

DOES PRADHAN MANTRI JAN AROGYA YOJANA (PMJAY) PROTECT ECONOMICALLY VULNERABLE POPULATION FROM FINANCIAL RISK? : A NARRATIVE REVIEW

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ABSTRACT

Background: More than 50% of health expenditure in India is borne by families through out-of-pocket payments (OOPE) (Nanda & Sharma, 2023). In many cases, such high OOPE becomes catastrophic, pushing households into financial distress. Both OOPE and catastrophic health expenditure (CHE) have the potential to impoverish families (Sinha et al., 2016). To address this, the Government of India has introduced several health insurance schemes aimed at protecting vulnerable populations from the financial burden associated with healthcare. One such initiative is Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), which aims to provide economically vulnerable groups with access to secondary and tertiary healthcare services without financial hardship. **AIM:** To assess the impact of the scheme on Out-of-Pocket Expenditure (OOPE) and Catastrophic Health Expenditure (CHE), evaluate its effectiveness in providing financial risk protection and preventing further impoverishment, and identify existing knowledge gaps to guide future research. **Methods:** In this narrative review, we conducted a descriptive analysis of the secondary data available through open access. A systematic search was conducted in PubMed, Science Direct and Google Scholar for articles published between October 2021 and September 2025. A total of 59 articles from PubMed, 17 from Science Direct and 543 from Google Scholar were accessed. At the end, 25 articles were reviewed after applying the inclusion and exclusion criteria. **Results:** The findings were organized into themes including knowledge, awareness, coverage, utilization, PMJAY's impact on OOPE, CHE & financial risk protection and challenges in implementing the scheme. **Conclusion:** The findings suggested the need for monitoring and evaluation mechanisms to strengthen the PMJAY scheme.

Keywords: Narrative, PMJAY, OOPE, CHE, financial risk protection, challenges.

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INTRODUCTION

More than 50% of health expenditure in India is borne by families through out-of-pocket payments (OOPE) (Nanda & Sharma, 2023).

In many cases, such high OOPE becomes catastrophic, pushing households into financial distress. Both OOPE and catastrophic

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health expenditure (CHE) have either the potential to impoverish families (Sinha et al., 2016) or preventing them from accessing health care. In this regard, the health insurance scheme is one of the mechanisms to ensure health care (Narayanan & Kodali, 2020). In order to shield the economically disadvantaged population from out-of-pocket medical expenses (OOPE) that could worsen their situation, the Indian government has implemented a number of welfare programs. Pradhan Mantri and Ayushman Bharath One program that gives each household Rs. 5,00,000 year is Jan Arogya Yojana AB-PMJAY. Forty percent of Indians are hospitalized for secondary and tertiary care. The Socio-Economic Caste Census (SECC) 2011's occupational and deprivation criteria for rural and urban areas were used to determine which households were included. The goal of this insurance program is to lower the catastrophic medical costs that force almost 6 crore Indians into poverty every year. Up to three days of pre-hospitalization and fifteen days of post-hospitalization costs, including prescription drugs and diagnostics, are covered. The objectives of the PMJAY scheme are to reduce OOPE, catastrophic health expenditure (CHE) and improve the access to health care services. Therefore, this narrative review synthesizes the findings from diverse studies to understand the scheme's impact on OOPE and CHE and also to understand comprehensively whether the scheme prevents from financial risk and further impoverishment. This review states the knowledge gaps and suggests future studies.

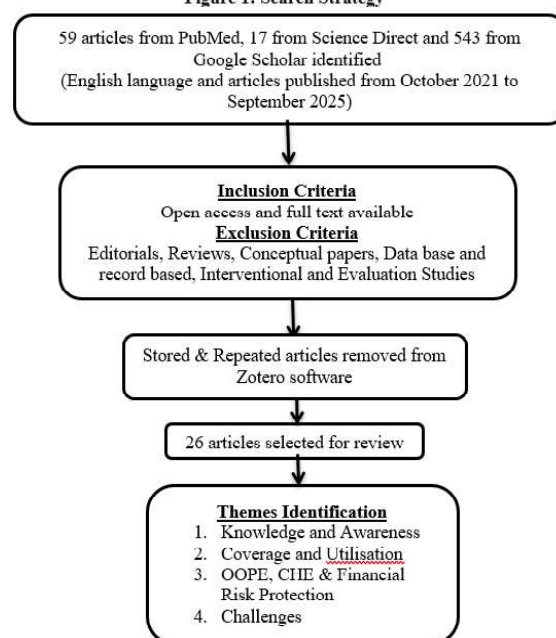
Abstracts screened

METHODOLOGY

In this literature review, we conducted a narrative analysis and covered a broad range of topics by using studies of various complexity and design (Grant & Booth, 2009). The search was conducted in the databases

PubMed, Science Direct and Google scholar using the term 'PMJAY'. Inclusion criteria were the English language and articles published between October 2021 and September 2025. This strategy results in 59 articles in PubMed, 17 from Science Direct and 543 from Google Scholar. We conducted a further screening process and included articles with primary data, available in full text and accessible through open access sources. We excluded articles such as editorials, reviews, intervention studies conceptual papers and other publication types. After following inclusion and exclusion criteria, articles were stored in Zotero. This strategy resulted in many doubles, which were deleted. At the end, we had 27 articles for review process.

Figure 1: Search Strategy



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RESULTS

Table I: Theme 1-The level of Knowledge and awareness among beneficiaries and HCW's regarding PMJAY

Author (Year)	Objective	Key Findings
(Dixit et al., 2025)	Awareness of the Ayushman Bharat scheme in urban and rural areas.	Out of 224 participants, 8.9% in urban and 18.8% in rural areas were aware of the scheme.
(Sankar, Rajendran, & Mary, 2025)	The level of knowledge among healthcare workers (HCWs)	Doctors had the highest knowledge score followed by ANMs and Staff Nurses. HCWs in primary health centers (PHC's) had higher than those in community health centers (CHC's) and tertiary hospitals
(Nirala et al., 2022)	Awareness and readiness among HCWs	Doctors had significantly higher awareness than nursing officers.
(Parisi et al., 2023)	Awareness among beneficiaries	62% were aware of PM-JAY; 78% of those knew about their eligibility.
(Prasad et al., 2023)	Awareness among rural population	Every two out of three rural individuals and three out of every four eligible participants were aware of the scheme.
(Sabherwal et al., 2024)	Knowledge and awareness in two non-profit eye organizations	A total of 1151 participated. 82.6% in Organisation A and 22.9% in Organisation B had heard of the scheme. 43% and 8.5% had knowledge about at least one topic, only 8.5% and 2.8% were knowledgeable about all topics: eligibility, services, empanelled hospitals and eye care services covered.
(Trivedi et al., 2022a)	Exploration of beneficiary experience in Gujarat and Madhya Pradesh	74% of PMJAY beneficiaries in Gujarat were aware of the scheme through a letter from the government. 11% from village-level health workers, 7% at the time of the hospitalization and remaining respondents from friends and relatives or through newspapers. In Madhya Pradesh, nearly one-third (30%) learned when they arrived at hospitals and 25% from their friends and relatives.
(Gore et al., 2025)	Awareness among cancer treatment beneficiaries	Out of the 489 beneficiaries, only 162 (33.1%) were aware of the scheme.
(Sankar, Rajendran, Mary, et al., 2025)	Knowledge among rural beneficiaries in Puducherry	Among 540 BPL households, 71.7% of the beneficiaries were aware of PMJAY

Knowledge and Awareness

The table 1 represents the level of knowledge and awareness regarding the Pradhan Mantri Jan Arogya Yojana (PMJAY) among both beneficiaries and healthcare workers (HCWs). Awareness among beneficiaries showed considerable variation across geographic regions and population groups. The patients who were hospitalized or seeking health care services also have the limited level of awareness regarding scheme. Contradict to this, few studies reported higher levels of awareness even among the rural population

and BPL families. A study explored the sources of awareness among beneficiaries through government-issued letters, village-level health workers, hospitalization and through social connections. Knowledge levels among HCWs were higher than the beneficiaries. Among HCW's, Doctors had higher knowledge followed by community health workers and nursing officers. Furthermore, HCWs posted at primary health centers have better knowledge than those working at community health centers and tertiary care hospitals.

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Table-2: Theme 2- Coverage and utilization of PMJAY among beneficiaries.

Author (Year)	Objective	Key Findings
(Dixit et al., 2025)	Utilization in urban and rural beneficiaries	Only 8% of beneficiaries in urban areas and 15.2% of beneficiaries in rural areas have utilized.
(Dixit et al., 2025)	Utilization in urban and rural beneficiaries	Only 8% of beneficiaries in urban areas and 15.2% of beneficiaries in rural areas have utilized.
(Prasad et al., 2023)	Level of utilization among rural people	Utilization was 1.3%
(Duggal et al., 2024)	Challenges and responses of healthcare providers during COVID 19.	PMJAY improved access to healthcare for critical cases of COVID 19 in empanelled hospitals.
(Marazi & Pandit, 2024)	Surgical procedures before and after PMJAY implementation	Ophthalmology procedures increased from 2634 to 3443. Surgical procedures in General Surgery and ENT were stable and no change in Orthopaedics.
(Garg, Bebartha, & Tripathi, 2024)	Effect of enrollment on inpatient care utilisation	The household surveys covered around 15,000 individuals. No significant increase in inpatient care utilization.
(Sankar, Rajendran, Mary, et al., 2025)	Coverage and utilization of among rural BPL households of Puducherry	Out of 540 BPL households, Only 33.5% knew it covers BPL families. The utilization was 2.03%.

Coverage and Utilisation

The coverage and utilization of the PMJAY scheme remains limited across various settings, despite moderate awareness levels reported in some populations. PMJAY enrollment does not relate with the effective use of health care services due to the operational challenges. The gap between

awareness and utilization explains that knowledge alone may not be sufficient to drive scheme adoption. In contrast, few studies reported that PMJAY facilitated the urgent care during COVID 19. It is also contributed in Ophthalmology surgery but not much in other surgical care.

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Table 3: Theme 3- PMJAY Impacts on OOPE, CHE and Financial Risk.

Author (year)	Objective	Findings
(Saxena et al., 2022)	PMJAY hospital based transaction from admission to discharge.	Hospital based transaction observed in 14 hospitals of Gujarat and Madhya Pradesh. Fifty-three respondents were interviewed. Claim reimbursement is delayed two to six times higher than that proposed in guidelines. Beneficiaries still incurred OOPE.
(Kamath et al., 2024) (Kamath et al., 2025)	OOPE analysis for cardiac surgeries (1021) and OBG patients (905)	0% OOPE for PMJAY cardiac and OBG patients. High OOPE rates for uninsured OBG patients (100%) and private health insurance (38.15%). High OOPE for uninsured cardiac patients ranging from ₹1,15,292 (1390.57 USD) to ₹1,72,490 (2080.45 USD) depending on surgery type. OOPE incurred by cardiac patients with private insurance ranged from ₹1,689 (20.38 USD) to ₹68,788 (829.67 USD).
(Kanwal et al., 2024)	OOPE and CHE before and after admission in a tertiary hospital.	A total of 336 participants from surgery and medicine-allied specialties were recruited. The mean total monthly family expenditure (TMFE) was observed to be INR 4213.1 (SD: 2483.7). The OOPE share of TMFE declined from 76.1% (before admission) to 30.0% (after admission). CHE reduced from 65.5% to 29%.
(Halder et al., 2025)	Impact on timely cancer treatment initiation	6695 cancer patients seeking outpatient were recruited. 90% of PMJAY enrolled cancer patient received timely treatment
(Parmar et al., 2023)	Effect on hospitalizations, OOPE and private healthcare	A household survey conducted among 57,000 PMJAY eligible individuals in six Indian states. Increased hospitalizations and 4.6% rise in private facility use. OOPE (13%) and CHE (21%) reduced. While availing private facilities, OOPE was reduced by 17% and CHE by 19%. Shift from public facility to private.
(Trivedi et al., 2022b)	Beneficiaries (or their caregivers) experience in Gujarat and Madhya Pradesh	200 PMJAY beneficiaries were recruited. Hospitals in Gujarat Public hospitals performed better than Madhya Pradesh in terms of prompt attention, access to information and beneficiaries' satisfaction. OOPE were higher in Madhya Pradesh and private hospitals.
(Garg et al., 2022, p. 19)	Financial protection during Covid-19.	CHE increased during the pandemic. The size of OOPE and occurrence of CHE were associated with utilisation in private hospitals. PMJAY enrollment was not effective in reducing OOPE or CHE
(Garg, Bebartha, Tripathi, et al., 2024)	Performance of GFHI in financial protection for hospital-based care in Madhya Pradesh and Maharashtra.	71% and 63% of surveyed individuals were enrolled under GFHI in Madhya Pradesh and Maharashtra. PMJAY had no significant effect on utilisation, quality, OOPE and CHE.
(Kumar et al., 2025)	Impact on OOPE and CHE in Haryana	A total of 772 individuals, 386 PM-JAY beneficiaries (cases) and non-beneficiaries (controls) were participated. Direct medical cost was lower (65%) for beneficiaries (11 131 rupees) compared with non-beneficiaries (31 675 rupees). While OOP expenditures are similar for both groups in public empanelled hospitals, non-beneficiaries incur OOP costs three times higher than PMJAY beneficiaries in private empanelled hospitals. The CHE prevalence is lower among beneficiaries (13.3%) than non-beneficiaries (45.9%).

PMJAY's impact on OOPE , CHE and Financial Risk

Several studies have evidenced the impact of the PMJAY scheme on hospital utilization, OOPE and CHE. It facilitated the access to secondary and tertiary care. PMJAY enrolled patients received timely care and most of the beneficiaries utilized private health facility. Few studies reported that beneficiaries

experienced zero OOPE and the scheme reduced financial risk. Contrastingly, an insurance process evaluation revealed that delays in claim reimbursement ranged from two to six times longer than guidelines and beneficiaries still incurred OOPE during hospitalization.

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Table-4: Theme-4: Challenges in implementation of PMJAY.

Author (year)	Objective	Findings
(Sabherwal et al., 2024)	Challenges faced by beneficiaries and non-beneficiaries	A total of 1151 participated. Almost 40% of the applicants faced some challenges while securing the PMJAY card and 9% while using the card.
(<i>Exploring Implementation Challenges of PMJAY</i>) (Sangeetha et al., 2024)	Obstacles and barriers in implementing Ayushman Bharat Arogya Karnataka (part of PMJAY) from a health care provider perspective.	Qualitative approach involved 8 In-depth Interviews. Barriers across individual, community and health system like operational challenges, competency in work and lack of incentives to ASHAs, lack of awareness among beneficiaries, people who didn't have BPL card but belonged to poor families, lack of infrastructure and inadequate resources (staffing & training), resources not evenly spread out, OOPE as a result of diagnostics and high end drugs being charged by hospitals, challenges with claims portability & referrals, lack of a robust technology system, fraudulent claims and abuse of the system due to lack of stringent monitoring system were identified. Barriers like low rates of Health Benefit Packages/missed out essential treatment packages, out-patient treatment & diagnosis not covered under scheme and private health sector not well-regulated were identified at policy levels.
(Mohsin & Muzaffar, 2023)	An exploration of human experiences and perceptions of golden card holders in Kashmir.	A phenomenological approach elucidated two salient thematic constructs: "Fraud and Abuse" and "Issues on Claims Processing and Timeliness."

Challenges in implementation of PMJAY

The studies elaborate multiple challenges faced by beneficiaries, healthcare providers, and the system in the implementation of PMJAY. Beneficiaries experienced PMJAY enrollment issues (due to lack of awareness and exclusion of poor families without BPL cards), significant out-of-pocket expenses (due to diagnostics and high-cost drugs) and operational challenges like approval delays, technical issues etc., HCW's and health system barriers were inadequate competencies and incentives for ASHAs, resource shortages (staffing and training), Other issues included claim portability, referral difficulties, technological weaknesses, fraudulent claims, restricted coverage of essential treatments, exclusion of outpatient services.

Private sector participation or engagement remains limited due to insufficient state budgets, low reimbursement rates, rigid scheme packages, strict empanelment criteria, complex and delayed claims processes, economic non-viability, patient load concerns, limited administrative capacity and gaps in monitoring.

DISCUSSION

The art of review: This narrative review describes the level of knowledge, awareness, coverage, utilization and its impact on OOPE, CHE and Financial Risk. It also elaborates the challenges experienced by beneficiaries, HCW's and health system in the implementation of PMJAY scheme among different population and geographical areas. Awareness among urban beneficiaries is not the optimal level as reported by (Dixit et al., 2025). Contrasingly, (Prasad et al., 2023) and (Sankar, Rajendran, Mary, et al., 2025) revealed that rural awareness was higher and over 70% of beneficiaries aware of the scheme. The sources of information regarding the scheme are vital in spreading awareness. (Trivedi et al., 2022) identified government-issued letters as a primary source for beneficiary awareness in Gujarat, while social contacts through friends and relatives were the source in Madhya Pradesh. It reflects that multiple communication strategies are necessary to reach the populations effectively. Healthcare workers (HCWs), particularly doctors had higher knowledge score than beneficiaries, as evidenced by (Sankar,

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Rajendran, Mary, et al., 2025) and (Nirala et al., 2022). HCW's at the primary healthcare level where knowledge was higher than community health centers and tertiary care hospitals. Hence, frontline HCW's serve as the first point of contact and can influence beneficiary awareness and enrollment. The data from (Sabherwal et al., 2024) revealed a small fraction were knowledgeable about all key aspects of the scheme such as eligibility, covered services and empanelled hospitals. This finding emphasized awareness does not relate to comprehensive knowledge necessary for effective utilization. The low level of awareness among urban beneficiaries (Dixit et al., 2025) and the moderate awareness reported by (Gore et al., 2025) among cancer treatment patients suggest that outreach and disease specific awareness might be required. Socio economic and informational barriers explain that why eligible population still unaware or partially aware of PMJAY.

Low utilization rates reported by (Dixit et al., 2025), (Prasad et al., 2023) and (Sankar, Rajendran, & Mary, 2025) across urban and rural populations highlighted that awareness alone does not ensure the coverage and utilisation of the scheme. Barriers such as enrollment issues (eligible without BPL card), delay in issuing card (verification process), procedural complexity, HCW's attitude and limited healthcare infrastructure were the reason for beneficiaries to utilise scheme's benefits. (Garg et al., 2024) emphasized that enrollment under PM-JAY does not ensure into increased inpatient care utilization. Health system issues include inadequate HCW's knowledge; administrative inefficiency and lack of beneficiary empowerment to navigate the healthcare system were the reason for low utilisation. As evidenced by (Duggal et al., 2024), who reported improved access to critical COVID-19 care through empanelled hospitals. This depicts the scheme's

importance in facilitating timely healthcare access during crises. (Marazi & Pandit, 2024) reported PMJAY's impact on different medical and surgical procedures. Ophthalmology surgeries were increased compared to other procedures. The gaps in other medical and surgical procedures to be addressed through targeted policy measures and provider engagement.

The evidence reviewed presents a nuanced picture of PMJAY's impact on healthcare utilization and financial protection. Several studies (Kamath et al., 2024, 2025; Kumar et al., 2025; Parmar et al., 2023) indicate that PM-JAY effectively reduces OOPE and CHE among beneficiaries accessing private empanelled hospitals and specialized care such as cardiac surgeries and obstetrics-gynecology. Hence, the scheme supports to offer financial risk protection to vulnerable populations. (Garg et al., 2022) presented that scheme does not reduce in OOPE or CHE. System challenges exist in implementation, claim processing and accessing care. (Saxena et al., 2022) stated that delay in claim reimbursement was the operational challenges for still occurring OOPE. Regional disparities like beneficiaries in Gujarat satisfied with the scheme and reported lower OOPE compared to Madhya Pradesh. It can be due to health system capacities, governance and HCW's performance. Scheme facilitates timely access to critical care especially cancer care (Halder et al.).

Studies presented administrative and operational challenges that hinder the effective implementation and utilization of the PMJAY. These challenges were from both beneficiary and provider perspectives. (Sabherwal et al., 2024) reported that inefficiencies in beneficiary identification and card issuing process. (Mohsin & Muzaffar, 2023) captured beneficiary abuse and claim-processing delays. This qualitative insight reflects not only operational inefficiencies but

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the emotional and psychological impact on beneficiaries. (Gore et al., 2025) found that beneficiaries were dissatisfied due to incomplete coverage and OOPE. This finding explains that the current insurance packages are insufficient for complex conditions like cancer, with delays in approvals and technical issues further disturbing treatment access.

Knowledge Gaps and direction for future studies:

Based on this literature review, we identified few knowledge gaps. First of all, we need an intervention studies targeted beneficiary's awareness through health education or campaigns, HCW's training etc., which address the disparities and support beneficiary education and scheme utilization. Second, this review evidenced health system challenges. It is required to study health system readiness and quality assessment. Third, we need critical studies to gain the insights of policy stakeholder's perspective. These studies will helpful to understand the structural barriers such as card issuance, framing eligibility criteria, pre authorization and delay in claim reimbursement and private sector engagement. Fourth, future research can focus on why beneficiaries do not utilize the scheme despite being aware or holding cards. A qualitative or mixed method studies to be carried to explore the behavioral, social and health system. Furthermore, there is a need to evaluate the long term impact of PMJAY on health outcomes, CHE, financial risk protection and current insurance packages for chronic condition

CONCLUSION

Multiple strategies will helpful to enhance utilization rates, including strengthening beneficiary education beyond mere awareness, simplifying claim processes, improving HCW's participation and service delivery. Without addressing the challenges, it will not able to realize the full potential of

PMJAY in reducing out-of-pocket expenditures and providing financial risk protection to the economically vulnerable populations.

Though PMJAY has demonstrated effectiveness in reducing financial burdens, addressing operational inefficiencies, streamlining claim processes, strengthening health infrastructure and targeting the underserved regions and people will be essential. Additionally, improving technology infrastructure and ensuring timely reimbursements can significantly improve both provider participation and beneficiary satisfaction.

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