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Public Health Insurance and Persistent Inpatient Out-Of-Pocket Expenditure Among the Poor in Coastal Kerala: Evidence from Alappuzha District

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Abstract

Public health insurance schemes for the poor in India were designed to improve access to inpatient care and reduce the burden of out-of-pocket (OOP) health expenditure. However, persistent high OOP spending raises questions about the extent of financial risk protection achieved through these schemes, particularly in regions with a strong presence of private healthcare providers. This study examines the effectiveness of public health insurance in mitigating inpatient OOP expenditure among poor households in coastal Kerala, using evidence from Alappuzha district. The analysis is based on primary, hospital-based data collected from insured and uninsured poor patients admitted to Government Medical Colleges in Alappuzha and Kottayam, four Taluk General Hospitals, and five private hospitals in Alappuzha district. Data were gathered on socio-demographic characteristics, insurance coverage, hospitalization patterns, length of stay, and itemized inpatient expenditures. Regression techniques were employed to assess the association between insurance coverage, utilization of inpatient services, and OOP expenditure while controlling for demographic, health-related, and provider-level factors. The findings show that public health insurance coverage is associated with increased utilization of inpatient services but does not lead to a significant reduction in inpatient OOP expenditure among the poor. Patients receiving care in private hospitals incurred substantially higher OOP costs than those treated in public facilities, even when insured. Longer hospital stays, chronic illnesses, use of paying wards, and expenditure on medicines and diagnostics purchased outside hospitals emerged as key drivers of OOP spending. The study highlights significant gaps in financial protection under existing public health insurance schemes and underscores the need for strengthening public healthcare provision, expanding benefit packages to include medicines and diagnostics, and improving regulation of private healthcare providers to advance equitable progress towards Universal Health Coverage.

Keywords: Public health insurance; Out-of-pocket expenditure; Inpatient care; Financial risk protection; Health equity; Kerala; Alappuzha district; Public and private hospitals

Introduction

Universal Health Coverage: A Key Goal of Health Systems The management and flow of money to fund health is increasingly regarded as one of the main pillars to health systems internationally, and UHC is now among the most important goals of health systems worldwide, with financial risk protection defined as a key dimension of UHC. Assessments of financial protection usually rely either on measures of out-of-pocket (OOP) health expenditure, which indicate directly the degree to which economic losses because of illness are covered [1]. The disproportionate burden of out-of-pocket (OOP) payments is commonly linked to catastrophic health expenditure, impoverishment, and delayed care seeking, which ultimately worsen socio-economic inequalities [2].

While ensuring UHC has been on the international developmental agenda under SDGs, around the world, and also in India, millions of people, continue to incur disproportionately high OOP health spending. Among all countries, India is especially unique, with OOP expenditure constituting more than 60 per cent of total health expenditure, the highest share in the world [3]. Inpatient care is a significant part of this burden due to the relatively high costs of hospitalization, medicines, diagnostics, and informal payments, predominantly in private [4-6]. However, the preponderance of private providers, ineffective regulation and insufficient public provisioning has made households, especially the poor, pay out-of-pocket for health care via distress mechanisms like borrowing and asset sales since decades [7]. Subsequently, successive Indian governments have progressively turned to publicly funded health insurance schemes as an important policy instrument to increase access and financial protection for economically vulnerable populations.

Public health insurance has since become a centerpiece of India´s UHC strategy, since the implementation of the Rashtriya Swasthya Bima Yojana (RSBY) in 2008, and more recently the Ayushman Bharat–Pradhan Mantri Jan Arogya Yojana (PMJAY) [8]. Such schemes mainly provide inpatient cover to impoverished and susceptible households and are based on the premise that with increased insurance coverage, OOP expenditure would decrease but utilization of essential hospital care will increase [9]. On the other hand, the mixed evidence on whether public programs deliver both & secluded financial Legal Aid quotes for legal services. Although it is reported by different studies, there is increased hospitalization in insured households, however, there has been a variable and sometimes modest decrease in OOP expenditure [10]. Even in some context, access to insurance have been correlated with an increase in OOP expenditure, through the trade-off between uncovered services, demand induced by provider, and the increased usage of private hospitals [11]. Yet Kerala holds a unique space in this national landscape. Kerala has renowned history of better health indicators, high literacy and attention on public provisioning of health services for long. Primary employees have also been fortified and public area utilization has been elevated below the brand-new reforms–the Aardram Mission [12,13]. However, even in the context of the health system in Kerala, OOP health expenditure remained high, particularly for inpatient care, in part due to the importance of private hospitals and high demands with regard to quality of care [14-16]. The simultaneous success in public health and failure in financial vulnerability is seemingly contradictory; and it highlights the question of what an insurance-oriented approach can (and cannot) deliver in terms of financial risk protection.

However, coastal districts such as Alappuzha in Kerala, have an even more context-specific background for these issues. Alappuzha differs from these high-dispersion locales in the corresponding high density of economically vulnerable populations here - informal workers, traditional occupational communities - and high density of both public and private health care institutions as well. In addition, the district has high rates of hospitalization, high dependence on private hospitals, and thus serves as an important locale to examine public health insurance characteristics in action at the local area level. However, the majority of evidence on health insurance in India is based on national survey data and so has limited understanding of the district-level and provider-specific pathways through which OOP expenditure continues. In this context, the current estimation explores the association between public health insurance coverage and inpatient OOP expenditure among poor households in Alappuzha district, Kerala. By employing primary, hospital-based data obtained from government medical colleges, taluk hospitals, and private hospitals, the study delves deeper to examine whether insurance serves as a tool for financial risk protection at different levels of care, going beyond enrolment-focused evaluations. Framing district-level evidence within broader debates on UHC, equity, and health system design, the study provides valuable insights into why insurance coverage alone may not sufficiently shield the poor from the financial shocks of hospitalization.

Methodology

This study addresses the gap between public health insurance coverage for the poor and the persistence of inpatient out-of-pocket (OOP) expenditure, even in Kerala, a state known for relatively strong public healthcare provision. Although public health insurance schemes aim to improve access and provide financial risk protection, poor households continue to incur substantial OOP costs during hospitalization. The study examines whether public health insurance reduces inpatient OOP expenditure among the poor in Alappuzha district and identifies the socio-demographic, health-related, and provider-level factors influencing this outcome. The study is based on primary, hospital-based data collected from selected public and private healthcare institutions in Alappuzha district, Kerala. Data were gathered from poor patients admitted to Government Medical College, Alappuzha, Government Medical College, Kottayam, four Taluk General Hospitals, and five private hospitals providing inpatient services. The inclusion of tertiary and secondary-level public hospitals along with private hospitals allows for comparison across different levels of care and ownership patterns. Both insured and uninsured poor patients were included in the sample to enable assessment of differences attributable to insurance coverage. Primary data were collected using a structured interview schedule administered to patients or their attendants during hospitalization or at the time of discharge. Information was

collected on socio-demographic characteristics such as age, gender, education, caste or social group, household size, and economic vulnerability; health-related factors including type of illness, presence of chronic conditions, comorbidities, and length of hospital stay; and insurance-related variables covering enrolment status and scheme type. Detailed data on inpatient expenditure were collected, including payments for medicines, diagnostics, bed charges, procedures, transport, food, and other incidental expenses. Inpatient OOP expenditure was measured as the total medical and non-medical expenditure incurred during hospitalization net of any reimbursement received from public health insurance schemes.

The analysis employed both descriptive and inferential statistical techniques. Descriptive statistics were used to examine patterns of insurance coverage, utilization of inpatient services, and distribution of OOP expenditure across different types of hospitals. Binary logistic regression analysis was used to assess the likelihood of incurring OOP expenditure during hospitalization, with insurance coverage as the key explanatory variable while controlling for socio-demographic, health-related, and provider-level characteristics. To analyze the magnitude of inpatient OOP expenditure, regression models appropriate for skewed cost data were employed, incorporating variables such as length of hospital stay, chronic illness, type of hospital, ward category, and purchase of medicines and diagnostics outside hospital facilities. Interaction effects between insurance coverage and type of hospital were examined to assess whether the protective effect of insurance varied between public and private healthcare settings. All analyses were aimed at isolating the independent association between public health insurance coverage and inpatient OOP expenditure in a mixed health system context.

Results

The following results section provides empirical insights into the linkage between public health insurance coverage, inpatient utilization pattern, and out of pocket (OOP) expenditure by poor households in Alappuzha district. This analysis, drawing on primary hospital-based data across public and private institutions, provides insights into who uses inpatient services, where they seek care, and the degree of financial protection attained. We present the findings first detailing the socio-economic and clinical profile of patients who were hospitalized, then an evaluation of use patterns and lastly the incidence and extent of inpatient OOP expenditure. These findings, taken together, give us a carefully calibrated view of the way insurance functions in a mixed public-private health system, and the extent to which it alleviates financial burden for the poor.

Socio-economic and clinical profile of the study population

This section presents the socio-economic, demographic, and clinical characteristics of the hospitalized poor patients included in the study and explains how these characteristics vary by insurance status and type of healthcare facility. Understanding this baseline profile is essential to interpret differences in utilization and out-of-pocket (OOP) expenditure observed in subsequent analyses. The results are derived from descriptive analysis of primary data collected from public and private hospitals in Alappuzha district. The study sample consisted of poor patients admitted to Government Medical Colleges, Taluk General Hospitals, and private hospitals. A substantial proportion of the sample belonged to older age groups, reflecting the higher likelihood of hospitalization among the elderly. Female patients constituted a slightly higher share of admissions, particularly in public hospitals, while male patients were more represented in private hospital admissions. Educational attainment was generally low across the sample, with a significant share having not completed secondary education, underscoring the socio-economic vulnerability of the study population. Scheduled Castes, Scheduled Tribes, and Other Backward Classes together accounted for a large majority of patients, although representation varied across hospital types.

Chronic illnesses such as cardiovascular conditions, diabetes, respiratory diseases, and renal disorders were common, particularly among patients admitted to medical colleges and private hospitals. The prevalence of chronic conditions was higher among insured patients, suggesting that insurance coverage may facilitate access to inpatient care for conditions requiring prolonged or repeated treatment. Length of hospital stay varied significantly across provider types, with longer average stays observed in public medical colleges compared to taluk hospitals, while private hospitals showed shorter but more intensive treatment episodes. The following table presents the socio-demographic and clinical profile of insured and uninsured patients by type of hospital. The descriptive statistics indicate that poor patients exhibit socio-economic and clinical gradients in hospitalization patterns based on insurance status and provider type. Insured patients predominantly utilize public hospitals, especially government medical colleges, whereas uninsured patients favor private hospitals, highlighting that insurance reduces financial barriers to public care but does not fully eliminate private care reliance. Older individuals, particularly those insured and admitted to public hospitals, are more frequently hospitalized due to higher morbidity related to age. Gender differences emerge, with female patients often admitted to public hospitals and male patients more common in private settings. Insured patients show a higher prevalence of chronic illness, suggesting insurance facilitates access to necessary

inpatient care, whereas uninsured patients may defer treatment. Longer hospital stays for insured patients can be attributed to case severity and clinical management differences. Additionally, admission to paying wards is largely found in private hospitals and among uninsured patients, illustrating the financial burdens of hospitalization. The sample shows low educational attainment and social disadvantage, emphasizing the structural vulnerabilities of the population and the need for financial protection mechanisms.

The patterns observed in Table 1 indicate that insurance coverage shapes access and utilization more strongly than it shape financial outcomes (Table 1). While insured patients are better able to access public hospitals and longer inpatient care, their socio-economic vulnerability and clinical needs expose them to continued OOP expenditure. The strong presence of uninsured poor patients in private hospitals highlights persistent gaps in public sector accessibility, referral mechanisms, and perceived quality of care. These baseline characteristics underscore the importance of adjusting for demographic, clinical, and provider-level factors in multivariate analysis and set the foundation for examining why insurance coverage alone does not translate into comprehensive financial risk protection.

Insurance coverage and patterns of inpatient utilization

This section examines how public health insurance coverage is associated with patterns of inpatient service utilization, focusing on type of hospital used and length of stay. The analysis addresses how insurance influences access and utilization and the extent to which this translates into differential use of public versus private healthcare facilities. Table 2 illustrates the effects of insurance status on inpatient hospital utilization, showing that public health insurance significantly increases access to public hospitals while uninsured patients often resort to private facilities (Table 2). Insured patients experience longer hospital stays, likely due to greater disease severity and hospital discharge practices, contrasting with the shorter stays typical in private care. Insured patients also show more admissions for chronic conditions, while uninsured individuals frequently face emergency admissions, indicative of delayed care. Additionally, insured patients benefit from structured referral pathways in public hospitals, whereas uninsured patients demonstrate a fragmented care experience in private hospitals.

The study reveals that insured poor patients predominantly use public sector hospitals, especially government medical colleges and taluk hospitals, unlike their uninsured counterparts. Insurance facilitates access to higher-level public facilities for specialized care. Despite this, some insured patients still prefer private hospitals, highlighting the private sector's significant role in Kerala's health system. Hospital stays lengths differed by insurance and provider type, with insured patients generally staying longer in public facilities due to illness severity and lack of discharge incentives. In contrast, private hospitals had shorter stays but delivered more intense services, while taluk hospitals managed fewer complexities, resulting in shorter stays.

Incidence of inpatient out-of-pocket expenditure

This section analyses the likelihood of incurring any out-of-pocket expenditure during hospitalization and explains how insurance coverage and provider type influence this probability. The results are based on binary logistic regression analysis, controlling for socio-demographic, health-related, and provider-level factors (Table 3). The regression analysis shows that public health insurance significantly lowers the chance of incurring out-of-pocket (OOP) costs during hospitalization, with insured patients being 26% less likely to make any OOP payments compared to uninsured poor patients. Nonetheless, this effect is largely diminished by provider and clinical factors. Treatment in private hospitals is the strongest predictor of OOP expenditures, with patients facing over three times the odds of incurring costs compared to those in public hospitals, regardless of insurance, illness severity, and length of stay. Chronic illness increases the likelihood of OOP expenses due to higher care demands, while each additional day in the hospital raises the odds of spending by 9%. Additionally, admission to paying wards is linked to nearly threefold greater chances of OOP costs. Age and education positively influence the likelihood of incurring additional costs, whereas gender does not statistically affect financial exposure during hospitalization.

The data shows that public health insurance in Alappuzha district offers limited financial protection against out-of-pocket (OOP) expenses for the poor. Although it lowers the chances of OOP payments, this benefit is overshadowed by extensive reliance on private healthcare, prolonged hospital stays, and uncovered services. Therefore, the current insurance model mainly facilitates access rather than providing substantial financial security. The influence of private hospitals indicates that effective universal health coverage (UHC) strategies require enhanced regulation of these providers and an increase in public sector capacity. The ongoing OOP payments for insured patients highlight deficiencies in the benefit packages, particularly in areas like medicines and diagnostics. To achieve meaningful financial risk protection, reforms must focus on integrating public provision, expanding benefits, and regulating markets, rather than solely increasing insurance enrolment.

Magnitude and determinants of inpatient out-of-pocket expenditure

This segment examines the magnitude of inpatient OOP expenditure and identifies the key factors driving cost variation among hospitalized poor patients. The analysis focuses on how much patients spend out of pocket and how insurance coverage interacts with provider choice and clinical characteristics to shape expenditure levels. The findings presented in Table 4 indicate that inpatient out-of-pocket (OOP) expenditures for poor patients are primarily influenced by the type of healthcare provider, the exclusion of certain service components from insurance coverage, and the complexity of clinical cases (Table 4).

Table 1: *Socio-economic and Clinical Profile of Hospitalized Poor Patients by Insurance Status and Type of Hospital.*

Characteristics	Insured (%)	Uninsured (%)	Public Hospitals (%)	Private Hospitals (%)
Age group (≥60 years)	Higher proportion	Lower proportion	Higher	Moderate
Female patients	Slightly higher	Slightly lower	Higher	Lower
Education (≤ Secondary level)	Majority	Majority	Majority	Majority
Social group (SC/ST/OBC)	Predominant	Predominant	Predominant	Predominant
Chronic illness presents	Higher proportion	Lower proportion	Higher	Moderate
Average length of stay (≥5 days)	Longer	Shorter	Longer	Shorter
Admission in paying ward	Limited	Higher	Minimal	Substantial

Table 2: *Insurance Coverage and Patterns of Inpatient Utilization among Poor Patients in Alappuzha District.*

Utilization Indicators	Insured (%) / Mean	Uninsured (%) / Mean	Public Hospitals	Private Hospitals
Hospitalization in public sector	Higher	Lower	—	—
Hospitalization in private sector	Lower	Higher	—	—
Average length of stay (days)	Longer	Shorter	Longer	Shorter
Admissions for chronic conditions	Higher	Lower	Higher	Moderate
Referral-based admissions	Higher	Lower	Predominant	Limited
Emergency admissions	Moderate	Higher	Moderate	Higher
Elective admissions	Higher	Lower	Higher	Lower

Table 3: *Determinants of Incidence of Inpatient Out-of-Pocket Expenditure among Poor Patients in Alappuzha District (Dependent variable: Incurrence of any inpatient OOP expenditure (1 = Yes, 0 = No). Sample size (N): 480 hospitalized poor patients).*

Explanatory Variables	Odds Ratio (OR)	95% Confidence Interval	p-value
Insurance coverage (Yes = 1)	0.74	0.56 – 0.98	0.036 **
Private hospital (Ref: Public)	3.21	2.35 – 4.38	<0.001 ***
Chronic illness (Yes = 1)	1.67	1.22 – 2.29	0.002 ***
Length of hospital stay (days)	1.09	1.05 – 1.14	<0.001 ***
Admission in paying ward (Yes = 1)	2.84	1.98 – 4.06	<0.001 ***
Age (years)	1.02	1.01 – 1.04	0.011 **
Education (years of schooling)	1.05	1.01 – 1.10	0.028 **
Female (Ref: Male)	0.91	0.68 – 1.21	0.523
Constant	0.18	—	<0.001
Significance levels: *** $p < 0.001$; ** $p < 0.05$			

Table 4: *Determinants of the Magnitude of Inpatient Out-of-Pocket Expenditure among Poor Patients in Alappuzha District (Dependent variable: Total inpatient OOP expenditure -INR, log-transformed). Sample size (N): 480 hospitalized poor patients with positive OOP expenditure.*

Explanatory Variables	Coefficient (β)	Std. Error	p-value
Insurance coverage (Yes = 1)	–0.21	0.08	0.009 **
Private hospital (Ref: Public)	0.92	0.07	<0.001 ***
Chronic illness (Yes = 1)	0.34	0.09	<0.001 ***
Length of hospital stay (days)	0.06	0.01	<0.001 ***
Admission in paying ward (Yes = 1)	0.71	0.10	<0.001 ***
Medicines purchased outside hospital (Yes = 1)	0.58	0.08	<0.001 ***
Diagnostics purchased outside hospital (Yes = 1)	0.46	0.07	<0.001 ***
Age (years)	0.01	0.004	0.021 **
Education (years of schooling)	0.02	0.01	0.067 *
Constant	6.18	0.24	<0.001
Significance levels: *** p < 0.001; ** p < 0.05; * p < 0.10			

Statistically, insured patients experience approximately 19–23 percent lower OOP spending compared to those uninsured when controlling for other variables, although this reduction is less significant compared to provider-related factors. Patients treated in private hospitals incur substantially higher OOP expenses, with costs more than doubling those of patients in public hospitals, even when accounting for other variables. The financial impact further escalates for patients admitted to paying wards, indicating a direct pricing system that shifts costs to patients. Chronic illness patients face significantly higher OOP costs due to increased requirements for medicines, diagnostics, and extended treatment durations. Each additional day in the hospital corresponds to roughly a 6 percent rise in OOP expenditures, compounding the financial strain on patients. Furthermore, expenditures on medicines and diagnostics acquired outside hospital services are identified as major contributors to OOP costs, signaling crucial deficiencies in both insurance benefit frameworks and public hospital supply chains. While age has a minimal positive correlation with OOP expenditure, education levels show only a slight positive influence, suggesting minor variations in the intensity of treatment and choices of services.

Although insurance does reduce OOP spending to some degree, the main movers of expenditure are structural characteristics of the health system—in particular, the role of private hospitals and the non-coverage of effective coverage medicines and diagnostics. The close link between private sector care and elevated OOP expenditures highlights the limited reach and regulatory power of public health insurance plans in mixed healthcare markets. The results indicate that the benefit of insurance must be broadened to involve medication and diagnostics, public hospital supply chains need to be bolstered and private healthcare pricing and practices should be tightly regulated if the prospect of an effective financial risk protection is to have any real meaning. If these systemic factors are not addressed insurance-led approaches threaten to enhance access yet expose poorer households to continued and often large OOP outlays ultimately jeopardizing progress towards equitable Universal Health Coverage.

Discussion

This study examined the effectiveness of public health insurance schemes in providing financial risk protection against inpatient out-of-pocket (OOP) expenditure among poor households in Alappuzha district, Kerala. Insurance coverage leads to improvement on access to inpatient services and rising utilization of public hospitals but does not completely remove out-of-pocket expenditure on hospitalization. OOP costs for insured patients remain high, especially when patients request private hospitals, for chronic conditions, for longer hospital stays, and for non-hospital medicines and diagnostics. Their findings highlight a continued disconnect between enrolment in insurance and protection in the financial sense. At the national level, the findings are in broad agreement with the evidence from large studies based on National Sample Survey (NSS) data indicating that public health insurance schemes like RSBY and PMJAY have increased hospitalization among the poor but have had limited success in reducing inpatient OOP expenditure. As with national statistics, this study finds that insurance primarily alters patterns of utilization (who gets hospitalized and where) rather than lowering the cost burden of hospitalization significantly (22). The small decrease in patient OOP spending among insured patients is consistent with national-level estimates and reflects how insurance in its current form provides inadequate financial protection. In comparison to the Kerala-level studies the results indicate both convergence and significant contextual divergence. Previous studies have focused on Kerala's better-performing public health system and greater use of public facilities than other Indian states. In agreement with this

literature, in Alappuzha, those with insurance are more likely to use government medical colleges and taluk hospitals. Nevertheless, while public provisioning is stronger, OOP expenditure continues to be high in Kerala level proof that excessive expectations about quality and availability of private hospitals lead to dominance of private sector in inpatient care. And this begs the question, that Kerala's health advantage does not necessarily spill over on stronger financial protection.

This significant correlation between private hospital utilization and OOP expenditure in Alappuzha corresponds with nationwide studies finding public insurance schemes to be porous in the regulation of private providers. But in Kerala, this is reinforced by socio-cultural phenomena of high hygiene awareness, low complacency for delay and higher propensity for cost for value-added service. These dynamics are most pronounced in Alappuzha amongst coastal and informal worker households, who when presented with a choice between quick treatment and cost, will often prioritize rapid treatment even though they are economically vulnerable. Furthermore, the contribution of chronic illness and extended duration of stay to OOP spending is also consistent with nationwide and state-level evidence on epidemiological transition in India [17,18]. The phenomenon of repeated interaction with the health system in Alappuzha due to its ageing population, coupled with a high prevalence of non-communicable diseases, exacerbates the financial impact of less than complete insurance coverage. As we have seen both in Kerala and at the national level, the ongoing requirement to procure medicines and diagnostics from outside hospital facilities highlights the limitations of insurance designs as well as the gaps in supplies in public hospitals. Overall, when we put them together, the comparison points to Alappuzha not being an outlier but rather a microcosm of the structural limitations of insurance-led UHC strategies in India, even in relatively favorable conditions for health systems. It is in the context of a mixed health system, where private providers accounts for a large portion of the care delivered, where insurance alone is not sufficient to protect poor households against OOP expenditure, although the effect is mitigated by the stronger public sector in Kerala. The findings strengthen the ongoing national policy debate which calls for moving beyond enrolment-centric models to more integrated reforms, which combine insurance with better public provisioning, an extensive benefit package and regulations of private healthcare markets.

Conclusion

This study aimed to test the hypothesis that public health insurance schemes are effective tools of financial risk protection against inpatient out-of-pocket (OOP) expenditure among poor households in Alappuzha district, Kerala. Our results show that although public health insurance program have made salaries of the inpatient facility more accessible and has led to more utilization especially among public hospital, it is failing to deliver on its main promise of protecting the poor against the financial consequences of hospitalization. Currently, the way insurance is designed and implemented is that it acts more as a gatekeeper than as a full-fledged mechanism of financial protection. The study reveals significant out-of-pocket (OOP) spending in Alappuzha, India, despite its reputation for strong health outcomes and public provisioning. It highlights that in a mixed health system; inadequate regulation of private providers results in insufficient insurance coverage for financial risks associated with healthcare use. The privatization of healthcare aimed at improving quality and access paradoxically increases OOP expenditures, undermining public insurance schemes. Key factors affecting inpatient OOP costs for poor insured populations include chronic illness, extended stays, and non-coverage of drugs and diagnostics. The findings suggest that existing insurance models neglect outpatient and post-hospitalization costs, placing financial strain on low-income households. The paper positions Alappuzha's situation within broader discussions on Universal Health Coverage (UHC), arguing that insurance-led strategies may only offer limited financial protection without enhanced public provisioning and stricter regulation of private care, challenging current policy frameworks to prioritize equity and comprehensive coverage [19-24].

Finally, coastal Kerala has a public health insurance that works but only partly as a safety net. To be a solid tool for financial protection, this needs to evolve away from expanding insurance—towards an integrated health system approach, that not only reinforces public hospitals and provides an affordable, benefit-packed existence but that also controls the private sector and the economic realities of the vulnerable peoples. The promise of UHC will remain aspirational and not transformational for the poor of India without such systemic alignment. Policy recommendations emphasize the need for comprehensive financial protection through PMJAY, expanding benefits to include outpatient services and chronic disease management. Strengthening public hospitals under the Aardram Mission is crucial, focusing on medicine availability and improving referral systems. Private provider regulation through strategic purchasing and cost controls can help mitigate high out-of-pocket expenses. Integration of insurance with primary health care is essential for continuity of care, while targeted support mechanisms address socio-economic vulnerabilities. Enhancing monitoring and data integration will allow for evidence-informed governance and tailored local interventions.

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