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Expansion and Financial Sustainability of Jan Aushadhi Kendras in India: A Sectoral Growth Analysis

Ms. Aditi Swami[1], Dr. Sushama Yadav[2]

[1]Research Scholar, Department of Commerce, Dr. Harisingh Gour Vishwavidyalaya, Sagar (M.P.)
[2]Assistant Professor, Department of Commerce, Dr. Harisingh Gour Vishwavidyalaya, Sagar (M.P.)

ABSTRACT

The present study examines the expansion and financial performance of the Pradhan Mantri Bharatiya Janaushadhi Pariyojana (PMBJP) Kendras in India over the period 2014–15 to 2021–22 using secondary data and trend analysis techniques. The analysis focuses on key performance indicators such as cumulative growth, annual growth rate, operational efficiency, and compound annual growth rate (CAGR) to assess the development trajectory of the scheme. The findings reveal a remarkable structural expansion of PMBJP Kendras across the country, with the number of outlets growing at a CAGR of approximately 87%, while sales recorded a CAGR of around 83% during the study period. This significant growth indicates not only increased accessibility of affordable generic medicines but also improved public awareness and acceptance of the scheme. Furthermore, the results suggest that PMBJP has evolved from a policy-driven welfare initiative into a financially sustainable and scalable public pharmaceutical distribution model. The scheme demonstrates strong potential in enhancing healthcare affordability, reducing out-of-pocket expenditure, and strengthening the public health delivery system. The study contributes to the existing literature on public healthcare distribution systems, generic medicine adoption, and sectoral development in emerging economies. It also provides policy implications for strengthening similar initiatives aimed at improving access to affordable medicines and promoting sustainable healthcare infrastructure.

Keywords: PMBJP, generic medicines, sectoral development, financial performance, public distribution.

INTRODUCTION

Ensuring access to affordable medicines is fundamental to achieving equitable healthcare outcomes, particularly in developing countries where high out-of-pocket expenditure poses financial risks to households. In India, pharmaceutical spending constitutes a substantial portion of total health expenditure, often leading to catastrophic health expenditure among vulnerable populations (Selvaraj et al., 2018). The high cost of branded medicines and market inefficiencies in pharmaceutical pricing have prompted policymakers to promote generic substitution as a strategy for cost containment and enhanced accessibility. Generic medicines, which are therapeutically equivalent to branded drugs, have been widely endorsed as a means to improve affordability and expand access to essential medicines (World Health Organization [WHO], 2017). International evidence suggests that structured generic medicine policies can significantly reduce public and private healthcare expenditure while maintaining treatment standards (King & Kanavos, 2002). In this context, the Government of India launched the Pradhan Mantri Bharatiya

Janaushadhi Pariyojana (PMBJP) with the objective of establishing a nationwide network of retail outlets dedicated to selling quality generic medicines at affordable prices.

Public-sector pharmaceutical retail initiatives such as PMBJP represent state-led market interventions aimed at correcting information asymmetry, reducing price distortions, and improving accessibility in healthcare markets. Sectoral development theory suggests that such initiatives often undergo rapid initial expansion followed by consolidation and efficiency-driven growth as institutional maturity is achieved (Amsden, 2001). However, while previous studies have examined consumer perceptions and affordability benefits of generic medicines, limited empirical research has analyzed the macro-level expansion and financial sustainability of government-led pharmaceutical distribution networks in India. Against this background, the present study investigates the expansion and financial performance of PMBJP Kendras over the period 2014–15 to 2021–22. By analyzing cumulative growth trends, annual growth rates, sales performance, operational efficiency, and compound annual growth rates, the study evaluates whether the scheme reflects temporary policy-driven expansion or sustained sectoral development. The findings provide empirical evidence on the evolution of India's public pharmaceutical retail infrastructure and contribute to broader discussions on healthcare affordability and public policy interventions in emerging economies.

LITERATURE REVIEW

Access to affordable medicines has long been recognized as a central component of equitable healthcare systems, particularly in developing economies where pharmaceutical expenditure constitutes a significant share of household health spending. Research indicates that high medicine prices can lead to reduced treatment adherence and increased financial hardship among low-income populations (Cameron et al., 2009). The World Bank (2019) further emphasizes that pharmaceutical affordability plays a crucial role in reducing catastrophic health expenditure in emerging markets.

Generic medicines have been widely promoted as a cost-containment strategy without compromising quality or therapeutic equivalence. Empirical evidence suggests that the introduction and promotion of generics contribute to substantial reductions in pharmaceutical expenditure at both household and national levels (Haas et al., 2005). Studies in various healthcare systems demonstrate that generic substitution policies enhance price competition and improve medicine accessibility (Vogler et al., 2017). However, despite the economic benefits, acceptance and utilization of generic medicines often depend on institutional trust, regulatory assurance, and effective public awareness initiatives.

From a policy perspective, state-led pharmaceutical distribution interventions aim to address market inefficiencies, information asymmetry, and price distortions in healthcare markets. Public retail networks, particularly in developing countries, serve as mechanisms to expand access and regulate medicine affordability (Bigdeli et al., 2013). Government-supported pharmacy chains have been shown to influence pricing dynamics and enhance access to essential medicines in underserved regions (Yadav, 2015).

In the Indian context, research on pharmaceutical pricing and access highlights persistent challenges related to affordability and uneven distribution of medicines (Mukherjee, 2017). While several studies have examined consumer perceptions, awareness, and acceptance of generic medicines, relatively limited research has focused on macro-level institutional performance and financial sustainability of government-backed pharmaceutical retail initiatives. Sectoral development frameworks suggest that large-scale public initiatives typically experience rapid early-stage growth followed by stabilization and efficiency-driven

consolidation (Chang, 2002). However, empirical examination of such patterns within India's public pharmaceutical retail sector remains limited.

Existing literature therefore identifies a research gap in evaluating the long-term expansion trajectory and financial sustainability of government-led generic medicine distribution systems. The present study addresses this gap by conducting a longitudinal trend analysis of PMBJP Kendras, examining infrastructural growth, financial performance, operational efficiency, and structural development over time. By focusing on macro-level institutional indicators, the study contributes to the broader discourse on healthcare accessibility, public-sector market interventions, and sectoral development in emerging economies.

RESEARCH METHODOLOGY

The present study adopts a descriptive and exploratory research design to analyse the expansion and financial sustainability of the Pradhan Mantri Bharatiya Janaushadhi Pariyojana (PMBJP) Kendras in India over the period 2014–15 to 2021–22. The study is based entirely on secondary data collected from official PMBJP reports, government publications, and related institutional sources. This approach is appropriate as the study aims to examine long-term sectoral trends and macro-level performance of a public healthcare distribution system. The analysis focuses on key indicators such as the cumulative number of Kendras, annual sales at Maximum Retail Price (MRP), annual growth rates, sales per Kendra, and compound annual growth rate (CAGR). These variables are selected to capture both infrastructural expansion and financial performance of the scheme. The number of Kendras reflects the extent of network expansion, while sales data indicate financial growth. Sales per Kendra is used as a measure of operational efficiency, representing the average performance of each outlet. To analyse the data, trend analysis and graphical representation techniques are employed. Cumulative growth trends are examined to identify patterns of expansion over time, including phases of rapid growth and stabilization. Annual growth rates are calculated to assess year-to-year changes and fluctuations in both expansion and sales performance. In addition, CAGR is computed to evaluate long-term growth consistency and to determine whether the observed development reflects sustained sectoral growth.The analysis is conducted at the national level, focusing on aggregate trends rather than regional variations. No inferential statistical methods are applied, as the primary objective of the study is to provide an exploratory assessment of growth patterns and financial sustainability. This methodological approach ensures alignment with the graphical and trend-based analysis presented in the results section.

RESULTS AND ANALYSIS

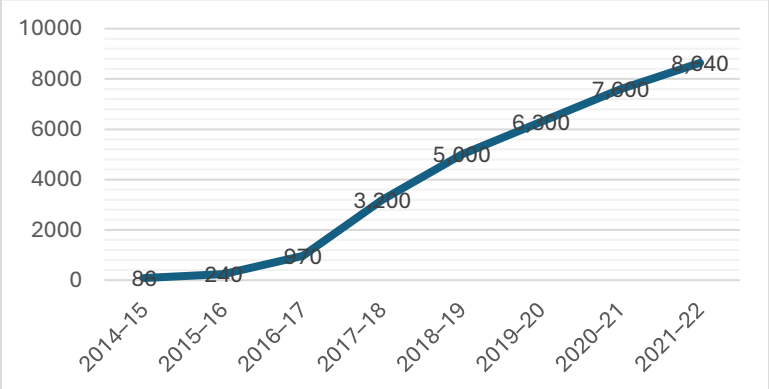

Figure 1: Numbers of Kendras in India

The cumulative growth curve of PMBJP Kendras reveals an exponential expansion pattern over the study period. The number of functional Kendras increased from 86 in 2014–15 to 8,640 in 2021–22, indicating a transformational shift in India's public pharmaceutical retail infrastructure. The slope of the curve is particularly steep between 2016–17 and 2018–19, reflecting an aggressive rollout phase. This suggests that the scheme moved rapidly from pilot-stage implementation to nationwide scaling within a short period. The expansion pattern appears non-linear, demonstrating a high-growth trajectory during the early years followed by gradual stabilization in later years. The declining steepness of the curve after 2019–20 suggests that the scheme entered a consolidation phase, where focus may have shifted from rapid numerical addition to strengthening operational depth. Overall, the visual pattern confirms sustained institutional growth with no signs of structural contraction.

The annual growth rate graph provides deeper insight into the expansion dynamics. The exceptionally high growth rates of 300% in 2016–17 and 232% in 2017–18 indicate a period of aggressive policy implementation and strong governmental backing. Such extraordinary growth percentages are characteristic of early-stage diffusion of public schemes. However, from 2018–19 onward, the growth rate shows a steady decline to 58%, 25%, 20%, and 14% in subsequent years. This downward trend in percentage terms reflects a statistical base effect rather than stagnation. As the cumulative base expands significantly, maintaining high percentage growth becomes mathematically difficult. Therefore, the moderation in growth rate suggests structural maturity and nationwide penetration rather than decline. The exploratory pattern indicates that PMBJP transitioned from a rapid scaling model to a stabilization and optimization model.

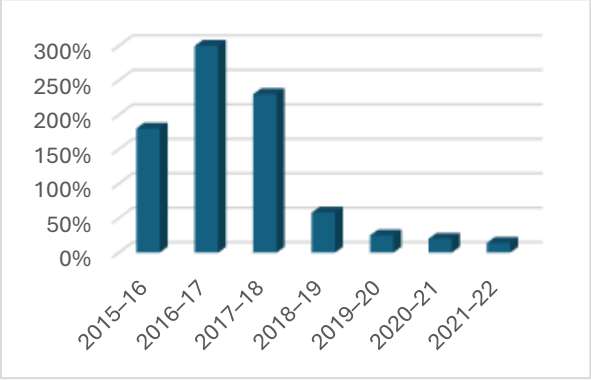

Figure 2: Annual Growth Rate of PMBJP Kendras

The sales trend graph demonstrates a strong upward trajectory in financial performance over time. Sales increased from ₹7.29 crore in 2014–15 to ₹652.67 crore in 2021–22, indicating substantial revenue generation alongside network expansion. The sharp rise in sales during 2016–17 to 2018–19 corresponds directly with the aggressive expansion of Kendras, suggesting that physical infrastructure growth translated into increased consumer demand. The slight flattening of the curve in 2020–21 reflects the impact of the COVID-19 pandemic, which likely disrupted supply chains and retail operations. However, the sharp rebound in 2021–22 indicates resilience and growing reliance on affordable generic medicines. The overall pattern suggests that financial growth has been both expansion-driven and demand-driven, reflecting increasing market acceptance of the scheme.

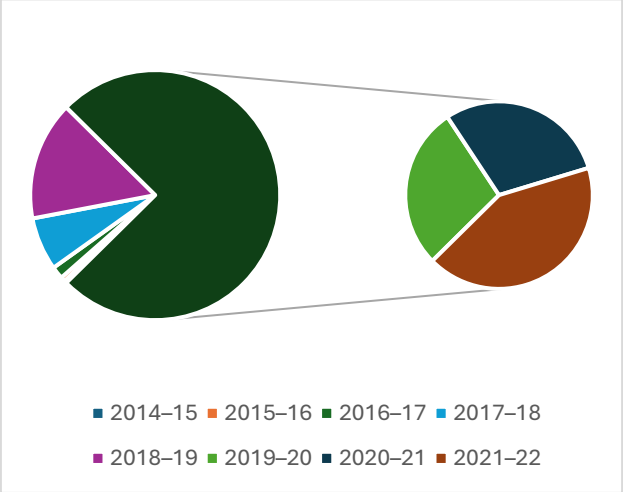

Figure 3: Trend in Sales Performance of Jan Aushadi Kendras

The annual sales growth graph reveals significant fluctuations, offering important exploratory insights. The peak growth rate of 331% in 2017–18 indicates a surge in demand during the rapid expansion phase. Subsequent moderation to 124% in 2018–19 and 37% in 2019–20 suggests stabilization in market absorption capacity. The sharp decline to 5% in 2020–21 highlights vulnerability to external shocks such as the pandemic. However, the strong recovery to 43% in 2021–22 demonstrates adaptive capacity and renewed demand momentum. The fluctuating but overall upward movement indicates that while short-term disturbances affect performance, the long-term growth trend remains positive. This cyclical resilience reinforces the structural robustness of the scheme.

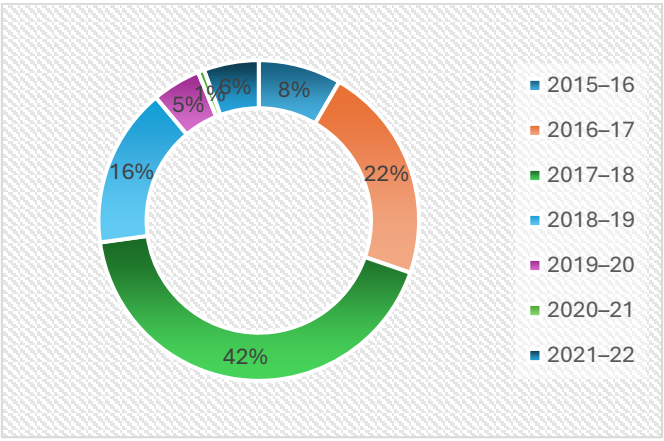

Figure 4: Annual Growth Rate of Sales

The trend in sales per Kendra provides insight into operational productivity. The increase from ₹3.40 lakh per Kendra in 2016–17 to ₹7.55 lakh in 2021–22 indicates a steady improvement in outlet-level efficiency. This suggests that financial growth is not solely attributable to numerical expansion but also to improved performance per unit. The slight dip observed in 2020–21 reflects temporary operational disruptions, but the subsequent recovery confirms structural adaptability. The upward trend implies enhanced consumer awareness, better product basket availability, improved supply chain systems, and stronger institutional management. From an exploratory perspective, the improvement in per-unit sales indicates that PMBJP has progressed beyond expansion to performance optimization.

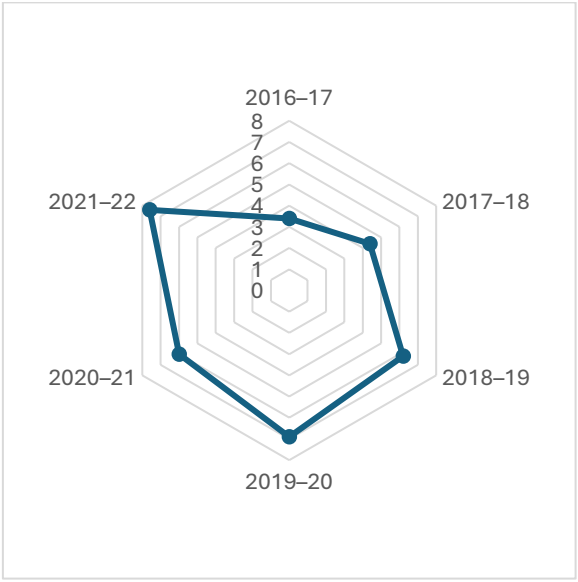

Figure 5: Average Sales per Kendras

Long-Term Growth Assessment

To assess sustained structural growth over the entire study period, the Compound Annual Growth Rate (CAGR) was calculated for both the number of Kendras and total sales. The CAGR for Kendras was approximately 87%, while sales recorded a CAGR of approximately 83% between 2014–15 and 2021–22. These high compound growth rates indicate sustained long-term expansion and financial strengthening beyond short-term fluctuations. The findings confirm that the scheme's development was structurally consistent and not confined to isolated high-growth years. The simultaneous high CAGR values for expansion and sales demonstrate balanced sectoral development, reinforcing the scheme's evolution into a scalable and financially viable public pharmaceutical distribution model.

CONCLUSION

This study analyzed the expansion and financial performance of PMBJP Kendras in India over the period 2014–15 to 2021–22 using an exploratory trend framework. The findings demonstrate sustained infrastructural growth and significant financial strengthening during the study period. The number of Kendras increased substantially, accompanied by consistent growth in sales revenue and improvement in operational efficiency. The high compound annual growth rates for both expansion and sales confirm long-term structural development rather than temporary policy-driven expansion.

The evidence suggests that PMBJP has evolved into a scalable and economically viable public pharmaceutical distribution system. The synchronized growth in infrastructure and financial performance indicates balanced sectoral development. The study provides empirical support for the argument that structured public-sector interventions can contribute to sustainable expansion in healthcare distribution markets. Future research may incorporate regional-level analysis and cost-effectiveness assessment to further evaluate the long-term impact of the scheme.

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