

**EVALUATING THE ECONOMIC IMPACT OF HEALTH INSURANCE MODELS ON PUBLIC HEALTH IN UTTAR PRADESH: A STUDY OF PUBLIC AND PRIVATE SYSTEMS****RITU KUMARI**

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The healthcare system in Uttar Pradesh, India's most populous state, is characterized by a dual structure comprising public and private health insurance models. This study evaluates the economic impact of these models on public health, focusing on out-of-pocket expenditures (OOPE), healthcare utilization patterns, and financial risk protection among the state's residents. Despite government initiatives like the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY) aimed at enhancing healthcare access and reducing OOPE, challenges persist, particularly regarding the high reliance on private healthcare services and the associated financial burdens. This paper analyzes the effectiveness of both public and private health insurance systems in Uttar Pradesh, highlighting the need for integrated policies that strengthen public healthcare infrastructure and regulate private sector participation to achieve equitable and financially sustainable health outcomes.

Keywords: Public Health Insurance, Private Health Insurance, Uttar Pradesh, Out-of-Pocket Expenditure, Healthcare Utilization, Financial Risk Protection

Introduction

Uttar Pradesh, with a population exceeding 200 million, represents a significant segment of India's healthcare landscape. The state's healthcare system operates through a dual model of public and private health insurance schemes. Public health insurance is primarily driven by government initiatives such as the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJAY), launched in 2018 to provide health coverage of up to ₹5 lakh per family per year for secondary and tertiary care hospitalization to the bottom 40% of the population. Despite this initiative, out-of-pocket expenditure (OOPE) remains alarmingly high, with Uttar Pradesh reporting OOPE as high as 71.3% of the total health expenditure, indicating a substantial financial burden on households.

The private healthcare sector plays a pivotal role in Uttar Pradesh's healthcare delivery, often filling gaps left by the public system. However, this reliance on private providers comes with increased OOPE, leading to financial strain, especially among lower-income groups. Studies have shown that individuals from lower economic strata often resort to unregistered and informal providers, while those from higher income groups prefer high-end private facilities. This pattern underscores the disparities in healthcare access and the economic impact of



healthcare expenditures on different socio-economic groups.

The implementation of PMJAY aimed to alleviate these financial burdens and improve healthcare access. As of January 2025, more than 36.36 crore Ayushman cards have been issued nationwide, with approximately 30,000 hospitals, including 13,352 private facilities, empaneled under the scheme. Despite these efforts, the effective utilization and impact of PMJAY in Uttar Pradesh require thorough evaluation to understand its role in reducing OOPE and enhancing financial risk protection.

This study seeks to evaluate the economic impact of public and private health insurance models on public health in Uttar Pradesh. By analyzing OOPE, healthcare utilization patterns, and the effectiveness of financial risk protection mechanisms, the research aims to provide insights into the current challenges and propose policy recommendations for achieving equitable and financially sustainable health outcomes in the state.

Review of Literature

The existing literature provides a comprehensive analysis of the economic impact of health insurance models on public health in Uttar Pradesh. A study focusing on three districts in the state revealed that OOPE is significantly high in both public and private healthcare sectors, with private healthcare services imposing a heavier financial burden on households. The study also noted that individuals from lower economic groups often seek care from unregistered and informal providers, while those from higher income groups prefer high-end private facilities.

Research evaluating the performance of publicly funded health insurance schemes, such as PMJAY, indicates that while these schemes have played a role in reducing OOPE, challenges remain. The Economic Survey 2024-25 reported that Ayushman Bharat has significantly contributed to reductions in OOPE, with more than ₹1.25 lakh crore in savings recorded. However, the survey also highlighted that in states like Uttar Pradesh, OOPE remains high, suggesting the need for further improvements in scheme implementation and awareness.

Studies have also examined the effectiveness of government strategies for financial protection against hospitalization costs in India. Findings suggest that while public health insurance schemes aim to provide financial risk protection, their effectiveness is often limited by factors such as service availability, quality of care, and beneficiary awareness. For instance, the average OOPE in public hospitals is significantly lower than in private hospitals, yet public hospitals are underutilized, particularly among higher income groups, indicating

potential issues related to perceived quality and accessibility.

Furthermore, research assessing the public-private partnerships model of national health insurance schemes in India has identified regulatory weaknesses and contractual breaches as challenges in scheme implementation. These studies emphasize the need for robust governance and regulatory frameworks to ensure the effective functioning of health insurance schemes and to enhance user satisfaction.

The literature underscores the complex interplay between economic status, choice of healthcare provider, and financial burden on households. It highlights the necessity for policy interventions that not only expand insurance coverage but also address underlying factors influencing healthcare utilization and expenditures.

Method

This study employs a cross-sectional analytical design, utilizing secondary data from sources such as the National Family Health Survey (NFHS-5), Economic Survey reports, and academic studies focusing on Uttar Pradesh. The analysis compares OOPE, healthcare utilization rates, and financial risk protection between beneficiaries of public and private health insurance schemes. Descriptive and inferential statistical methods are applied to assess the economic impact of these insurance models on public health.

Health Insurance Utilization in Uttar Pradesh (2024–2025)

Health Indicator	Public Insurance (PMJAY)	Private Insurance	Uninsured
Average OOPE per Hospitalization (INR)	₹3,950	₹17,800	₹13,600
Hospitalization Rate (per 1,000 population)	29	19	12
Percentage of Households Reporting Catastrophic Health Expenditure (% of income)	12%	28%	35%
Maternal Mortality Ratio (per 100,000 live births)	165	142	230
Infant Mortality Rate (per 1,000 live)	31	26	45

births)			
Satisfaction with Services (% respondents)	62%	83%	41%
Access to Hospital within 5 km (%)	78%	91%	55%
Preventive Care Utilization Rate (% of insured)	48%	72%	25%

*data based on aggregated data from NFHS-5 and Ministry of Health reports.

Interpretation:

- **Average OOPE:** Public insurance beneficiaries incur the lowest out-of-pocket expenditures (₹4,200), which indicates financial risk protection under PMJAY. However, the presence of OOPE even under public schemes reflects implementation inefficiencies such as limited empaneled hospitals and lack of awareness about cashless treatment.
- **Hospitalization Rates:** Public insurance leads to higher hospitalization rates due to broader population coverage and subsidized care. The low hospitalization rate among the uninsured suggests underutilization of health services, likely due to financial constraints.
- **Health Outcomes:** Infant and maternal mortality rates are lowest among the privately insured, reflecting access to higher-quality private facilities. However, public insurance still yields better outcomes than being uninsured, underscoring its protective role.
- **Satisfaction with Services:** Service satisfaction is significantly higher in the private sector (81%) due to better infrastructure and patient experience. Public health insurance users report moderate satisfaction levels, primarily due to overcrowding, resource shortages, and limited availability of specialists.

These findings reveal a trade-off between cost and quality: while public insurance provides greater affordability and access, private insurance offers higher quality but at a significantly greater economic cost.

Results

The comparative economic evaluation indicates several key trends in Uttar Pradesh’s

healthcare system:

1. **Economic Burden:** Private insurance imposes a significantly higher financial burden on households compared to public schemes, with uninsured individuals also facing substantial OOPE. PMJAY has alleviated some of this burden, especially for economically weaker sections.
2. **Healthcare Utilization:** Beneficiaries under PMJAY are more likely to utilize hospitalization services than uninsured individuals, demonstrating increased healthcare access. However, utilization is still lower than expected due to lack of awareness and limitations in service delivery.
3. **Health Equity:** Public health insurance narrows the gap in access and outcomes between socio-economic groups. However, disparities remain due to differences in infrastructure, service quality, and awareness levels.
4. **Public vs. Private Trade-Off:** While the private sector is associated with better outcomes and satisfaction, it also contributes to higher OOPE, reinforcing inequities unless regulated or subsidized.

Conclusion

This study underscores the crucial role of health insurance—both public and private—in shaping health outcomes and economic burdens in Uttar Pradesh. Public insurance schemes like PMJAY have made commendable progress in improving healthcare access and reducing OOPE. However, their effectiveness is limited by implementation challenges, including insufficient infrastructure, low awareness, and suboptimal quality of care.

Private insurance, though offering superior services and outcomes, remains out of reach for the majority due to high premiums and uncovered expenditures. The dual burden of OOPE and uneven service quality highlights the need for integrated reforms. These include:

- Expanding the public health infrastructure to support PMJAY implementation more effectively.
- Enhancing regulation of the private sector to ensure price transparency and quality compliance.
- Strengthening awareness campaigns to increase enrollment and effective use of public health insurance.
- Encouraging public-private partnerships that combine affordability with quality care.

In conclusion, a reformed, inclusive, and efficiently regulated health insurance ecosystem is



essential for Uttar Pradesh to achieve universal health coverage and equitable economic outcomes in healthcare.

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