Digital Adoption in AB-PMJAY (Ayushman Bharat Pradhan Mantri Jan Arogya Yojna) Access

Anjali Gautam[1], Dr. Anisha Satsangi[2]
[1,2]*Dayalbagh Educational Institute*

Abstract—**Digital technologies have become integral to health insurance delivery, especially in developing economies where financial literacy and access to healthcare remain uneven. AB-PMJAY, India's flagship health insurance program, is built on digital platforms that facilitate beneficiary enrollment, e-card generation, hospital admissions, and online claim settlement. This paper investigates the patterns of digital adoption under AB-PMJAY using secondary data at the national and state levels. Drawing on data from the PMJAY public dashboard, National Health Authority (NHA) reports, and other government sources, the study analyzes year-wise trends in e-card generation, hospital admission s, and digital claim processing since the scheme's inception in 2018.Trend analyses are used to examine the relationship between digital adoption and healthcare According the study and their findings shows the growth in e-card generation and digital hospital admissions, shows the improvement in awareness and utilization of health insurance services. Some noticeable differences shows in health services are accessed across various states in India related with private hospitals that are handling a wider portion of transactions. This raises vital concerns about the transparency and the need to strengthening public healthcare systems. The results show that constant challenges occur in digital literacy, and the need for better education and stronger framework. This insights offer more valuable ideas to the policymakers who seeks to improve digital health literacy, promote equitable access, and ensures the long-term justifiable of public health insurance programs in India.**

Index Terms— **AB-PMJAY, digital adoption, e-cards, hospital admissions ,healthcare access, India**

I. INTRODUCTION

In healthcare sector, India focuses the dual challenges of providing affordable healthcare facilities to a large and socio economically diverse population while concurrently strengthening the financial protection against catastrophic health expenditures. For the resolution of that challenges, the Government of India introduced a more comprehensive health program. In Feb 2018, the Ayushman Bharat Yojana was announced during the union budget and officially approved in March 2018. Pm Narendra Modi announced on 15 Aug 2018 that a National health scheme would be launched soon. Finally on 23 Sep 2018, AB-PMJAY was launched in Ranchi Jharkhand. It is the world's largest health assurance program, providing health coverage of up to Rs.5 Lakh per family annually for secondary or territory care hospitalisation. It's AIM to cover approximately 55 crore individuals, who represents the bottom 40% of India's population. From its, inception it has been designed as a digital first help scheme. E-KYC, hospitals empanelment, Ayushman card generation, beneficiary identification, claims management, antifraud analytics, package based authorizations, and through digital platforms, public dashboards are integrated. . Yet, the success of this digital platforms depends not only on technology adoption but also on financial literacy and inclusion.

II. FINANCIAL LITERACY AND AB-PMJAY

AB-PMJAY effectiveness not only depends on technological arrangement but also on beneficiaries financial literacy. Financial literacy embrace awareness , knowledge and skills to prepare informed decisions about financial products. In the context of health financing , it estate the ability to understand the concept of insurance such as, entitlements , eligibility, co- payments , cashless services and risk pulling. Due to low level of financial literacy, the underutilization, misinterpretation of entitlements at hospitals , improving financial literacy is important to ensure that

household benefits fully from AB-PMJAY digital and financial protection.

III. FINANCIAL INCLUSION AND AB-PMJAY

The linkage of AB-PMJAY to India's financial inclusion ecosystem is equally critical. This program is fused with digital public infrastructure like Aadhar, mobile connectivity, Jan dhan Bank accounts , enrollment of beneficiary must requires access to common service centers (CSCs) , E-KYC , verification mobile based authentication, fraud monitoring , claims reimbursements depend on thrivy financial inclusion frameworks.

Figure 1: The Ayushman Bharat Digital Mission (ABDM) Ecosystem

IV. OPERATIONAL MECHANISM

The major components of PMJAY IT system which involve information for the stakeholders, beneficiaries ,hospitals and insurers through IT platforms. The three major components are-

1. Beneficiary Identification System (BIS) : it is used to search the list of eligible beneficiaries to identify and register targeted individuals.
2. Transaction Management System (TMS) : It is used to capture the patient data for admission, treatment, claim and financial settlement and discharge at the hospital level.
3. Grievance Management System (GMS) : It is used for beneficiaries to register grievances and for NHA/SHA respond to the grievances.

Figure 2: Vision of AB-PMJAY

V. KEY BENEFITS OF DIGITALIZATION OF AB-PMJAY

1. Efficient Beneficiary Identification : Digital platforms makes the work faster and easier through Aadhar and SECC (Socio-Economic and Caste Census) data to verify eligibility.
2. Transparent process : It's reduces the duplicacy, fraudulent activities and ghost beneficiaries by the real time authentication.
3. Paperless operations : It reduces the burden to record everything on paper. It enables payment processing, electronic pre-authorization and administrative burden.
4. Faster claims settlement : it provides digital claim processing timely reimbursements to the hospitals and improving the provider participation.

VI. AB-PMJAY DIGITAL MISSION COMPONENTS

1. Healthcare Professionals Registry (HPR) : It is the record of all the Healthcare professionals which are involved in both traditional and modern system of medicine for the delivery of health care services. By enrolling in HPR ,they will get connected to India's digital health ecosystem.

2. ABHA Mobile App (PHR) : A Personal Health Record (PHR) is an electronic record of individuals health related information that compiles with nationally accepted interoperability standards, it may be obtained from various sources and is managed , shared and controlled by individuals. The most silent feature of the PHR which that's it apart from the EMR (Electronic Medical Record) and EHR (Electronic Health Record) is that the information it contains is in the hands of individuals.

3. Health Facility Registry (HFR) : it is a detailed database of health facilities of the nation some different Medical System. It includes both the private and public Health care facilities suggest hospitals, clinics, imaging centers, diagnostic laboratories etc.By enrolling in HFR ,they will get connected to India's digital health ecosystem.

4. Unified Health Interface (UHI) : Unified health interface (UHI) is a system that will enable various Health care systems and software to connect the patients and the healthcare service providers directly including appointment booking and service discovery etc.

5. ABHA Number : The ABHA number is a 14 digit unique Identification number assigned to every individuals to store their personal Health records and allowing easy access to healthcare services across the India.

VII. OBJECTIVE OF THE STUDY

To analyze the growth of digital adoption under AB-PMJAY through e-card generation and hospital admission in India.

VIII. REVIEW OF LITERATURE

Arjun et al. (2024) The study found the awareness and utilize the ABDM were very low among urban patients because the lack of awareness of health ID's, though many were familiar with other digital initiatives like eSanjeevani, Arogya Setu, and DigiLocker due to the COVID-19 pandemic.while ABDM holds strong potential, its success depends on intensive awareness campaigns, patient education, and robust safeguards to build trust and encourage widespread adoption.

Narayan et al. (2024) Analysed that awareness of the Ayushman Bharat Digital Mission (ABDM) and ABHA is fairly high, but knowledge of advanced digital technology like AI chatbots, blockchain, and mobile apps is limited. The value features of Beneficiaries like cashless transactions, faster claim processing, and accessible health records, delayed claim settlements, and low digital literacy persist. The study concludes that ABDM can transform India's healthcare system, but its success depends on greater awareness, digital empowerment, and stronger infrastructure.

Jyani et al. (2025) The author analysed that despite concerns about low reimbursement rates, private hospitals can operate profitably under AB-PMJAY, and with supportive policies, the scheme offers a

sustainable model that enhances both healthcare accessibility and affordability.

Kraus et al.(2021) The study discussed the digital transformation in healthcare ,there is no holistic model that contains organizational, technological, and human variables. Additionally, it ignores patient-centered research in favor of organizational and technological considerations.

Reddy et al. (2018) The study concludes that AI has the potential to transform healthcare deliver. They argue that while AI assure the significant cost savings and efficiency gains, its successful adoption will require balanced planning, stakeholder collaboration, and responsible governance to maximize benefits and minimize risks.

Pandey et al. (2021) the study on Ayushman Bharat highlights that while the scheme represents a landmark step toward universal healthcare in India, its adoption has been hindered by challenges such as low awareness, rigid treatment packages, inadequate manpower, weak IT infrastructure, and lack of integration with state schemes. Using service adoption theory and the UTAUT model, the study emphasizes the importance of performance expectancy, ease of access, social influence, and robust facilitating conditions in driving higher participation. Overcoming these barriers through better communication, flexible processes, stronger infrastructure, and improved coordination with existing state programs will be essential for realizing the full potential of Ayushman Bharat in providing equitable, accessible, and quality healthcare to India's vulnerable population.

Sundararaman et al. (2022) the assessment of the Ayushman Bharat Digital Mission (ABDM) underscores its transformative potential in strengthening India's healthcare ecosystem by creating a unified digital health infrastructure. By integrating health records, ensuring interoperability, and promoting digital inclusivity, the mission seeks to enhance accessibility, efficiency, and transparency in healthcare delivery. However, the study also highlights key challenges such as digital literacy gaps, infrastructural limitations, privacy concerns, and the need for robust stakeholder engagement. Addressing these barriers through capacity building, strong governance, and secure data management will be critical for ABDM to achieve its vision of a patient-centric, equitable, and future-ready healthcare system

IX. RESEARCH DESIGN AND METHODOLOGY

Sample Area

For the proposed study, the sample area will focus on the Indian states, and the number of e-cards generated and hospital admissions made so far have been shown. The significant number of e-card generated and hospital admissions in different states of India makes this area a relevant focus for the study, as it offers a robust sample to evaluate the effectiveness of the AB PM-JAY scheme.

Duration of the Study

The study will focus on the Indian states, analyzing data from September 2018 to 2025.

Variables under Study

In this study, the independent variable is e-card generation and the dependent variable is hospital admissions.

Data collection

Secondary data has been collected regarding Digital adoption under Ayushman Bharat access from previous studies, journals, research papers, magazines, newspapers, and newspapers, and official websites like the National Health Authority and Ayushman Bharat Digital Mission.

Data Analysis Tools

To analyse the data, Trend analysis and Pearson correlation analysis were used. Trend analysis was used to examine the progress of e-card generation and hospital admissions year-wise under the AB PM-JAY for the period 2018-2024. The Pearson correlation analysis tool was used to measure the direction and strength of the linear relationship between e-card generation and hospital admissions.

X. TREND ANALYSIS

Statewise E-Card Generation

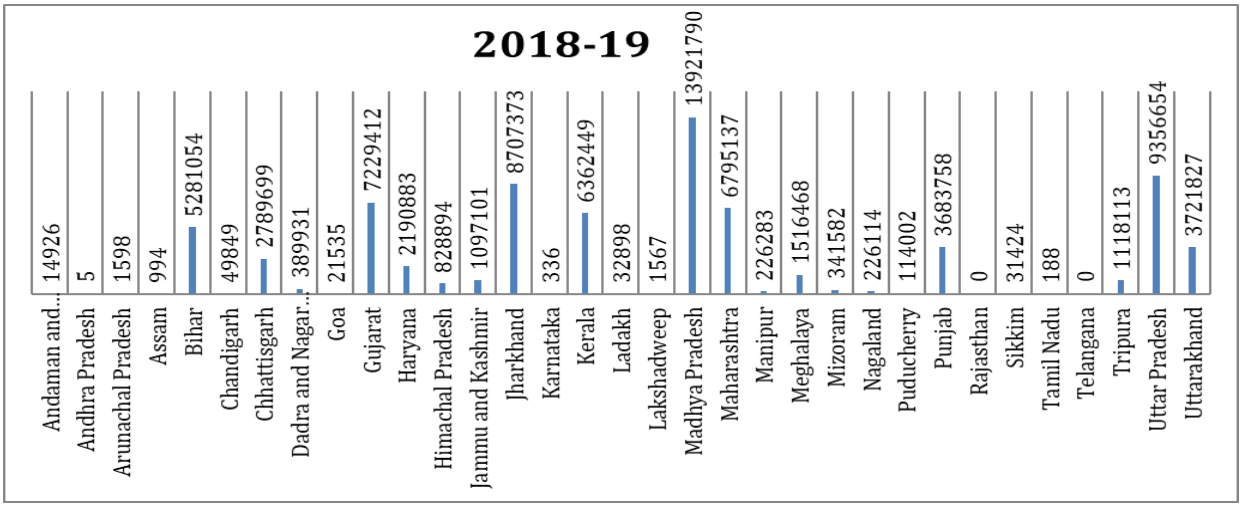

Figure 3: State-wise E-Card Generation for the year 2018-19

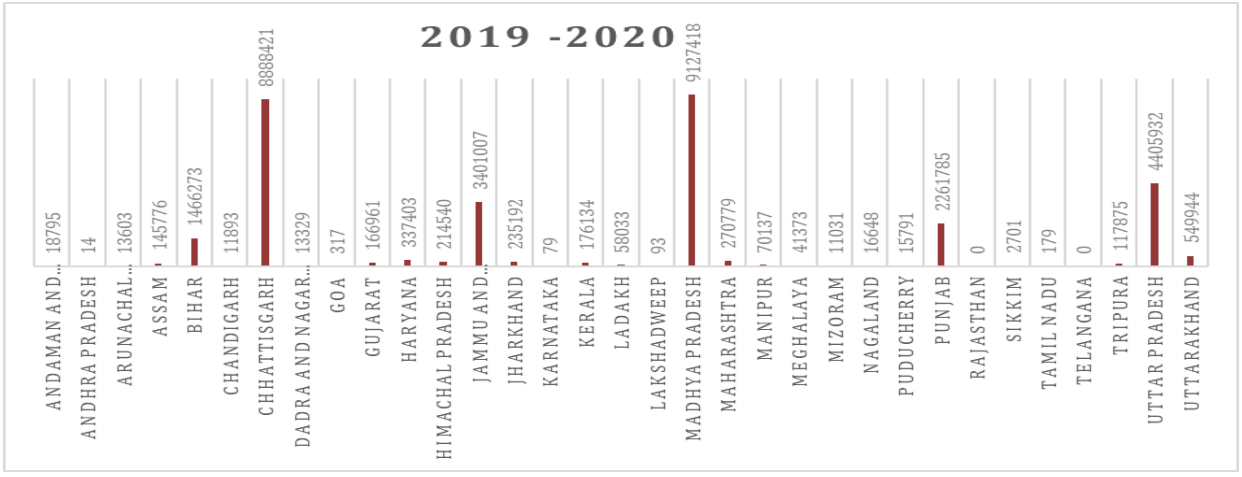

Figure 4: State-wise E-Card Generation for the year 2019-20

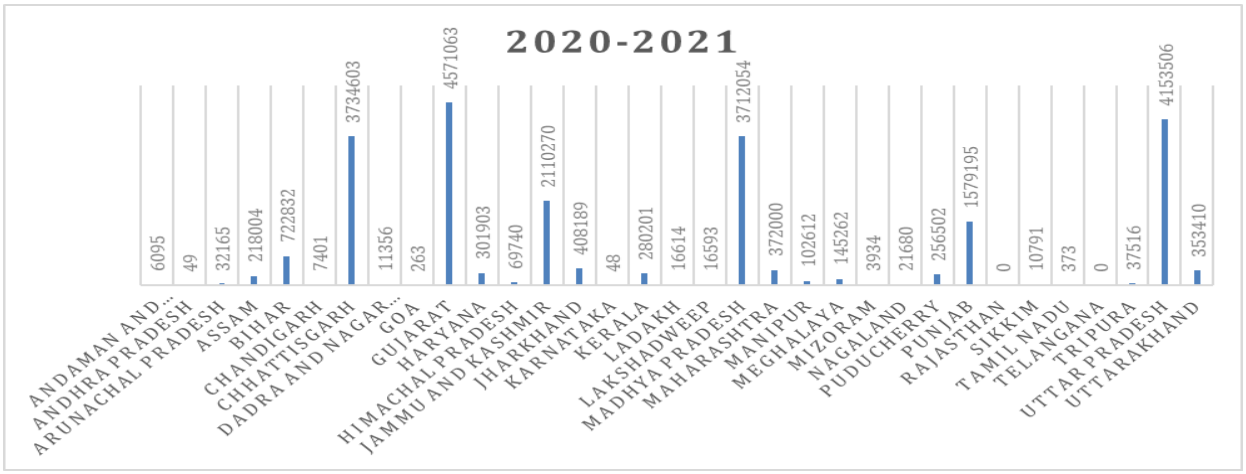

Figure 5: State-wise E-Card Generation for the year 2020-21

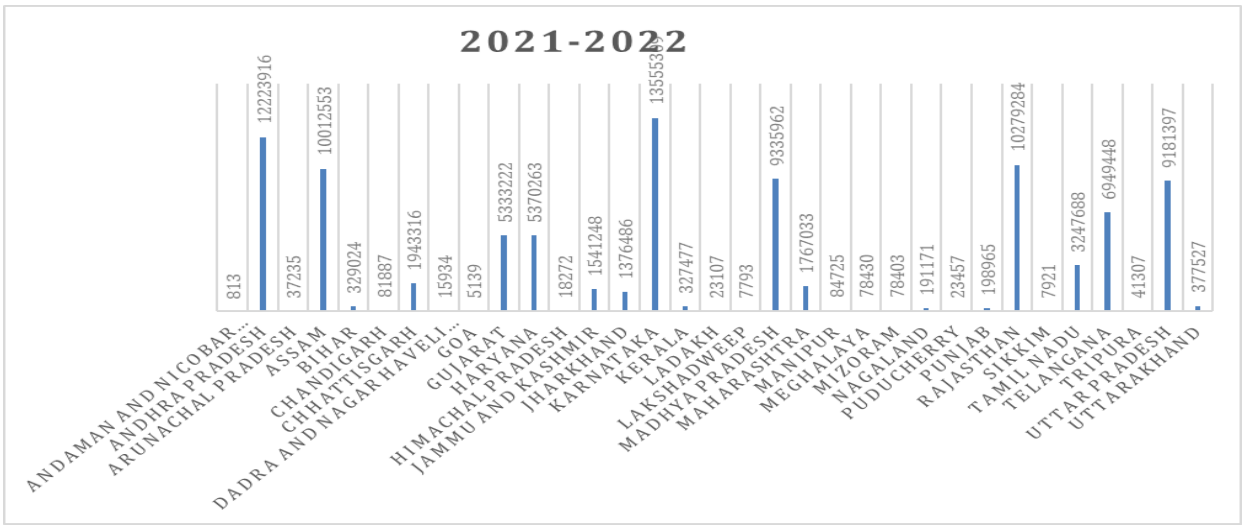

Figure 6: State-wise E-Card Generation for the year 2020-21

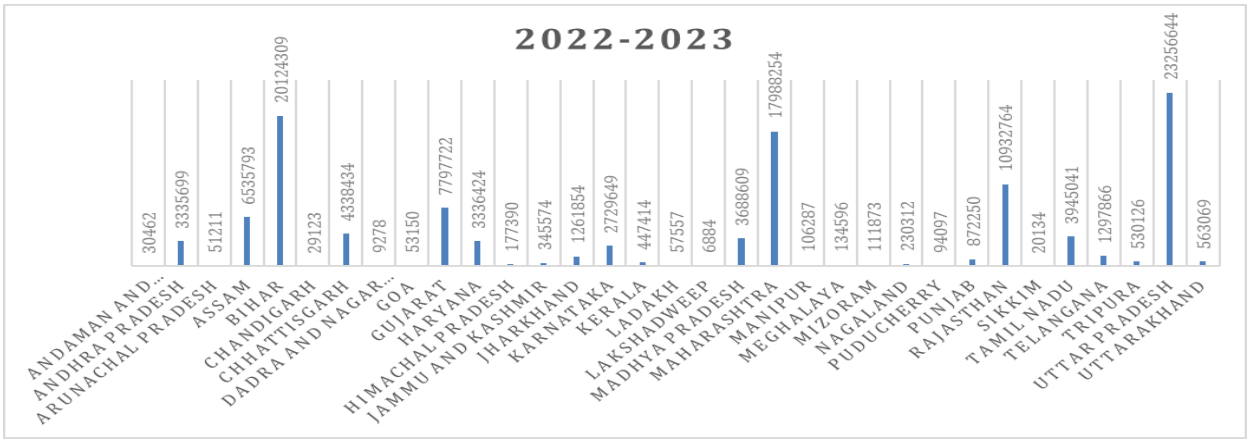

Figure 7: State-wise E-Card Generation for the year 2022-23

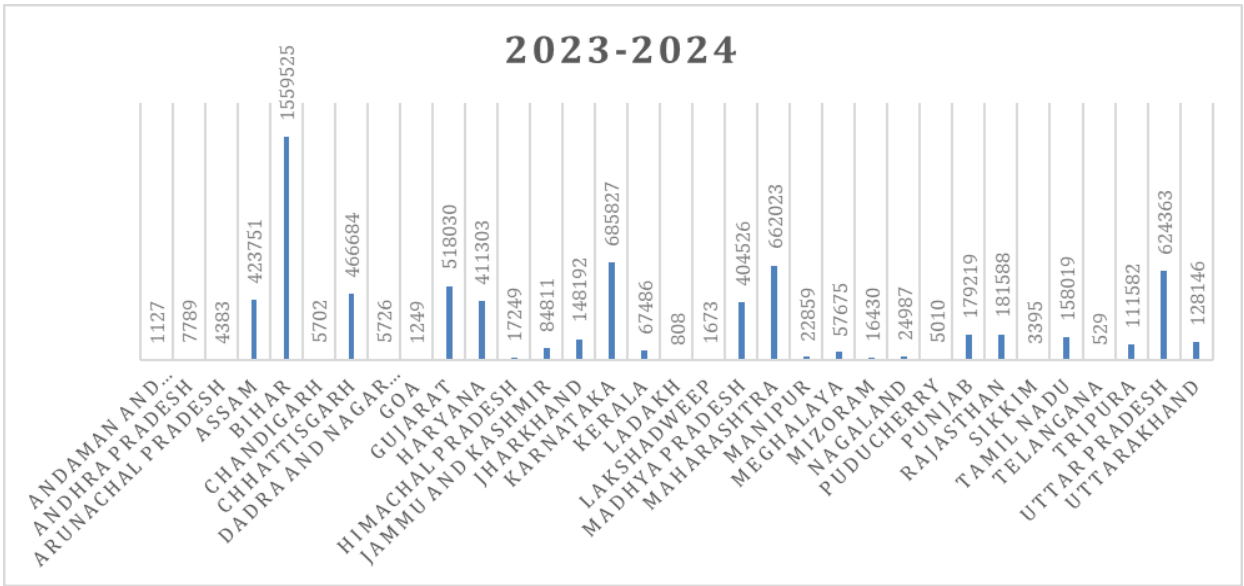

Figure 8: State-wise E-Card Generation for the year 2023-24

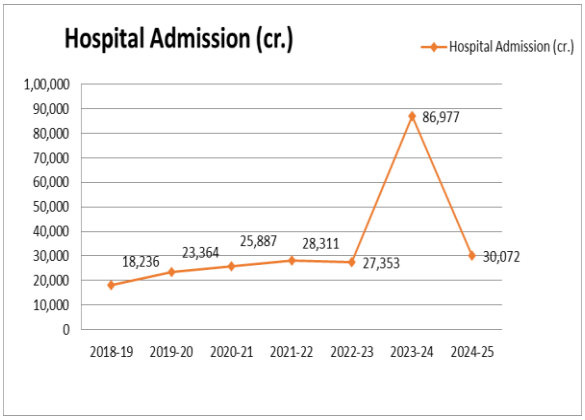

Figure 9: Trends in Hospital Admissions (2018–2025)

Table 1: Pearson Correlation Analysis between E-Card Generation and Hospital Admissions (2018–2025)

0.6189743338	E-Card generation (Cr.)	Hospital Admission
2018-19	10.39	18236
2019-20	7.75	23364
2020-21	16.4	25887
2021-22	14.17	28311
2022-2023	24.58	27353
2023-24	34.04	86797
2024-25	36.36	30072

XI. RESULTS AND INTERPRETATION

The data across the years 2018–19 to 2023–24 reveals the distribution pattern of a particular resource or scheme among various Indian states and union territories. Over the years, states like Maharashtra, Uttar Pradesh, and Madhya Pradesh consistently emerge as top recipients, indicating their large population size, higher demand, or developmental priorities. Notably, Maharashtra had the highest allocation in 2018–19 (over 13.9 lakh) and continued receiving large amounts in later years, as did Uttar Pradesh, which saw a major spike in 2022–23with over 23.5 lakh. Madhya Pradesh also displayed significant figures, particularly in 2020–21 and 2022–23. Some states, such as Chhattisgarh and Bihar, show sharp fluctuations. For instance, both saw unusually high allocations in 2020–21, possibly due to COVID-19-related emergency funding or special schemes, but these levels were not maintained in subsequent years. On the other hand, Assam saw a notable jump in 2023–24, suggesting a shift in focus or increased funding to the Northeast. Conversely, union territories and smaller states like Lakshadweep, Dadra and Nagar Haveli, Daman and Diu, Sikkim, and Andaman & Nicobar Islands consistently received lower allocations, likely due to their smaller populations or limited scope of the scheme. There is a steady increase in hospital admissions from 18,236 cr. In 2018-19 to 28,311 cr. In 2021-22 a slight drop Is seen in 2022-23 (27,353 cr.).A dramatic spike occurs in 2023-24, reaching 86,977 cr., more than triple the previous year.This is followed by a sharp decline in 2024-25, dropping to 30,072 cr., though still higher than pre-2023 levels. Hospital admissions generally increased over the years with a massive peak in 2023-24, possibly due to an extraordinary event (e.g., a pandemic or major health crisis), followed by a return toward normal levels in 2024-25.The analysis yielded a Pearson correlation coefficient of r = 0.619, indicating a moderate-to-strong positive relationship between E-Card generation and hospital admission. This result suggests that as the number of E-Cards generated increased, hospital admissions under the scheme also tended to increase. However, the relationship is not perfect, indicating that other factors such as disease prevalence, hospital capacity, awareness campaigns, and state-level implementation also influence hospital utilization. The year 2023–24 showed a disproportionately high number of hospital admissions, which may have amplified the strength of the correlation. Future studies could explore whether this spike was due to increased awareness campaigns, policy changes, or other external factors."

XII. CONCLUSION

The analysis shows a clear upward trend in both E-Card generation and hospital admissions under AB-PMJAY, with significant state-wise variations reflecting differences in population, implementation capacity, and policy focus. The moderate-to-strong positive correlation (r = 0.619) confirms that increased E-Card generation is associated with higher hospital utilization, though other contextual factors also play a role. The exceptional spike in 2023–24 highlights the impact of external events or policy interventions, suggesting the need for further investigation into their effects on scheme performance and healthcare access.

Also provide the awareness regarding various Digital platforms for utilization of AB PM-JAY scheme through campaign, trainings etc.

REFERENCES

[1] M. C. Arjun, S. Poorvikha, A. V. Kurpad, and T. Thomas, "Knowledge, attitude and practice about Ayushman Bharat Digital Mission and digital health among hospital patients," *J. Family Med. Primary Care*, vol. 13, no. 10, pp. 4476–4481, 2024, doi: 10.4103/jfmpc.jfmpc_255_24.

[2] G. Jyani, P. Gedam, S. Sharma, J. Dixit, and S. Prinja, "Financial viability of private hospitals operating under India's national health insurance scheme Ayushman Bharat Pradhan Mantri-Jan Arogya Yojana (AB PM-JAY)," *Appl. Health Econ. Health Policy*, vol. 23, no. 5, pp. 841–853, 2025, doi: 10.1007/s40258-025-00966-9.

[3] U. S. Mishra, S. Yadav, and W. Joe, "The Ayushman Bharat Digital Mission of India: An assessment," *Health Syst. Reform*, vol. 10, no. 2, 2024, doi: 10.1080/23288604.2024.2392290.

[4] N. Pandey, S. Jha, and V. Rai, "Ayushman Bharat: Service adoption challenges in universal healthcare system," *South Asian J. Bus. Manage. Cases*, vol. 10, no. 1, pp. 1–15, 2021, doi: 10.1177/2277977921991915.

[5] S. Reddy, J. Fox, and M. P. Purohit, "Artificial intelligence-enabled healthcare delivery," *J. R. Soc. Med.*, vol. 112, no. 1, pp. 22–28, 2019, doi: 10.1177/0141076818815510.

[6] S. Narayan, P. Seth, and D. Shrivastava, "Ayushman Bharat Digital Mission: An initiative of digital transformation towards healthcare," 2022. [Online]. Available: https://aims-international.org/aims22/22AProceedings/PDF/A184-Done.pdf

[7] Arya, "A study on evaluating the role of Ayushman Bharat Digital Mission (ABDM) in enhancing healthcare accessibility and affordability," IBA Bangalore, Jan. 2024. [Online]. Available: https://doi.org/10.2139/ssrn.4799196