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Public funded health insurance and its role in catering to Catastrophic Health Expenditure: A Reflexive Thematic Analysis from Karnataka, India

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Research Article

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Public funded health insurance and its role in catering to Catastrophic Health Expenditure: A Reflexive Thematic Analysis from Karnataka, India

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Abstract

Background: The negative impact of structural inequalities on the citizens of developing countries' ability to utilise available services is further deteriorated by healthcare systems that provide insufficient services to meet population needs. Many developing countries face severe limitations in healthcare infrastructure. The combination of these structural disadvantages and the need for sustainable solutions for improving health outcomes creates additional pressures on already fragile healthcare systems.

Aim: This qualitative study aims to explore the role played by the Ayushman Bharat Arogya Karnataka Scheme (AB-Ark) in addressing the CHE, faced by the BPL families of Bengaluru. This study further expands into understanding claim utilization, service provider behaviour and overall lived experience of the households, enrolled into the AB-Ark scheme.

Methods: This study devises an Interpretative Phenomenological Approach as the overarching umbrella, while following a reflexive thematic analysis by Braun and Clark on the interview transcripts. This study had a sample size of eight. Eight BPL households were selected for this study through purposive sampling across various parts of Urban Bengaluru. Semi-structured interviews were conducted for data collection. Interviews were collected in Kannada, Tamil, Malayalam, Hindi and English.

Results: It has been observed that households have a reactive enrollment pattern than preventive in case of the AB-Ark scheme. Unfortunate health contingences, long-term treatment needs, and pilling medical debt have been one of the major factors causing enrollment into this public-funded health scheme. The results have also shown the multiple sides of accessing public health care systems, within its existing barriers and challenges.

Conclusion: Catastrophic health expenditure extends beyond high out-of-pocket spending, encompassing the cumulative financial vulnerability created by chronic illness, costly treatment episodes, medical debt, and depleted household resources. This study demonstrates that public health insurance has the potential to interrupt these pathways by providing financial risk protection and enabling access to essential healthcare. However, persistent hidden costs, administrative barriers, and procedural inefficiencies continue to limit the extent of this protection.

Keywords

Catastrophic Health Expenditure, Ayushman Bharat Arogya Karnataka, Reflexive Thematic Analysis, Public-funded Health Insurance Scheme, AB-PMJAY.

Introduction

According to the International Monetary Fund's status, India is ranked among the developing countries with emerging markets [1]. Research and global statistics indicate that developing countries often experience low levels of health and wellness among their populations due to factors such as rising populations, poorly structured healthcare systems, chronic illnesses, and an inevitable shortage of trained healthcare personnel [2]. Furthermore, developing and less developed countries bear the brunt of social and climatic factors that influence health-seeking patterns and the out-of-pocket expenditure [3]. Developing countries face a unique challenge in addressing the current and growing burden of disease. They face an ongoing battle with infectious diseases. In addition, they face numerous maternal and child health-related problems. Finally, there is an increasingly large burden of non-communicable diseases. Together, these health issues place long-term strain on typically very limited healthcare resources [4].

For the majority of people in developing countries, they do not simply struggle with limited access to available medical services. They are also limited in their ability to access those services by their own socio-economic circumstances. For example, limited resources may mean individuals are unable to afford medical treatment or receive the level of social support they need. Additionally, they may live in areas with limited support to help them maintain healthy lifestyles [5]. The negative impact of structural inequalities on the citizens of developing countries' ability to utilise available services is further deteriorated by healthcare systems that provide insufficient services to meet population needs. Many developing countries face severe limitations in healthcare infrastructure. The combination of these structural disadvantages and the need for sustainable solutions for improving health outcomes creates additional pressures on already fragile healthcare systems.

However, the burden resulting from these systemic shortcomings does not fall equally across all segments of society. Rather, it disproportionately falls on marginalised and vulnerable groups, such as rural families, informal-sector workers, women, and the urban poor, who often experience overlapping barriers related to their socioeconomic status, gender identity, and geographic location [6, 5]. These barriers limit patients' capacity to seek timely and adequate medical care due to limited agency within healthcare systems, combined with financial and structural barriers. This restriction contributes to creating cycles of sickness and poverty.

In this context, governments play an important role in addressing both the direct and indirect causes of poor health by establishing fair and equitable healthcare systems. Increasing investments in public health infrastructure and implementing programs that expand publicly funded health insurance options are two key ways to reduce financial barriers to accessing care and advance universal health coverage. In doing so, governments help redistribute healthcare resources more fairly and act as a buffer against the negative impacts of structural inequalities experienced by vulnerable populations. Ultimately, these efforts help improve health outcomes and foster general welfare in developing countries.

Research has demonstrated that better health outcomes are not simply a function of increased healthcare expenditures. Instead, research indicates that better health outcomes can be strongly influenced by the overall economic environment, environmental conditions, and the social conditions in which people live. Healthcare research cannot stand in isolation; the multiplicity of the construct yields deeper insights and more complex diagnoses.

Current Scenario

According to Marcellus Investment Managers [7], the middle class in India has experienced stagnant incomes and reduced growth over the past 11 years. To further amplify this scenario, the health insurance coverage in India has been bleak and slow-moving. Out of which, in Karnataka, only 32 per cent of families have at least single-member coverage [8]. According to a Business Standard report, 73 per cent of Indians lack health insurance coverage [9]. The rising medical inflation and insurance premiums are eroding credibility and increasing scepticism about a stable, futuristic health scenario [10]. To add on, the health care sector pushes millions of families into poverty due to the catastrophic health expenditure [11]. These debts lead individuals to extreme steps of taking their own lives [12]. It has been observed that households with at least one member insured under health insurance make up only 41 per cent nationally. It is an unfortunate reality, and an undeniable fact that human beings are prone to diseases, ailments or degrading health conditions due to ageing. Therefore, delivering subsidised, quality-led health care and ensuring equitable access to health facilities is a constant metrics.

The Ayushman Bharat Arogya Karnataka Yojana – A brief

Karnataka launched Arogya Karnataka in March 2018, marking a significant milestone in the country's development and implementation of a health assurance scheme for the lower

socioeconomic strata. Due to their similar functional modality, Ayushman Bharat and Arogya Karnataka were merged later that year to avoid operational inconsistencies and beneficiary overlaps. This scheme primarily focuses on providing health coverage for BPL cardholders in the state of Karnataka, up to a threshold of 5 lakhs per family per annum. These beneficiaries are referred to as Eligible Patients under the scheme [13]. This demarcation is called out, as the scheme does expand its services to APL cardholders as well. The scheme is operated by the State Health Agency – The Suvarna Arogya Suraksha Trust, under the Ministry of Health and Family Affairs. The scheme does not cover or reimburse the cost of OPD visits, medicines, or ancillary care. AB-Ark excludes beneficiaries registered under CGHS [Central Government Health Scheme], ESIC [Employee State Insurance Corporation], or any private health insurance scheme. Beyond the scheme registration mandate, any accident victim in the state of Karnataka can be hospitalised and treated within the first hour of the accident.

Methods

Qualitative Enquiry

Although the most common measures to determine whether an individual or family has experienced catastrophic health expenditures have been based on how much money they spent out-of-pocket and what percentage of income they spend on medical care, these measures do not necessarily tell us about the real-life experiences, perspectives or strategies used by families who have experienced catastrophic health expenses. The use of qualitative data collection techniques can provide valuable insight into how families and individuals experience financial risks related to health, how they perceive health insurance as providing financial protection, and how they make decisions about accessing healthcare when they are economically vulnerable. There is growing recognition in the health systems/health financing research literature of the value of qualitative methods for examining how insurance affects behaviour and decision-making around seeking healthcare and perceptions of financial protection. Since the primary purpose of this study is to understand how BPL experience the financial protection provided by the Ayushman Bharat Arogya Karnataka scheme, and protect themselves from CHE. It was determined that a qualitative methodology would be best suited to capture the depth and complexity of benefits received by beneficiaries.

Research Design

This study used a Qualitative Research Design [14], specifically an Interpretative Phenomenological Approach (IPA), and employed Reflexive Thematic Analysis (RTA) to analyse the interview data. This particular design was chosen to provide an in-depth understanding of households' experiences with enrollment, non-enrollment, utilisation, and engagement as beneficiaries of the Ayushman Bharat Arogya Karnataka Yojana. Since this study focused on the meanings, experiences, decision-making processes, and ground-level obstacles to participating in public health programs, a qualitative design was the best methodological fit [15]. The research design was both exploratory and interpretive. Rather than simply documenting events, it aimed to understand how participants understood those events in relation to their everyday lives.

Relevance of IPA to this Study

The study found that IPA was a highly relevant perspective for examining the differing views of the various participant groups, without limiting them to fixed behavioural classifications. Using an experiential lens was extremely beneficial for this study, as household decision-making regarding enrollment is typically neither an individual nor a purely rational economic choice. Rather, household decisions regarding insurance coverage are frequently made within family units, influenced by prior healthcare-related events within those families, shaped by community stories about the importance of adequate health insurance protection, and constrained by numerous real-world limitations. Therefore, IPA fit well with this study's goal of identifying and explaining the underlying human components involved in a public health insurance program [16].

Ethical Approval and Informed Consent

Ethical approval for this study was obtained from the **Research Conduct and Ethics Committee,** CHRIST (Deemed to be University), Bengaluru, India (Reference No. RCEC/00169/08/24). **The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and relevant institutional and national ethical guidelines**. Written informed consent was obtained from all participants prior to participation. For participants who were unable to read or write, the participant information sheet and consent form were read aloud in their preferred language, and consent was documented in the presence of an impartial witness. Participation was voluntary, and all participant information was anonymised to maintain confidentiality.

Before each household was enrolled in the study, they provided informed consent to participate. The consent process was designed to ensure that participation remained voluntary, informed, and understood, regardless of a participant's level of education or literacy. **A standard consent form was developed in accordance with existing ethical guidelines for qualitative research**. It outlined the purpose of the study, the type of involvement anticipated for the participant, how long the interviews would last, whether they would be recorded, and, if so, what provisions were made for confidentiality, participant rights, and how the collected data could be used in an academic context. Additionally, participants were told that they had the right to either decline to participate or to withdraw from the study at any time without consequences. As is common in many studies, participants provided consent to both have their statements recorded via audio equipment and to have their supporting medical records examined as needed. In addition, participants provided consent to examine documentation related to their membership in schemes relevant to this research.

Participants also provided consent for permission to photograph their residential environment using anonymized images. Before any recording took place, participants were presented with a copy of the consent form (in some cases, it may need to be translated) and asked to read it, or they would be assisted through the process. When possible, participants signed the form independently. If not, due to low literacy levels or other limitations, the participant would sign in the presence of a witness who could provide evidence of understanding. Furthermore, verbal confirmation was obtained from each participant before the interview began. Participants who expressed concern about being recorded or about participating at all were treated with respect and were withdrawn from further interviews to maintain their autonomy and comfort.

Consent for publication

Not Applicable

Sampling Strategy

This study employed a purposive sampling strategy [17] to recruit households relevant to the objectives of examining enrollment behaviour, utilisation pathways, and beneficiary experiences under Ayushman Bharat Arogya Karnataka. In qualitative inquiry, participants are selected not for statistical representativeness but for their ability to provide rich and thick, experience-based accounts relevant to the phenomenon under investigation. Accordingly, the study sought households with direct experiential relevance to the Arogya Karnataka and the

Urban Bengaluru who were potentially eligible for publicly funded health insurance benefits. Eligibility was primarily anchored through possession of a Below Poverty Line (BPL) ration card, which functioned as an important socioeconomic marker for inclusion in the scheme [18]. The use of BPL status aligned with the study objective of understanding scheme engagement among financially vulnerable households, who constitute a key intended population for publicly funded risk protection mechanisms. Hence, although the scheme expanded to APL households, they were excluded from this study.

Methods of Data Collection

Primary Data Source

Primary data was collected from a sample population of household respondents who participated in face-to-face semi-structured interviews [19]. Semi-structured interviews were chosen as the most effective means of generating data for this research due to their capacity to provide insight into how participants perceive and make decisions about the social phenomenon under investigation, as well as the meanings they assign to it. Face-to-face interviews were conducted at the participant's home or at a location designated by the household as acceptable and accessible to the participant. Conducting interviews in this manner was deemed particularly important for this study, as it allows for rapport building, establishing trust with participants, clarifying participants' responses, and recognising participants' cues, both verbal and non-verbal. Additionally, conducting interviews within an urban low-income community setting offered greater flexibility in scheduling, as it accommodated participants' schedules, literacy levels, languages spoken, and household circumstances.

Interviews were typically scheduled and conducted at the participants' residences or at an alternative location near their residences, previously identified by the household as comfortable and convenient. Scheduling interviews in familiar settings was anticipated to create a less formal environment for participants, increase their comfort, and result in more detailed narrative accounts. This approach also helped the researcher gain a better understanding of contextual factors, including household composition, living situation, and daily routines associated with engaging with AB-Ark.

To facilitate multilingual data collection, each interview was conducted jointly by the researcher and a trained field enumerator. The enumerator was a 26-year-old cisgender male, a native Bengalurian, and a research scholar with past experience in community-based research

investigating widows and household financial vulnerabilities after spouse death. During fieldwork, his knowledge of local contexts, ability to speak local languages, and experience interacting with community members were significant and fruitful. During fieldwork, the enumerator interviewed the participants in Kannada and Tamil, and the researcher interviewed in Hindi and Malayalam, depending upon the participant's preferred language.

Before beginning fieldwork, the enumerator received orientation and training on the study's purposes, the flow of the interview, ethical obligations, building rapport with participants, managing the tone of the interview, providing timely breaks, and respectfully treating participants. This helped to create consistent approaches to interviewing across languages while ensuring participant comfort. Regardless of whether the enumerator or researcher conducted the interview, the researcher remained present during the interview, actively monitored all participant interactions, kept concurrent records of these interactions, and engaged reflectively with the field encounter. By working together to collect data, researchers enhanced the quality of the data generated through access to multiple languages and, at the same time, immersed themselves in the same field environment as participants. Participant narratives gathered through interviews were complemented by the researcher's observations of participant behaviour during and after interviews.

Participant behaviours, household dynamics, environmental contexts, interruptions, and nonverbal communications were documented when appropriate. Researchers recorded their methodological reflections, developing impressions of the research findings and considering their own positionalities and analytic sensitivities throughout the fieldwork. For reasons of data integrity and reliability, interviews were audiotaped using two audio recording devices, with participant consent. Recording interviews with two devices significantly reduced the risk of data loss due to equipment failure and made it easier to transcribe and review accurately.

While face-to-face semi-structured interviews were the primary source of participant data, the researchers' broader understanding of the Ayushman Bharat Arogya Karnataka program was informed by reviewing official policy materials relevant to the program. Official policy documents were reviewed to enhance conceptual understanding of eligibility requirements, program design parameters, and administrative requirements; however, these documents were not classified as primary participant data. As a whole, utilising face-to-face semi-structured interviews was supplemented by participant behaviour observed during interviews, researchers' reflective documentation of the field experience, and reviewers of official policy

documents pertinent to the scheme, which created a solid base for gathering high-quality qualitative data consistent with the interpretative and experiential goals of the study.

Interview Tool

In developing the interview guide, an attempt was made to apply a multi-stage development approach to ensure clarity, applicability, methodological quality, and user-friendliness of the guide among the poor residents of the cities involved in this study. These were the steps conducted in the tool development for this study.

Initial Field Test

A preliminary version of the interview guide was initially field-tested with seven families who met all the inclusion criteria in a similar environment. The primary language of the initial meetings with families was Kannada, and therefore, they were designed to test how well the guide functioned in a real-life setting and not as part of the final data set. These early trials achieved two key objectives. First, it allowed researchers to determine if family members with different levels of education could comprehend each question asked during the meeting, and if the sequence of questions seemed natural. Second, it allowed the researcher to observe whether questions raised discomfort or confusion, whether the guide facilitated conversation flow, whether family members responded positively to the questions, their level of focus throughout the interview, and whether their answers were descriptive and required follow-up questioning. It is worth noting that this stage of development was especially important, since it revealed differences between the theoretical soundness of questions and questions that are effective in community-based environments. The observations from these early meetings showed how differently families interpreted terms such as insurance, welfare schemes, documentation and healthcare experiences. In addition, the meetings indicated that simpler language should be used, greater flexibility should be allowed in conversations with families, and transitions between themes should be clearer. After careful review of findings from the initial trial, some preliminary changes were made before moving forward to pilot testing.

Pilot Testing

After modifying the guide based on initial revisions, the next step was a pilot testing phase using four families who represented analytically significant sub-categories of respondent pools. The pilot testing was supported by the NGO – The Smile project. The results from the pilot interviews illustrated that although the general guide was reliable, there needed to be additional

open-ended wording and probing prompts to encourage families to tell stories rather than answer questions factually. Additionally, the pilot interviews assisted in finding a balance between contextual household-based inquiries and program-specific inquiries.

Expert Validation

After completing both field testing and pilot testing, the interview guide underwent subject-matter expert review and content validation by a panel of four individuals with varying domain expertise.

1. A psychologist, as an academic subject matter expert, contributed a perspective regarding family communication, behavioural insights, and question sensitivities.

2. An experienced individual from public insurance systems contributed knowledge from an operational policy basis.

3. A senior professional from the private health insurance sector contributed knowledge regarding insurance literacy, behaviours associated with registration and claims processes.

4. A methodological qualitative research expert contributed guidance on generating depth, sequencing, and open-ended inquiry.

Having a multi-disciplinary group of experts evaluate the content of the guide provided assurance that questions were behaviourally relevant, policy relevant, operationally informed, and methodologically suitable.

Modifications Based Upon Validation

Some key modifications were implemented after expert reviews. First, questions were rewritten to be more open-ended, enabling family members to share their experiences more thoroughly rather than responding very briefly. Second, family member involvement in other welfare schemes, specifically maternal support schemes such as the girl child benefit schemes – Gruhalaxmi and Direct Benefits Transfer (DBT) – Thai Bhagya Scheme, is explored in more detail to situate health insurance engagement within a broader network of government welfare schemes. Thirdly, the guide was modified to allow for a broader examination of barriers and challenges, including, but not limited to, procedural barriers and barriers related to perceptions, social pressures, financial considerations, and a lack of trust regarding participation. Finally,

additional probes were added to enable researchers to explore the healthcare journey, coping mechanisms, and evolving opinions post-illness episode.

Finalisation of the tool

Following completion of these stages, the interview guide was finalised for use in the main study. Importantly, the guide was not treated as a rigid questionnaire during data collection. Rather, it served as a refined yet flexible framework that ensured consistency across interviews while preserving responsiveness to participants' narratives, language preferences, and household realities. The process of field testing, piloting, expert validation, and refinement substantially strengthened the quality of the data collection instrument. It enhanced contextual inclination, improved comprehensibility, supported richer narrative generation, and increased confidence that the guide was appropriately aligned to the study objectives and participant setting.

Data Analysis Technique

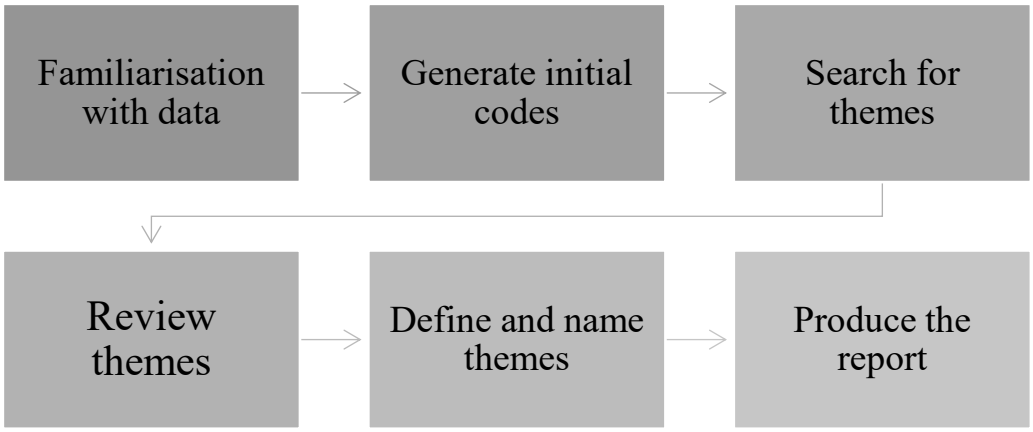
In this study, Reflexive Thematic Analysis (RTA), developed by Virginia Braun & Victoria Clarke, was used to analyse the data. RTA is a flexible but theoretically coherent way to identify, interpret, and construct meaningful patterns in qualitative data sets. This method of analysis was appropriate for this study due to its interpretivist orientation, deep focus on experience, the multilingual nature of the data patterns, and its ability to understand how economically vulnerable households make sense of health insurance, healthcare vulnerability, enrollment behaviour, and utilization experiences within the context of their everyday lives. Although the study's overall methodology was based on an Interpretative Phenomenological Approach (IPA), the actual analytical process did not follow the formal IPA orientation. Instead, the study utilised an IPA-inspired interpretive perspective that emphasised lived experience, participants' construction of meaning, and contextual understanding, while utilising RTA as the primary analytical technique. This approach was considered methodologically appropriate, as the study included a larger, more heterogeneous group of households across multiple experiential categories.

Therefore, RTA offered greater flexibility to facilitate thematic interpretation throughout the entire data set and multiple subgroups. RTA was particularly useful because it enabled researchers to engage with both the semantic and latent aspects of participants' narratives. The semantic aspect allowed the researcher to attend to participants' explicit descriptions of

enrollment, illness episodes, financial hardship, hospitalisation, and utilisation of schemes. Conversely, the latent aspect allowed the researcher to explore the underlying meanings related to participants' vulnerability, trust, perceptions of institutions, fear of ailment, financial insecurity, dignity, and decisions regarding healthcare. Analysis followed the six-step reflexive thematic analysis as outlined by Braun and Clarke; the steps are attached as a figure 1 below. However, analysis was also iterative and reflexive rather than strictly linear.

Figure 1.

Braun and Clark's six steps of Reflexive Thematic Analysis



Familiarity with the Data

Stage one of analysis involved prolonged exposure to and familiarity with the data set. As the researcher had personally conducted, translated, and transcribed all interviews, familiarity with participants' narratives existed prior to commencing the analysis phase and continued through subsequent readings and engagements with recordings, transcripts, field notes, and observational records. All interviews were manually transcribed from beginning to end, enabling close examination of conversational flow, pauses in conversation, emotional emphasis, and contextual meaning. Transcripts were repeatedly read at various stages of the analysis process. Overall, the data set underwent approximately four major cycles of re-examination and analytic revisiting, with extensive time lapses between each cycle. These lapses provided opportunities for reflecting on previous interpretations and for engaging more deeply with latent meanings and emergent experiential patterns. Revisits to field notes, reflexive journals, and observational records occurred concurrently with reviews of transcripts

during familiarity to provide a contextualised understanding of participant interactions, household dynamics, environmental conditions, and emotional nuances that might be absent from transcripts.

Coding process

After completing familiarity with the data set, coding commenced. Coding was undertaken manually by the researcher using organizational support from Microsoft Excel to organize, visually display, clusterize, and retrieve coded information. Use of manual coding was selected to allow close engagement with participant narratives and to preserve immersion within participant narratives during interpretation. Coding progressed under an abductive analytical orientation, which permitted ongoing movement between participants' narratives and contextual realities, sensitizing theoretical concepts, and developing meanings from the data set. Coding was generally performed at the level of meaning units, although coding also occurred at broader levels when latent meanings emerged over connected sections of participants' accounts. Initial coding identified both descriptive and interpretive components, including participants' specific references to healthcare experiences, enrollment processes, strategies for coping financially, barriers created by administrative systems, and interactions with institutions, as well as underlying meanings associated with vulnerability, fear, trust, uncertainty, inclusion/exclusion, and experientially optimistic outlooks. Rather than being static, coding was iterative and evolving. Codes were continually modified, revised, expanded, merged, reorganized and refined as familiarity with the data set increased and clarity concerning interpretation improved.

Thematic Development

During the course of the preliminary coding, similar code clusters developed, which reflected different patterns of meaning across the sample. Both the explicit (semantic) and implicit (latent) elements of the data were considered during this grouping phase. Following the establishment of preliminary thematic groupings, multiple rounds of reorganisation and refinement occurred by repeatedly reviewing the transcripts, field notes and coded excerpts.

The progression of the analytical process proceeded as follows:

Broader chunks of similar experiences and patterns were formulated. Initial codes were derived from the meaning units, primary theming was conducted from these clusters of codes, these primary themes were further revisited and re-grouped for better inclusivity and meaning

making. These themes were further analysed into a more refined thematic structure by classifying them into sub-themes along with this step. These steps of iterations have been conducted repeatedly to progressively develop richer interpretations and findings. The development of themes was not viewed as simply a mechanical process for grouping codes but as an interpretative process that required constant movement between specific narratives, coded portions of narrative, observational evidence and the larger research questions. Therefore, themes were generated based on conceptual meaningfulness, interpretative significance, experiential depth, and the extent to which they could demonstrate pathway schemes and healthcare vulnerabilities. The themes developed are mentioned below as table 1.

Disclosure

Artifical Intelligence tool of Open AI (Chat gpt) has been utilised to enhance the academic writing tone and better articulation of the ideas.

Grammarly as a assistive tool for grammar correction, sentence formation and flow of content has been utilised for the preparation of this manuscript.

The author hereby declares that no data analysis, thematic grouping, findings or discussion has been curated with the support of AI.

Findings

Table 1.

Themes and Subthemes

Themes	Sub themes
Pathways to Catastrophic Health Expenditure	*Chronic illness prognosis*
	Ongoing medical debt and borrowing
	Catastrophic treatment episodes
	Exhaustion of the capacity to continue treatment
Hidden burdens during scheme utilization	*High OOPE despite coverage*
	Informal payments to expedite care

	Administrative delays and procedural friction
	Procedural burden during illness

1. Pathways to Catastrophic Health Expenditure

1.1 Chronic illness prognosis

Chronic illness prognosis influenced enrollment decisions, particularly among households managing long-term medical conditions. Within this theme, chronic illness trajectories reflect the sustained and evolving healthcare needs of individuals and households. The long-term nature of such conditions, characterised by continuous treatment, medication, and periodic monitoring, underscores the cumulative financial burden. In this context, enrollment into the AB-Ark scheme is often shaped by a more deliberative process, driven by the need to ensure affordability, continuity of care, and financial security in managing ongoing health expenditures. The interview excerpts mentioned below elaborate on the household conditions that lead them to rely on the AB-Ark at their weakest dire needs of support.

> *"Heart problem I have at that time, that Ayushman thing I had to get. I have a stent in my heart. Four months ago, I had an operation in a government hospital. A lot of money we had spent before that, because I am handicapped also. Due to polio, I have an issue in my leg. We had a lot of financial problems, my husband left us and went, I have a child, so I couldn't work normally. We bought this auto so that I could drive and get some money, but the heart problem became serious. So, in the hospital, they said they have to put that stent in and check it. So, we had told the doctor, financially, it is very expensive for us to get surgery and all, and what to do. The doctor only told me about it and gave me a letter saying I have to be added to it. In an emergency, I needed surgery. The doctor referred me to Ayushman, who provided assistance. My sister did the paperwork for the approval and all, and I didn't know anything because I was in the hospital at that time. Then I had surgery, and it was done."* ***(LLR)***

> *"He was at work, had stomach pain. They took him to the hospital from there. At that time, he was working as a security guard. They had to run a few more tests. At that time, they said it could be …colon cancer. We hadn't told him yet.*

At that time, we decided to get the Arogya card. But his ESI wasn't approved due to differences across states. So, we went to the CSC back in Annekal… at my hometown. We provided our BPL card and Aadhaar card. We got the card and registered in 20 minutes for all of us. After the PET scan, we knew it was cancer, and then it was very good if we got the Health card for dad. We started his treatment in the Kidwai Cancer Institute, and by the third round of Chemo, he passed away, but we paid nothing there … all of the fees were free for us under the Ayushman" ***(SCU)***

1.2 Ongoing medical debt and borrowing

For some participants, healthcare expenses had already resulted in persistent debt and financial obligations that continued beyond the immediate illness episode. Families described borrowing money, using savings, or relying on informal support networks in order to sustain treatment. Enrollment into AB-Ark was viewed as a means of further reducing dependence on debt and preventing continued financial deterioration. During the interviews it was observed across families that at some point in their lives they have borrowed money from high-interest moneylenders, and small loans. These incidents create not just financial burdens of repayment but social unrest due to the extreme practices taken by these local money lenders at repayment windows. Yet, unfortunately families resort to these extreme measures at the moments of vulnerability.

"He already has liver and pancreas damage. He used to drink. Before the night shift at work. He was in the waste-collecting job…. He is used to drinking at night and going to work. Already spent a few lakhs for the past five or six years. Now, what happened is that he started bleeding from his stool, and he was in great agony. The pain was bad, and then we had to take him to the hospital. Private only. We have been going there for a long time. They take care of us well. Last month, we informed the doctor that, due to our financial condition, we could no longer afford to pay, and he advised us to visit the Ayushman Counter below. In the hospital. So, we applied from the Hospital itself with a ration card. The doctor had suggested trying to apply here on the ground floor, then we can see. So, we got the Ayushman thing and now we are waiting for the call from approval for his surgery" ***(DMA)***

1.3 Catastrophic treatment episodes

Certain households reported that a single illness episode or hospitalization led to substantial expenditure within a short period. Costs associated with private treatment, emergency care, investigations, or multiple complications rapidly exhausted available resources. In such situations, enrollment was shaped by the recognition that one serious health event could destabilise household finances. The case mentioned here has been one of the few ones amongst the interviews. The participant is a widow with 60 percent disability admitted to a public hospital due to acute chest pain. While the treating doctor understood the depth of the issue she had and her financial challenge, directly enrolled her into the scheme, issued the paperwork and let her continue in the hospital and get her heart surgery completed which could have been fatal otherwise.

> *"A lot of money we had spent before that, because I am handicapped also. Due to polio, I have an issue in my leg. We had a lot of financial problems, my husband left us and went, I have a child, so I couldn't work normally. We bought this auto so that I could drive and get some money, but the heart problem became serious. So, in the hospital, they said they have to put that stent in and check it. So, we had told the doctor, financially, it is very expensive for us to get surgery and all, and what to do. The doctor only told me about it and gave me a letter saying I have to be added to it. In an emergency, I needed surgery because the chest pain started getting very severe, and my sister was there with me in the hospital. She did all the work of registering for Ayushman."* ***(LLR)***

1.4 Exhaustion of the capacity to continue treatment

Participants managing long-term or severe illnesses within the family described reaching a stage where previous spending had depleted available resources. Continued treatment was perceived as necessary, yet increasingly unaffordable. Enrollment into AB Ark, therefore, emerged as a practical response when households felt unable to sustain further medical costs independently. It had been noted that during the data collection, participants had mentioned how some of them take the medicines only in a rationed capacity as they don't have money/ savings to administer those according to the said prescription. These factors not just highlight the lack of money but the associated welfare costs that the economically vulnerable face on a daily basis. Some of these medicines if not consumed according to the actual timelines could cause life-threating effects.

"Family members were helping them in one way. And after surgery, that time, family members only helped him. And I benefited from my colleagues. Our alumni helped me. And teachers also. So, with that, actually, whatever they helped me with, we were able to clear the hospital bill that time. But for house rent and all, we went and requested them. However, later, we had to settle the balance somehow. There were also family members who helped him. There, they said, we have to amputate his leg. We didn't do that; we came back from there. So, it was such a blessing that he had the Ayushman card at that time because then all three surgeries were through that only." ***(ACU)***

"This Ayushman and all they say it's all simple, you will get money in the hospital, that's all, just to say or speak, nothing is true. We will receive the card very quickly, yes, but after that, accessing money or using it at the hospital won't be that easy. We had admitted him to a private hospital. He had so many problems, you know, last time because of so much strong medicine, his kidneys did not work properly in another hospital, they said. We started running out of money, even then, we never wanted to take him to the government hospital. Even if we had to sell gold, we never wanted to send him to the government hospital. He used to get sick in between a lot, then again, we were in the Nephro ward …. Due to some damage to his urinary bladder, we also didn't receive approval for Ayushman at that time." ***(SLR)***

2. Hidden burdens during scheme utilization at the healthcare providers

Although participants utilised AB-Ark supported services during hospitalization, several accounts revealed the presence of additional burdens that extended beyond officially covered treatment. Respondents described situations where they were required to arrange medical supplies, make direct payments, or navigate informal financial expectations despite being enrolled under a publicly financed insurance scheme. These experiences suggested that financial and procedural burdens could continue even within insured care pathways, thereby affecting perceptions of the completeness and effectiveness of financial protection.

2.1 High OOPE despite coverage

Participants reported being asked to purchase or arrange additional materials such as surgical supplies, blood products, intravenous equipment, or medicines during hospitalization. These

expenditures were often perceived as unexpected because treatment was assumed to be covered under the scheme. In some cases, households experienced financial strain while attempting to meet these additional requirements alongside ongoing treatment-related responsibilities. Such experiences contributed to perceptions that insurance coverage did not fully eliminate the economic burden associated with hospitalization.

> *"We didn't have much knowledge at that time, right? They asked us so many times to get blood, they will take it inside and keep it in the fridge, we don't know if they use it or not. We bought so much glucose. Don't know where they were. I'm not sure if the senior doctors are aware of this practice of buying excess items and all that is happening; I think only the attendants and nurses are involved"* ***(SLR2)***

> *"For my wife's surgery, we took her to the Government hospital. Apparently, I understood then that only the doctors' fees and the bed charges may be covered in the Government hospital; otherwise, nothing else. Everything we had to pay for, they asked us to bring even Normal Saline, NS, from outside - 3 litres. We had to buy it five times, to the point where we had to make repeated purchases"*

> *"Then they said, we will need screw the equipment for the surgery here, and all in the government, but that doesn't happen, you have to get it. I was tired, and we had a building worth around 5 crores, and nothing like an NS. Also, you don't have it here. Even after all this, I had to purchase the pen used to mark the surgical area and the blade for the operation. Not even a blade they had in such a huge hospital"*

> *"It was so disappointing to even see this. Then, when I asked all this and spoke to the staff, he spoke to me so rudely, and said, if you don't want to take the patient and leave, get discharged and leave, we will not do anything"* ***(SYH)***

> *"I started getting worried for my baby, already she was pre-mature and had so many problems. She was kept inside for a long time in the NICU. I used to get scared cause around there were children admitted, and out of those six children died while I was in the hospital. Also, they used to ask us to buy blood from the blood bank, some three to four times we had bought, they said the baby had*

*fewer white blood cells, like that, all medicines we had to pay for from outside, nothing they had, we spent 80000/- just for that time of medicines" (**SLR2**)*

2.2 Informal payments to expedite care

Some respondents described offering unofficial payments or small sums of money to hospital staff, attendants, or support personnel in order to facilitate quicker services, timely reports, or smoother care processes. These payments were often perceived as informal yet necessary mechanisms for navigating delays or improving responsiveness within overcrowded institutional settings. The presence of such practices reflected underlying frustrations with service efficiency and raised concerns regarding inequities in patient experiences during hospitalization.

*"Almost one whole month, we used to go and wait there from 9 am to 1 pm to just see the surgeon. During COVID, going and coming daily for so many days, after that we had the ECG, blood tests and all that, one month was over. At that time, we had to pay a certain amount. (Kharcha-paani) Why? Because otherwise, nothing will move. We have to pay something here and there; otherwise, nothing will progress there. Then we got the bed, and surgery was approved, and then another 15 days I had to be in rest." **(ALR)***

"Then, after some time, they found out that because of this also now he also has a stone or cyst in his gall bladder, a lot of pain he used to have and like vomiting, so we took him. My sister and family had gone to multiple government hospitals, the big, big ones in far, far places of Bangalore, also to get this letter. All the places they said they couldn't give, this that, and all they said, why will we give a letter when here we can do? At that time, they said, you need to go to Jayanagar Government Hospital and get a letter from a Doctor for the referral for his surgery. Before we came here, we visited the other three Government hospitals to inquire, and my sister and her husband were also doing a lot of running around over this; we got so fed up. Later, we learned about the Government hospital here, and they informed us that they are issuing these letters. Then, also, will you believe they said to bring the patient, for proof, it seems. We were so worried, he was not in good condition at that time. We went once to ask, and they said they need the patient for a check-up. Then we took him in auto, one side, then that doctor told us, I will not give a letter because

we can do this surgery here only in this hospital. We have all the facilities here. I have this shop, you see, so that we can pay for his hospital bills. Even though what happened was unfortunate, we will still treat him privately, even if it's a loan. We tried again to get the letter from the hospital. Another nurse and doctor mentioned that another doctor will arrive tomorrow. They said he usually writes letters like this for the referral thing. Then we thought, 'Okay, let's take him again.' He took some Rs. 2000 from us for that letter and his stamp. At that time, it was necessary, so we finally completed it. We got the letter back to our hospital, then produced it at the Arogya Mitra counter." ***(SLR)***

Furthermore, it has been understood that hospitals may have their own internal systems to support the functionality of the AB-Ark scheme. The scheme aims to provide participants with a cashless hospital facility to protect them from OOPE. There have been cases in which patients have been asked to pay a deposit equal to the procedure cost. The patients have been informed of this so that they are spared the bureaucratic delays associated with the scheme's paperwork and administration. The patients can collect the deposited amount at the time of discharge without any deductions. Although this practice is not part of the AB-Ark claim structure, hospitals internally manage their funds through such actions. This approach of claiming is not officially stated.

"They had told us to pay 15000 rupees at that time, they said we would return it when you get discharged. They informed us that this Ayushman may take a few days to complete and finalise the paperwork, so by then, you can pay this as a deposit, and it will be returned when you leave. And they had returned it to us when we were discharged. Medicine was only separate. But no payment. That was also free under this Ayushman for the baby." ***(SMA)***

"They had asked us to submit 15000, or so that was the thyroid operation, until we had got the bed for the surgery, we paid everything ourselves. Then, after surgery, they gave us this cash back from the hospital. They didn't cut any charge at all." ***(ALR)***

2.3 Administrative Delays and Procedural Friction

Participants also described multiple administrative and procedural challenges while attempting to utilize AB-Ark benefits during hospitalization. Delays in approvals, technological

disruptions, repeated procedural requirements, and fragmented administrative pathways often created stress during already vulnerable periods of illness. Respondents perceived these processes as time-consuming and emotionally burdensome, particularly when urgent treatment was required. The theme reflects how procedural inefficiencies within scheme utilization pathways can shape overall perceptions of accessibility and responsiveness. The theme is reflected through the following sub-themes. Technical and Pre-authorization Delay Several participants reported delays arising from software failures, preauthorization processes, and prolonged approval timelines during hospitalization. Technical disruptions within digital systems often interrupt the continuity of administrative procedures and delay treatment-related decisions. For patients requiring urgent interventions, repeated waiting for approvals contributed to anxiety, frustration, and uncertainty regarding timely access to care.

> *"We got the letter back to our hospital, then produced it at the Arogya Mitra counter. Then after also that approval did not come for a week or so, and he was in the hospital, then his condition was getting worse.It had already been two three weeks in this running of the approval letter. That Pre-authorization something that approval forms and all we had to fill and get that code. Then after that the doctor had to intervene got to the Ayushman counter and apply again with some things and then after few days' approval came. Even there it didn't happen smooth and all. This was not easy and all, they say Ayushman, you will get treatment in the hospital free. Nothing is free and all, approval does not come for most cases sir. Not even dialysis and all is covered in the scheme."* ***(SLR)***

2.4 Procedural burden during Illness

Participants' narratives highlight the intricate and often burdensome administrative processes involved in accessing scheme-based healthcare services. Securing treatment approvals required multiple steps, including repeated visits across hospital units, coordination with different personnel, and adherence to detailed documentation protocols. These processes were further complicated by inconsistencies, including coding errors, delays in authorisation, and unclear procedural requirements, which contributed to confusion and emotional strain for caregivers. Despite these challenges, participants demonstrated persistence and reliance on both institutional support and individual healthcare providers to successfully navigate the system and continue treatment.

"Yes, yes, we had that approval, which had to come each time before the chemo for my father. I remember, I used to go there, at the Ayushman counter at the hospital, then take the form, fill the details there itself, not all, some of it, the rest they will fill, then from there I had to go to the other building and search for the doctor who was treating us. Meet him, and he will provide the other details, such as the procedure code. His signature is also mandatory. Then, I will return it to the Arogya Mitra staff counter and hand it over. I also remember sometimes I had to bring my father, too; they had taken his photo, I think before or after, I'm not sure. Then we had to wait for 4 days or more and keep checking at the counter to see if the approval had arrived. Then they will give a letter kind of a thing, which says this was approved for this cycle of his chemo, this was the charge, and this is zero, and like that we would get" ***(SCU)***

Discussion

The Ayushman Bharat Arogya Karnataka Yojana represents a significant step in India's expanding landscape of Government-Sponsored Health Insurance Schemes (GSHI), aimed at extending financial protection to economically vulnerable sections without stable medical aid. While the scheme is structurally grounded in insurance principles and incorporates multiple administrative checkpoints, its evolution through mergers and co-branding between State and Central Government agencies since 2018 has produced both operational efficiencies and implementation complexities.

This study moves beyond a structural understanding of the scheme to foreground beneficiaries' lived experiences, offering insight into how such health-related policies are interpreted, accessed, and navigated in real-world settings. In doing so, it contributes to a relatively underexplored area within the existing literature, which has often prioritised coverage metrics over ground-level realities such as utilization pathways, institutional responsiveness, patient experience, and the social interplay among users [20]. The findings further underscore the importance of situating health insurance schemes within broader socio-cultural and psychosocial contexts, as these factors significantly shape enrollment decisions, healthcare-seeking behaviour, and overall satisfaction with the scheme [21]. Thus, beyond its economic and administrative dimensions, health insurance must be understood as a socially embedded construct that requires context-sensitive design and implementation.

A key result of this study demonstrated that an individual's experience of an acute illness episode, a person's chronic disease prognosis, or a household member going through the grieving process were major reasons why people enrolled in the Ayushman Bharat Arogya Karnataka (AB-Ark) program. Literature has shown similar results about households experiencing chronic illness or recent health crises being significantly more likely to enroll in health insurance plans, because the perceived increased risk of health problems, people will be motivated to find financial security to protect themselves from financial harm [22]. Research in India has indicated that behaviour toward enrolling in health insurance programs is typically reactive, not proactive, individuals are more likely to purchase insurance once they recognize their own level of exposure to potential health-related vulnerabilities [23]. Further research by the authors found that financial burden, past medical debt and previous experience with catastrophic health expenditures all influenced decision making when it came to enrolling in AB-Ark. These findings support literature that identifies out-of-pocket healthcare spending and financial risks as main factors driving the use of private health insurance among low-and-middle income countries.

The present study was not originally designed to evaluate catastrophic health expenditure (CHE) as a primary outcome; rather, it sought to understand beneficiaries' experiences of engaging with the Ayushman Bharat Arogya Karnataka (AB-Ark) scheme. However, the findings lend themselves to a financial risk protection perspective, revealing how participants experienced the economic consequences of illness, the factors that heightened vulnerability to catastrophic expenditure, and the ways in which insurance altered these trajectories. Interpreted through this lens, the themes illustrate that financial protection is not solely determined by the availability of insurance coverage but also by the accessibility, functionality, and implementation of the scheme.

Consequently, beneficiary experiences provide valuable qualitative evidence of both the protective capacity of public health insurance and the persistent barriers that may undermine its effectiveness in preventing catastrophic health expenditure. These findings complement existing quantitative evaluations by offering a more nuanced understanding of how financial protection is experienced in everyday healthcare encounters.

A critical barrier identified is the absence of insurance literacy, which is closely linked to broader gaps in financial literacy. Participants frequently demonstrated difficulty in distinguishing between a health insurance scheme and a direct benefit health programme. As a

result, the AB-Ark scheme was often expected to function as an immediate, redeemable benefit, similar to subsidy-based or entitlement-driven schemes. This misalignment in expectations leads to confusion during utilization and contributes to dissatisfaction when anticipated benefits are not realised. This finding aligns with the existing literature, which suggests that insurance literacy enhances risk perception and increases the perceived value of insurance products [24]. However, in its absence, the scheme's design and modality remain poorly understood, limiting both enrollment and effective utilization.

Findings from this study indicate that beneficiaries who successfully availed services under the AB-Ark scheme reported overall satisfaction with the quality of treatment and post-procedural care. Despite navigating multiple administrative checkpoints and documentation requirements, claimants expressed positive perceptions of diagnosis and service delivery. At the same time, the operational complexity of administering a multi-tiered health insurance scheme in a high-population and heterogeneous setting introduces inevitable procedural layers. Mechanisms such as referrals and pre-authorisation, while essential for ensuring appropriate utilization and claim validation, also contribute to delays and user burden. The transition from manual to online referral systems (ORS) represents a step towards improving transparency, accuracy in patient identification, and minimising administrative discrepancies [25]. However, procedural rigidities continue to affect utilization. The requirement for pre authorisation and correct classification of procedures under specific scheme codes often creates barriers, particularly when there are discrepancies in coding practices across hospitals.

Additionally, participants reported that eligibility for scheme benefits must be established prior to the initiation of treatment. Attempts to access benefits retrospectively, post-hospitalization, frequently resulted in unsuccessful claims, indicating a critical gap in awareness and procedural clarity. Another important dimension influencing utilization is the emotional and cognitive state of beneficiaries during hospitalization. Participants highlighted that during periods of acute illness or distress, individuals and their families often lack the capacity to engage with complex administrative processes. This aligns with existing literature suggesting that decision-making under conditions of stress and vulnerability may limit the effective uptake of available benefits [26]. These findings suggest that while the scheme is structurally robust, its usability during moments of crisis remains constrained, thereby affecting take-up rates.

Taken together, these findings point to the need for a more holistic approach to the design and implementation of social health insurance schemes. Enhancing insurance literacy, simplifying

procedural requirements, and strengthening institutional trust are critical to improving utilization. At the same time, investments in public healthcare infrastructure, including improved patient-to-staff ratios and service quality, are essential to sustaining confidence in the system. Ultimately, effective health policy must move beyond financial coverage to incorporate empathy, accessibility, and patient-centric design, particularly for populations navigating multiple layers of vulnerability.

Conclusion

Catastrophic health expenditure extends beyond high out-of-pocket spending, encompassing the cumulative financial vulnerability created by chronic illness, costly treatment episodes, medical debt, and depleted household resources. This study demonstrates that public health insurance has the potential to interrupt these pathways by providing financial risk protection and enabling access to essential healthcare. However, persistent hidden costs, administrative barriers, and procedural inefficiencies continue to limit the extent of this protection. Strengthening the implementation of publicly funded health insurance schemes through improved administrative responsiveness, reduction of uncovered expenses, and enhanced beneficiary support is therefore essential to achieving meaningful financial protection. Integrating beneficiaries' lived experiences into policy evaluation can further inform the design of equitable and responsive health financing strategies that advance Universal Health Coverage in India.

Declarations

1. Ethical Approval

Ethical approval for the study was granted by CHRIST (Deemed to be) University Research Conduct and Ethics Committee (RCEC) on 26 August 2024 (approval number – RCEC/00169/08/24).

2. Consent for publication

A standard consent form was created based on existing ethical guidelines for qualitative research. It outlined the purpose of the study, the type of involvement anticipated by the participant, how long the interviews would last, whether they would be recorded and if so, what provisions were made for confidentiality, participant rights, and how the data collected could

be used in an academic context. Additionally, participants were told that they had the right to either decline to participate or to withdraw from the study at any time.

3. Availability of data and materials

The data collected during the study is strictly confidential, and the sharing of interview transcripts is strictly prohibited.

4. Competing interests

The author declares that they have no competing interests.

5. Funding

This study has not received any external sources of funding.

6. Author contributions

The corresponding author has prepared the manuscript draft, collected the data, manually analysed the data, formulated the manuscript and finalised the journal selection.

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References

1. World Economic Outlook Database - Groups and Aggregates [Internet]. IMF. 2023. Available from: https://www.imf.org/en/Publications/WEO/weo-database/2023/April/groups-and-aggregates#da

2. Bryant, H J, Rhodes, Philip. Public health | Definition, History, & Facts [Internet]. Encyclopedia Britannica. 2025. Available from: https://www.britannica.com/topic/public-health/Developing-countries

3. Ikhisemojie S. Current health challenges of developing countries [Internet]. Punch Newspapers. 2023. Available from: https://punchng.com/current-health-challenges-of-developing-countries/#google_vignette

4. Ogugua JO, Olorunsogo TO, Muonde M, Maduka CP, Omotayo O. Developing countries' health policy: A critical review and pathway to effective healthcare systems. International Journal of Science and Research Archive [Internet]. 2024 Jan 19;11(1):371–82. Available from: https://doi.org/10.30574/ijsra.2024.11.1.0069

5. Arun A, Prabhu MP. Social determinants of health in rural Indian women & effects on intervention participation. BMC Public Health [Internet]. 2023 May 19;23(1):921. Available from: https://doi.org/10.1186/s12889-023-15743-3

6. Nambiar D, Mathew B. Roles played by civil society organisations in supporting homeless people with health care-seeking and accessing the social determinants of health in Delhi, India: Perspectives of support providers and receivers. SSM - Qualitative Research in Health [Internet]. 2022 Sep 5;2:100157. Available from: https://doi.org/10.1016/j.ssmqr.2022.100157

7. Marcellus Investment Managers. India's middle class is losing ground to the rich & the poor - Marcellus [Internet]. Marcellus. 2025 [cited 2026 Jan 31]. Available from: https://marcellus.in/blogs/indias-middle-class-is-losing-ground-to-the-rich-and-the-poor/

8. Ojha A. Health insurance statistics [Internet]. PolicyX. 2025. Available from: https://www.policyx.com/health-insurance/articles/health-insurance-statistics-in-india/

9. Kavita Bajeli-Datt. 70% Indians don't have health insurance: Lancet. The New Indian Express [Internet]. 2025 Aug 19; Available from: https://www.newindianexpress.com/nation/2025/Aug/19/70-indians-dont-have-health-insurance-lancet

10. Medical Buyer. India's healthcare inflation runs at 12–15%, higher than general inflation [Internet]. Medical Buyer. 2025 [cited 2026 Jan 31]. Available from: https://medicalbuyer.co.in/indias-healthcare-inflation-runs-at-12-15-higher-than-general-inflation/

11. The Logical Indian. Profit-Driven healthcare pushes millions of Indians into poverty, warns IITian - the logical Indian [Internet]. The Logical Indian. 2025. Available from: https://thelogicalindian.com/profit-driven-healthcare-pushes-millions-of-indians-into-poverty-warns-iitian/

12. Mohan D, Mohan D. The Silent Emergency: How Gaps in Healthcare System are Making Indians Poorer. TheQuint [Internet]. 2025 Jul 8; Available from: https://www.thequint.com/opinion/indias-worsening-healthcare-system-is-making-poor-poorer

13. Government of Karnataka. About AROGYA KARNATAKA Scheme [Internet]. Arogya Karnataka. 2018 [cited 2025 May 26]. Available from: https://arogya.karnataka.gov.in/Forms/Aboutus.aspx

14. Pyo J, Lee W, Choi EY, Jang SG, Ock M. Qualitative research in Healthcare: Necessity and characteristics. Journal of Preventive Medicine and Public Health [Internet]. 2023 Jan 31;56(1):12–20. Available from: https://doi.org/10.3961/jpmph.22.451

15. Creswell JW, Poth CN. Qualitative inquiry and research design: Choosing Among Five Approaches. SAGE Publications; 2016.

16. Hartman A, Squires V. Bridging perspectives: Utilizing Interpretative Phenomenological analysis (IPA) to inform and enhance social interventions. International Journal of Qualitative Methods [Internet]. 2024 Jan 1;23. Available from: https://doi.org/10.1177/16094069241306284

17. Campbell S, Greenwood M, Prior S, Shearer T, Walkem K, Young S, et al. Purposive sampling: complex or simple? Research case examples. Journal of Research in Nursing [Internet]. 2020 Jun 18;25(8):652–61. Available from: https://doi.org/10.1177/1744987120927206

18. Government of Karnataka. Ayushman Bharat Arogya Karnataka [Internet]. arogyakarnataka.gov. 2025 [cited 2025 Sep 10]. Available from: https://arogya.karnataka.gov.in/

19. Adams WC. Conducting Semi-Structured interviews. Handbook of Practical Program Evaluation [Internet]. 2015 Aug 10;(4):492–505. Available from: https://doi.org/10.1002/9781119171386.ch19

20. Mohanty SK, Upadhyay AK, Maiti S, Mishra RS, Kämpfen F, Maurer J, et al. Public health insurance coverage in India before and after PM-JAY: repeated cross-sectional analysis of nationally representative survey data. BMJ Global Health [Internet]. 2023 Aug 1;8(8):e012725. Available from: https://doi.org/10.1136/bmjgh-2023-012725

21. Rahman A, Pingali P. Social welfare 'Schemes' to an economic security 'System.' In: Palgrave studies in agricultural economics and food policy [Internet]. 2024. p. 357–425. Available from: https://doi.org/10.1007/978-3-031-50747-2_10

22. Habte A, Tamene A, Ejajo T, Dessu S, Endale F, Gizachew A, et al. Towards universal health coverage: The level and determinants of enrollment in the Community-Based Health Insurance (CBHI) scheme in Ethiopia: A systematic review and meta-analysis. PLOS ONE [Internet]. 2022 Aug 18;17(8):e0272959. Available from: https://doi.org/10.1371/journal.pone.0272959

23. Datta S, Bagli S. Health insurance for universal health coverage in India. Arthaniti-Journal of Economic Theory and Practice [Internet]. 2024 Oct 11; Available from: https://doi.org/10.1177/09767479241277927

24. Perera D, Jayawardena A. Insurance Literacy and Life-Insurance Purchase Behaviour: A Cognitive–Affective Conceptual Model. Colombo Business Journal International Journal of Theory and Practice [Internet]. 2025 Dec 23;16(2):136–64. Available from: https://doi.org/10.4038/cbj.v16i2.214

25. Srivastava S, Parmar D, Couturier V, Ziegler S. "We get support now …": a mixed methods study of patients' experiences of healthcare under the national health insurance scheme (PM-JAY) in India. BMC Health Services Research [Internet]. 2025 Nov 28;25(1):1552. Available from: https://doi.org/10.1186/s12913-025-13632-6

26. Zhou Q, Eggleston K, Liu GG. Health insurance and subjective well-being: evidence from integrating medical insurance across urban and rural areas in China. Health Policy and Planning [Internet]. 2024 Apr 22;39(6):564–82. Available from: https://doi.org/10.1093/heapol/czae031

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