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Baseline Assessment of Ayushman Arogya Mandirs in Almora District, Uttarakhand: Infrastructure, Service Delivery, and Community Engagement

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ABSTRACT

This paper presents a baseline assessment of Ayushman Arogya Mandirs (AAMs) in Almora district, Uttarakhand, under the Ayushman Bharat Programme. The study evaluates 53 operational AAMs using a mixed-method cross-sectional design comprising structured surveys, interviews, and field observations. While most AAMs organize wellness sessions and community outreach events, substantial gaps remain in essential medicine availability, diagnostics, and digital infrastructure. Approximately 62% of centres operate from rented buildings, and about one-fourth lack reliable electricity or water supply. Maternal and non-communicable disease (NCD) service coverage show moderate progress, but teleconsultation and diagnostic continuity remain limited. Encouragingly, community engagement through Village Health Sanitation and Nutrition Days (VHSNDs), health melas, and wellness sessions demonstrates strong local participation. The findings highlight the need for infrastructure upgrades, regular supply-chain mechanisms, and strengthened community-based monitoring for achieving equitable primary healthcare in mountainous regions. The study contributes to the evidence base for improving Comprehensive Primary Health Care (CPHC) systems in resource-constrained geographies globally.

Keywords: Ayushman Arogya Mandir, Primary Health Care, Infrastructure, Service Delivery, Community Engagement, Uttarakhand.

INTRODUCTION

Almora district, situated in the Kumaon division of Uttarakhand, embodies the challenges of delivering primary healthcare in India's Himalayan terrain. The district's dispersed rural settlements, limited road access, and difficult topography restrict healthcare outreach. Although Uttarakhand has improved its health infrastructure over recent decades, disparities persist in healthcare access and service delivery.

The Ayushman Bharat Programme, launched in 2018, aims to achieve Universal Health Coverage (UHC) through two components: the Pradhan Mantri Jan Arogya Yojana (PM-JAY) for tertiary care and Comprehensive Primary Health Care (CPHC) through Ayushman Arogya Mandirs (AAMs). The AAM model seeks to transform existing Sub-Health Centres (SHCs) and Primary Health Centres (PHCs) into holistic institutions providing preventive, promotive, curative, and rehabilitative care. However, operational challenges, such as limited infrastructure, staff shortages, and supply-chain issues continue to affect AAM performance, especially in hilly districts like Almora.

The objective is to provide a data-driven understanding of baseline performance and identify actionable strategies to strengthen primary healthcare provisioning in difficult terrains.

METHODOLOGY

Located in the Kumaon division of Uttarakhand, Almora district typifies the geographical and socio-demographic challenges of India's Himalayan hill regions. The dispersed rural settlements, coupled with limited transport and communication infrastructure, pose substantial barriers to the delivery of quality healthcare. Although Uttarakhand has made strides in health infrastructure over the last two decades, persistent inequities remain in healthcare access, human

resource distribution, and community participation particularly in remote areas like Almora.

In 2018, the Government of India launched the Ayushman Bharat Programme with the goal of achieving Universal Health Coverage (UHC) through two pillars: the Pradhan Mantri Jan Arogya Yojana (PM-JAY) for secondary and tertiary care, and Comprehensive Primary Health Care (CPHC) delivered through Ayushman Arogya Mandirs (AAMs), formerly known as Health and Wellness Centres (HWCs). The AAM initiative seeks to transform existing Sub-Health Centres (SHCs) and Primary Health Centres (PHCs) into comprehensive, people-centred institutions providing preventive, promotive, curative, and rehabilitative services. These include free essential medicines, diagnostics, teleconsultations, and wellness activities such as yoga and health promotion sessions.

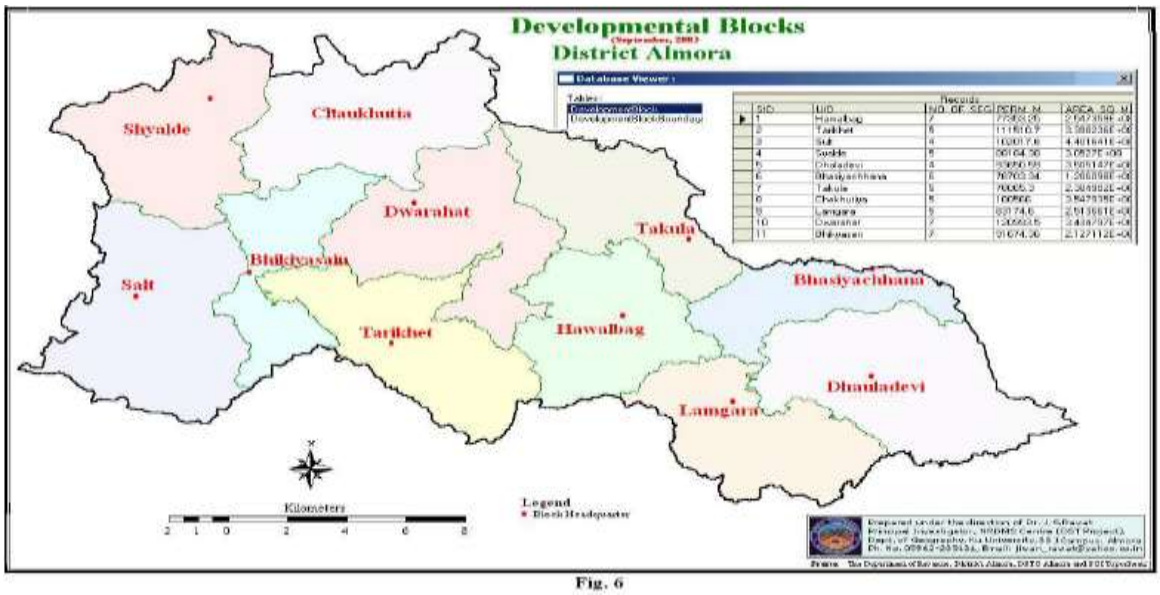

Fig. 6

Figure 1: Developmental Blocks of Almora District, Uttarakhand (Map prepared by the author, 2025).

However, Uttarakhand's rugged terrain and scattered population create operational constraints that hinder effective implementation. Challenges include limited road connectivity, inadequate infrastructure, staff shortages, and inconsistent supply chains. The success of AAMs depends not only on physical infrastructure but also on community engagement, local governance, and regular performance monitoring.

Sl.No	Block Name	Number of AAM's Where baseline conducted
1	Bhaisiyachhana	5
2	Bhikiyashain	5
3	Dhauladevi	4
4	Chaukhutiya	4
5	Dwarahat	4
6	Hawalbag	4
7	Lamgarha	3
8	Salt	6
9	Syaldey	6
10	Tadikhet	5
11	Takula	7
Total		**53**

Table 1 List of Blocks along with select number of AAMs.

This study focuses on Almora district as a representative case of a hilly terrain to identify achievements, constraints, and policy lessons for strengthening the CPHC framework.

RESULTS

The findings from Almora district reflect both progress and persisting challenges in implementing the AAM model under the CPHC framework.

Building Infrastructure: Out of 53 facilities, 20 (37.7%) operate from government-owned buildings, while 33 (62.3%) function from rented spaces. While 27 facilities were rated in good condition, 13 required repair and 10 were under construction. Approximately 75% of AAMs are connected by paved roads, while the remaining rely on unpaved paths, affecting accessibility during monsoon seasons.

Utility and Accessibility: Around 26% of centres reported irregular electricity supply, and 52% had inadequate water access. Accessibility features for persons with disabilities, such as ramps and toilets, were missing in 85% of facilities.

IT Infrastructure and Workforce Capacity: Nearly 90% of AAMs had functioning digital systems; however, 56% faced connectivity issues that limited teleconsultation usage. While 92% of Community Health Officers (CHOs) had undergone induction training, less than 20% had received formal training in yoga and lifestyle education.

Service Delivery and Health Outcomes: Maternal and child health services showed moderate progress with ANC coverage at 84% and institutional deliveries at 77.3%. Immunization under two years stood at 85.3%, and HBNC compliance was 85%. NCD screening coverage remained strong but lacked diagnostic confirmation and follow-up treatment linkages.

Community Engagement: Wellness sessions (94%), VHSNDs (86%), and Health Melas (92%) reflect strong participation. Awareness of AAM services was high (97.6%), with 96.2% of respondents utilizing at least one service. However, satisfaction levels varied—67.5% satisfied, 23.3% neutral, and 7.3% highly satisfied—indicating service inconsistency.

Table 1: Summary of Infrastructure and Service Delivery Indicators

S. No.	Parameters	Status	Remarks
1	Building status	37.74%	Government Owned
		62.26%	Private Building
2	Distance (Average)	18.04 km	From CHC
		14.10 km	From PHC
3	Condition of pathway	37.70%	Paved (Pakka)
		62.30%	Unpaved (Kachcha)
4	Institutional deliveries	77.30%	
5	NCD enrolment	86.72%	
6	VHSND organized	86.30%	
7	Health Mela conducted	92.20%	
8	Wellness sessions conducted	62.10%	

DISCUSSION

The baseline findings illustrate that while community participation and digital adoption are promising, systemic limitations in infrastructure and diagnostics remain a bottleneck. Stock shortages, inadequate laboratory support, and incomplete telemedicine connectivity continue to constrain comprehensive service delivery.

Training and capacity-building for CHOs, coupled with integration of solar-powered digital systems, could enhance efficiency. Furthermore, active engagement of Jan Arogya Samitis (JAS) and Panchayati Raj Institutions (PRIs) in local monitoring can strengthen governance and accountability.

RECOMMENDATIONS

- Infrastructure strengthening: Allocate block-level funds for building repairs, road connectivity, and water/electricity provision.
- Medicine and diagnostic availability: Implement full DVDMS rollout and ensure minimum essential medicine stocks.
- Maternal and child health: Reinstate delivery services in major blocks and strengthen ANC tracking systems.
- Digital connectivity: Expand telehealth through solar-powered routers and ensure consistent e-Sanjeevani usage.
- Capacity building: Conduct refresher training for CHOs, ASHAs, and ANMs focusing on NCD management and lifestyle modification.
- Community participation: Strengthen Jan Arogya Samitis (JAS) and Village Health Sanitation and Nutrition Committees (VHSNCs) through microplanning and participatory audits.

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