healthcare cost and financing at the household level for the first time. It also identified the various factors responsible for perceptions. The study has also delivered an exploratory comparative assessment of the perception, awareness, and opinion about the health insurance schemes between enrollees and non-enrollees. The study also made a distinct attempt to determine the rural households' willingness to participate in a contributory health scheme and the factors driving their willingness. It even identified the type of coverage expected by the target population.

Scope for further research: The study delivers an overview of out-of-pocket health expenses incurred by the rural population of Assam and the various aspects associated with those expenses. Although the study attempted to capture the entire scenario, in light of the vastness of the matter of OOP health expenses, there are scopes for further research on several subjects, such as

i. A rural-urban comparative analysis of OOP expenses across the state, as well as interstates
ii. A comparative study of the public and private healthcare providers to identify the problems and prospects of the state's healthcare delivery systems from the affordability standpoint
iii. A comprehensive investigation of the effectiveness of the different existing health insurance/assurance schemes in reducing OOP healthcare expenses

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