ATHENA INFONOMICS | CInI An Initiative of TATA TRUSTS

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Evaluation Study on Madhya Pradesh Health Systems Strengthening Project

Study Name:

Evaluation of Madhya Pradesh Health Systems Strengthening Project

Study Duration:

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Study Location:

Madhya Pradesh

Study Conducted by:

Athena Infonomics India Private Ltd

Study Commissioned by:

Collectives for Integrated Livelihood Initiatives

Introduction

This report documents findings from the evaluation of Madhya Pradesh Health Systems Strengthening Project conducted by Athena Infonomics India Private Ltd. The study was carried out under the guidance of Dr. Rajesh Khanna with the dedicated support of team members: Mr. Abison Paul, Mr. Manav Sharma, and Ms Sristi Das. The evaluation team gratefully acknowledges the invaluable contributions and unwavering support of all those who have been instrumental in this evaluation.

We are thankful to Collectives for Integrated Livelihood Initiatives (CInI) and the program management unit, consisting of Ms Sonal Das, Major (Dr.) Abhijit Chowdhury, Dr. Rehan Ahmed Qureshi, Mr. Kamlesh Mishra and Mr. Shantanu Dixit for providing the opportunity to conduct this study and their consistent support on and off the field. We also take this opportunity to thank the team of Tata Trusts, Dr. Amar Nawkar and Mr. Arnab Mandal for their constructive feedback, and timely inputs during the entire course of this evaluation.

We extend our sincere thanks to the block, district and state level officials of Department of Public Health and Medical Education, Government of Madhya Pradesh, for generously providing their valuable time and insightful inputs throughout this assessment process.

Finally, our deepest gratitude is extended to the healthcare workforce and beneficiaries who generously participated in this evaluation. Their experiences and insights significantly contributed to the success of this study.

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List of Abbreviations

AAM	Ayushman Arogya Mandir
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
BNO	Block Nodal Officer
CHO	Community Health Officer
CInI	Collectives for Integrated Livelihood Initiatives
CPHC	Comprehensive Primary Health Care
DNO	District Nodal Officer
EHR	Electronic Health Record
FGD	Focus Group Discussion
FLW	Front line Worker
HSS	Health Systems Strengthening
ICU	Intensive Care Unit
IDI	In-Depth Interview
KMN	Knowledge Management Network
MP	Madhya Pradesh
MPHSS	Madhya Pradesh Health Systems Strengthening
MPW	Multi-Purpose Worker
NCD	Non-Communicable Disease
NDHM	National Digital Health Mission
NHM	National Health Mission
NQAS	National Quality Assurance Standards
PM-JAY	Pradhan Mantri Jan Arogya Yojna
ToC	Theory of Change
UPHC	Urban Primary Health Centre

Executive Summary

India, with its vast population exceeding 1.4 billion, faces significant challenges in healthcare delivery despite its rapid economic growth, primarily due to low public expenditure (currently at 2.1% of GDP) and systemic inefficiencies. The Madhya Pradesh Health Systems Strengthening Project (MPHSSP) aims to address these gaps by focusing on primary healthcare improvements through the Ayushman Bharat initiative. With the support of Collectives for Integrated Livelihood Initiatives (CInI), the project targets enhancing healthcare delivery in rural and underserved regions by upgrading existing facilities into Ayushman Arogya Mandirs (AAMs). These centres deliver comprehensive primary healthcare, including promotive, preventive, curative, rehabilitative, and palliative services.

The MPHSSP adopts an inclusive approach, addressing challenges such as process gaps, knowledge, practice & skill gaps, cultural barriers, and poor digital adoption with CInI implementing targeted activities to address key challenges. To mitigate **workforce shortages**, CInI supported extensive **capacity-building programs through the Knowledge Management Network (KMN)**, focusing on training and mentoring existing healthcare workers, particularly CHOs and FLWs, to enhance their skills in delivering comprehensive primary healthcare. Regular **supportive handhold** further empowered the workforce by providing ongoing guidance and on-the-spot training. CInI emphasised community mobilisation through outreach programs and health camps to address cultural barriers, promoting culturally sensitive communication and engagement. Recognising the digital literacy challenge, CInI provided crucial **training and support for healthcare workers in adopting and effectively using digital platforms** such as Electronic Health Records (EHRs) and the e-Aushadhi inventory management system. Furthermore, the initiative focused on **strengthening the community's trust in public healthcare systems** through a multi-pronged approach. CInI supported the implementation of **quality improvement mechanisms**, leading to better service quality and higher patient satisfaction. Training programs focused on enhancing **staff professionalism and patient interaction skills, upgrades, and advocacy for infrastructure upgrades** contributed to a more positive healthcare experience, collectively building greater community trust. With these comprehensive interventions, the project aspires to demonstrate mechanisms that can achieve universal health coverage and better healthcare equity.

Collectives for Integrated Livelihood Initiatives (CInI) entrusted Athena Infonomics to assess the outcomes of their health systems strengthening project implemented in collaboration Government of Madhya Pradesh. The focus was gauging the efficacy of approach and strategies implemented to enhance Comprehensive Primary Health Care (CPHC) delivery at Ayushman Arogya Mandirs (AAMs). The objectives of the study were to evaluate service delivery metrics, viz. knowledge and practices as per standard protocols, assess adoption levels of quality framework and technology platforms and study the beneficiary satisfaction levels.. The findings are intended to inform future strategies and provide a blueprint for replicating success in other regions facing similar healthcare delivery challenges. The Athena team conducted a rigorous evaluation across 13 intervention districts, covering 127 facilities (102 intervention and 25 non-intervention) to assess the impact comprehensively. This involved engaging with a diverse range of stakeholders, including the CInI Programme Teams at the State and District levels, representatives from Medical Colleges (part of the Knowledge Management Network), State and District Nodal Officers from the National Health Mission (NHM), Comprehensive Primary Health Care (CPHC) Consultants, Block Nodal Officers, Front Line Workers - Multipurpose Worker (MPW)/Auxiliary Nurse Midwife (ANM)/Accredited Social Health Activist (ASHA)), Community Health Officers (CHOs) & Medical Officers (MOs), Community Members, and Patients at Ayushman Arogya Mandirs (AAMs). Data was collected using tools tailored to each stakeholder group, including In-Depth Interviews (IDIs), Semi-Structured Interviews, Focus Group Discussions (FGDs), Structured Questionnaires, and Facility Assessment Observation Checklists.

The subsequent findings highlight the encouraging outcomes observed, which are a direct result of a well-coordinated and multi-faceted effort at the district and state levels. The Madhya Pradesh Health Systems Strengthening Project was designed as a collaborative and inclusive initiative, focusing on several key enablers of effective healthcare delivery. This engagement reflects a synergistic partnership between the Government, providing vital infrastructure and human resources, and Collectives for Integrated Livelihood Initiatives (CInI), contributing with essential techno-managerial support. Specifically, CInI's engagement focused on supportive handholding for process realignment, quality assurance, capacity building and strengthening critical supplies.

Insights from Primary Research

Insights from Primary Research
The Madhya Pradesh Health Systems Strengthening Project embodies a collaborative synergy between governmental infrastructure and human resources and CInI's essential techno-managerial support.
This partnership strategically focused on key enablers of effective healthcare delivery, including process realignment and automation for **Healthcare Facility Strengthening**, the implementation of **Quality Assurance & Accreditation** standards, comprehensive **Capacity Building of the Healthcare Workforce** through training and mentorship, enhanced **Process Compliance & Supervision**, improvements in **Service Delivery & Patient Outcomes**, and the establishment of a **Knowledge Management Network**. The subsequent findings detail the tangible results of this integrated approach across these critical pillars of primary healthcare.

Healthcare Facility Strengthening

Collectives for Integrated Livelihood Initiatives (CInI) actively advocated for and provided technical support towards enhancing the infrastructure of the health facilities. This included guidance on planning upgrades to make the facilities more accessible and comfortable for patients. The evaluation observed a significant result: **97.3% of patients in intervention facilities reported satisfaction with the infrastructure compared to 79.0% in non-intervention facilities.** Furthermore, CInI championed the adoption of digital platforms, leading to **100% of intervention facilities having functional Electronic Health Records (EHRs) compared to 69.6% in non-intervention facilities**. The improvement in the physical environment and the establishment of digital record-keeping have collectively boosted access, patient comfort, and the efficiency of service delivery.

Quality Assurance & Accreditation

CInI supported developing and implementing **12 standardised operating procedures (SOPs)** for various healthcare services. They also facilitated training to ensure healthcare workers consistently follow these best practices. The evaluation revealed that this standardisation has led to significant improvements in the quality of care. Remarkably, **82.0% of intervention AAMs achieved quality accreditation**, a recognition of meeting national standards, whereas **0% of non-intervention facilities received this accreditation**. This highlights a strong commitment to quality and consistency in healthcare practices within the intervention facilities.

Capacity Building of Healthcare Workforce (Training & Mentorship)

CInI played a vital role in enhancing the skills and knowledge of healthcare workers through comprehensive training and mentorship programs, notably facilitated by the **Knowledge Management Network (KMN)**. These programs focused on the **12 CPHC service packages, leading to 100% awareness among healthcare workers in intervention facilities, compared to 76.1% in non-intervention facilities**. Moreover, CInI patient-centred care results in **51.3% of patients in intervention facilities rating the behaviour of healthcare staff as excellent, dramatically higher than the 22.0% in non-intervention facilities**. This demonstrates the effectiveness of CInI's efforts to build a skilled and professional healthcare workforce.

Process Compliance & Supervision

CInI played a key role in establishing a system of regular supportive supervision for healthcare workers. This involved trained supervisors visiting the facilities to provide guidance, on-the-job training, and help resolve any challenges. The evaluation found that **94.6% of intervention facilities received these supervision visits, significantly more than the 43.5% of non-intervention facilities**. This consistent support and mentorship ensure that healthcare workers continuously learn and improve their skills, leading to higher standards of care.

Service Delivery & Patient Outcomes

The MPHSSP's capacity building and system strengthening have significantly enhanced service delivery and patient outcomes. A notable **64.4% of intervention facilities can now deliver all 12 CPHC services**, a substantial increase from the **37.1%** in non-intervention sites. Furthermore, the adoption of digital tools is evident, with **79.5% of intervention facilities utilizing e-Aushadhi** for medicine stock management (vs. **60.9%**). Patient satisfaction is also higher, with **51.3% in intervention areas very satisfied** with medical supply availability (vs. **18.0%**). Notably, **89.1%** of intervention facilities are equipped to provide mental health services, supported by training for **81.0%** of CHOs. While patient utilization of crucial mental health services currently stands at **3%**, the foundational capacity building represents a significant step towards comprehensive care.

Knowledge Management Network

A pivotal initiative under the MPHSSP is the Knowledge Management Network (KMN), which has significantly enhanced primary healthcare delivery by actively **engaging 13 government medical colleges in Madhya Pradesh for capacity building**. Through a structured mentoring framework, medical faculty **provide on-site and virtual guidance to Community Health Officers (CHOs)**, focusing on improving clinical skills and service delivery at Ayushman Arogya Mandirs. The KMN also utilises a Learning Management System to disseminate standardised training modules, ensuring continuous medical education and knowledge dissemination, ultimately leading to improved patient care and health outcomes across intervention facilities.

Project Achievements against Outcome Indicators

Outcomes	Indicators	Overall Project Achievements
Healthcare Facility Strengthening	**Upgraded Model Centers:** • Number of AAMs upgraded as per guidelines • Number of UPHCs upgraded with functional EHR	• 629 AAMs (SHC & UPHCs) upgraded to model Ayushman Arogya Mandirs (AAMs) • 579 AMMs (SHC & UPHCs) upgraded with functional EHR
	Quality Assurance & Accreditation: • Number of healthcare facilities adopting standardised treatment protocols • Number of facilities achieving quality accreditation	• 521 Health facilities made eligible for Quality Accreditation • 159 AAMs & 07 UPHCs NQAS certified
	Infrastructure & Technology Enablement: • Number of functional EHR systems deployed	• National NCD portal functional as E.H.R. in 23 UPHCs
Capacity Building of Healthcare Workforce	**Training & Mentorship:** • Number of healthcare workers trained through systematic mentoring programs	• 6560 Healthcare workers mentored • 2078 Training sessions for HCWs
	Process Compliance & Supervision: • Number of supportive supervision visits conducted	• 7524 SHVs conducted so far
Service Delivery & Patient Outcomes	**Availability & Accessibility of Services:** • Number of HCWs trained in relevant IT applications • Healthcare facilities adopting IT-based service delivery (no. of facilities adopting e-Aushadhi system)	• 10186 HCWs trained in IT applications • Technical support for adopting the adoption of e-Aushadhi in 654 facilities .
Knowledge Management Network	• Facilitation of training in collaboration with AIIMS and other Medical Colleges • Develop training modules for capacity building of HCWs	• 13 Medical Colleges on-boarded • 15 modules developed based on service packages • 32 sessions held by medical faculties for the CHOs • Immersive sessions “Prathmik Swasthya Sampark Karyakram – PSSK” initiated for better traction between the medical colleges and peripheral AAMs • 12 sessions organised so far
Supply Chain	• Analyse the causes of stock-outs of essential drugs (RMNCHA and NCD) and minimise the occurrence of stock-outs at the district level.	• Technical support for adopting e-Aushadhi in 654 facilities; Monthly Indent & operational Issues being tracked for intervention facilities.
Sustainability	• Capacity building of the district PMU staff for conducting supportive supervision visits will be done as an exit strategy to maintain continuity.	• 13 SOPs on implementation of CPHC guidelines developed • Initiated inclusion of CPHC services in the agenda of DHS and other district-level meetings.

Recommendations

The evaluation clearly demonstrates that CInI’s support has significantly improved healthcare in the areas where the project was implemented. To ensure that these positive changes benefit everyone across Madhya Pradesh, the following steps are recommended:

Expand Coverage of Effective Interventions and Strengthen Service Range:

The significant improvements observed in the intervention areas underscore the potential for transformative change across Madhya Pradesh. To ensure a consistent standard of high-quality healthcare for all, it is crucial to broaden the scope of these successful programs to encompass all non-intervention regions. This expansion should involve replicating the effective strategies and methods implemented in the project areas, including infrastructure upgrades, enhanced healthcare workforce skills, and improved service delivery models. **Furthermore, it is recommended to strengthen and expand the range of services offered, such as the integration of comprehensive specialised care services like mental health etc**. By prioritising the extension of proven interventions and the robust inclusion of specialised services, Madhya Pradesh can move towards achieving equitable and comprehensive healthcare coverage for all its communities.

Leverage Presence of Knowledge Institutions for Targeted Professional Development of FLWs:

Implement structured training programs focused on the foundational and practical aspects of healthcare services provided by frontline workers at the most basic level of primary healthcare facilities. These programs should equip healthcare workers (like MPWs, ANMs, and ASHAs) with the necessary skills and knowledge to effectively manage basic healthcare services and utilize available technology for routine tasks. Training should also emphasize communicating effectively and empathetically with patients, building trust and ensuring a positive experience at the community level.

Utilizing the Knowledge Management Network supported by the Government Medical Colleges through the MILAAP platform can be of great significance

Enhance Utilization of Government IT Systems and Digital Health Services Training:

While the government has invested in important IT systems for healthcare, like those for managing patient records and providing telemedicine, healthcare workers must be fully equipped to use them effectively. **Focusing on providing comprehensive training and ongoing support for healthcare workers (HCWs) in using these digital platforms is vital**. This should include clear and easy-to-understand training sessions that help staff become comfortable with digital health services, such as conducting remote consultations and managing electronic health records. By ensuring that healthcare workers can confidently use these systems, the efficiency of healthcare delivery will increase, and more patients can be served effectively.

Refine Supportive Supervision Practices:

Regular supervision visits have proven valuable tools for improving healthcare quality. To make them even more effective, **the project should further refine these practices by specifying how often visits should occur and what the main focus of each visit should be**. Establishing a regular schedule for these visits, tailored to the specific needs of each facility, will ensure consistent support. During these visits, supervisors should provide targeted training, offer immediate and constructive feedback to healthcare workers, and work with the facility staff to develop clear action plans for further improvements.

01
Introduction

1. Introduction

1.1 Background and Context

India , with a population exceeding 1.4 billion[1], is also the world's fastest-growing economy, according to World Bank projections for 2023. As a developing nation, India faces significant challenges in providing accessible healthcare, education, and overall well-being for its citizens. Despite these needs, India allocates only around 2.1%[2] Of its GDP (Gross Domestic Product) to healthcare—a figure considerably lower than that of advanced and other emerging economies.

Economic inequality further limits access to quality healthcare, as a weak public health infrastructure often forces people to rely on private healthcare providers, which are both costly and largely unregulated, leading many into debt. Oxfam's Global Inequality Report 2022[3] Highlights this issue, noting that healthcare expenses push approximately 63 million people into poverty yearly.

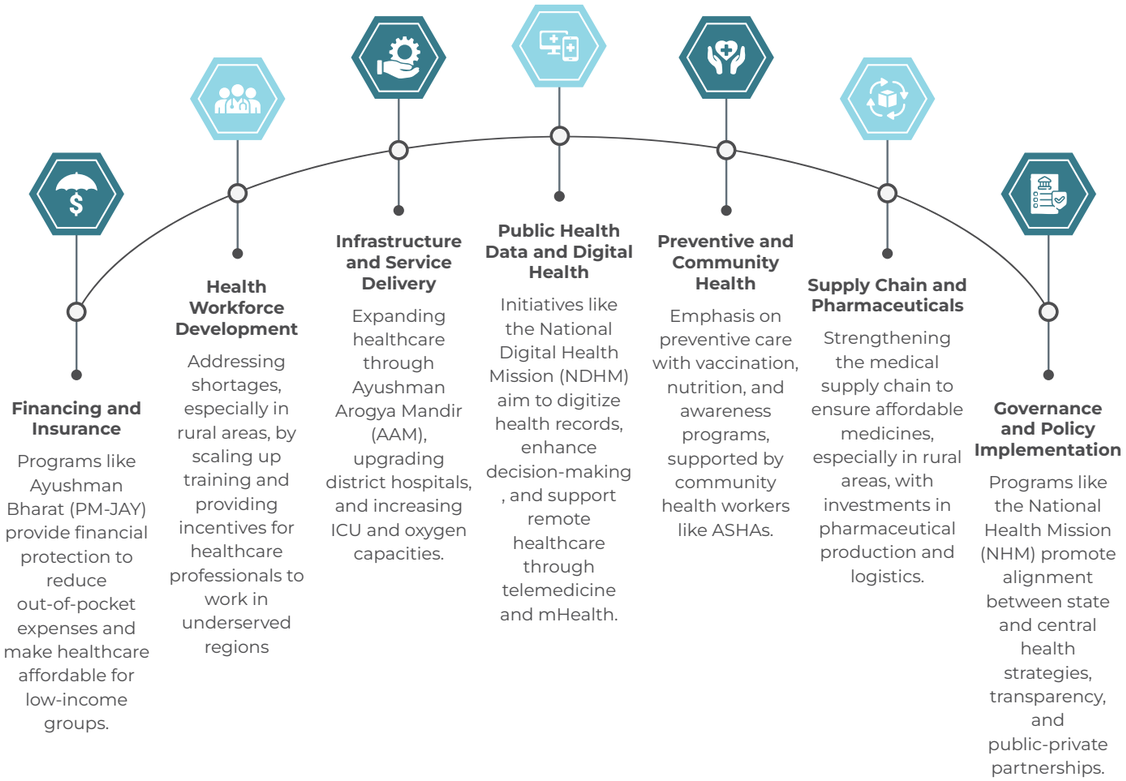
The National Health Mission launched the Ayushman Bharat Health and Wellness Programme to address these challenges.[4], which aims to provide comprehensive primary health care at the community level free of charge. This programme aims to deliver essential health services to rural communities, improving access to quality healthcare for all. Under the programme, existing Sub-Health Centres (SHCs) and Primary Health Centres (PHCs) are being transformed into Ayushman Arogya Mandir.

[1] https://www.un.org/development/desa/dpad/publication/un-desa-policy-brief-no-153-india-overtakes-china-as-the-worlds-most-populous-co
[2] https://www.livemint.com/news/india/health-expenditure-at-2-1-of-gdp-in-fy23-economic-survey-11675160463795.html
[3] https://www.oxfam.org/en/india-extreme-inequality-numbers
[4] https://www.nhm.gov.in/New_Updates_2018/NHM_Components/Health_System_Stregthening/Comprehensive_primary_health_care/letter/Operational_Guide

1.2 Health Systems Strengthening

Health Systems Strengthening (HSS) in India is key to improving healthcare access, equity, and quality across diverse socio-economic and geographic contexts. The core areas include the following components:

Figure 1:Health systems strengthening components

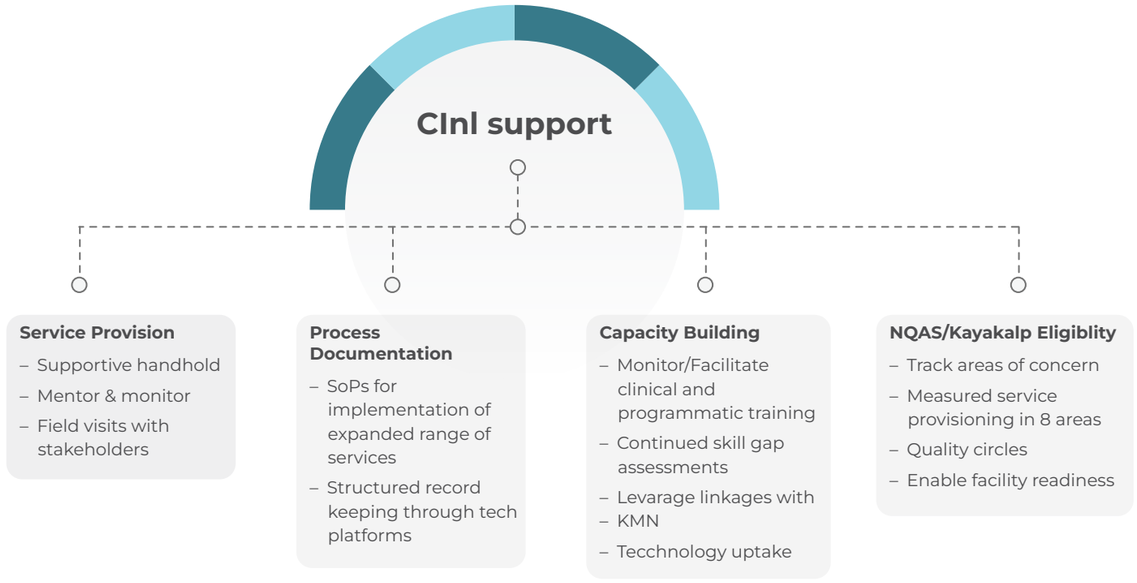


India's HSS requires sustained collaboration, innovation, and investment to build an equitable and resilient healthcare system.

1.3 Collectives for Integrated Livelihood Initiatives (CInI) Support to Madhya Pradesh Health System Strengthening (MPHSS)

Collectives for Integrated Livelihood Initiatives (CInI), an associate organisation of Tata Trusts, has been supporting the government of Madhya Pradesh in strengthening primary healthcare services across identified districts. Since 2021, CInI has been enhancing health systems in 22 districts across six divisions, focusing on Ayushman Arogya Mandir (AAM), the first line of public healthcare. CInI's key roles include quality assurance, service delivery enhancement, capacity building, technology adoption, and promoting behaviour change initiatives.

Figure 2: CInI support to MPHSS



1.4 Study Objectives

The following are the objectives of the evaluation study for the MPHSS Project:

a) Assess the impact of the MPHSS project on strengthening Comprehensive Primary Health Care (CPHC) delivery, possibly through differences observed in Knowledge, Attitude and practices of health care workers (HCWs) in intervention AAMs vs non-intervention AAMs (project/non-project areas). AAMs not initiated for the quality assurance process may be prioritised for comparison

b) Evaluate the access and adoption of standardised service delivery protocols across model AAMs.

c) To compare patient satisfaction levels due to infra upgrades undertaken in AAM-UPHCs with other UPHCs

d) Compare the inventory management practices and adoption of the e-Aushadhi platform between intervention and non-intervention AAMs within the study areas.

e) Assess the effectiveness of concurrent Supportive handhold visits, collaborative quality assessment cycles, and mentoring support in improving service delivery processes at intervention AAMs involving the HCW compared to non-intervention AAMs.

f) To document the Knowledge Management Network w.r.t implementation and sustainability design and suggest way ahead.

g) Assess the record-keeping processes and adoption of IT platforms, including e-Sanjeevani and the National NCD portal, in model intervention Centres.

h) To study and summarise the impact of the interventions of the MPHSS project on the focused facilities as well as the government ownership and community perceptions regarding the uptake of services.

02

Methodology

2. Methodology

The evaluation used a quasi-experimental research design to assess MPHSS's impact. The study examined the relationship between an intervention and outcomes, though without random assignment to the intervention[5]. By employing both quantitative and qualitative methods—such as in-depth interviews and focus group discussions, the evaluation aimed to gain a comprehensive understanding of personal experiences, cultural contexts, and stakeholder perspectives, uncovering nuanced dynamics and underlying issues. As part of the quasi-experimental research, Athena covered intervention and non-intervention facilities across the study districts to gauge the project's impact.

2.1. Desk Review of Project Documents

Athena team obtained and reviewed MPHSS project documents, training manuals and other documents to thoroughly understand the Theory of Change (ToC) and project outcomes and outputs. Based on the desk review, key impact indicators were mapped out and finalised for the programme evaluation. The desk review also included a comprehensive analysis of the state-wide rollout of AAM in MP. This analysis of available literature captured the progress, challenges and strategies employed in implementing AAMs across the state, providing a detailed context for the MPHSS project.

2.2. Evaluation Framework

The evaluation aimed to comprehensively analyse the health services delivery ecosystem using a mixed-methods approach. By employing quantitative and qualitative methods, such as in-depth interviews and focus group discussions, the research team gained a deep understanding of personal experiences, cultural contexts, and stakeholder perspectives, uncovering underlying issues and nuanced dynamics.

Based on our desk review, we used a combination of the Kirkpatrick Model and OECD-DAC-driven (Relevance, Coherence, Effectiveness, Efficiency, Impact & Sustainability) analysis. The learning-oriented DAC included adjustments in phrasing questions, and data was collected, compiled, and analysed for contextual accuracy.

Athena applied ITAD's[6] Health systems strengthening and evaluation process goals are key indicators to assess various aspects of CInI's support of the MPHSS. In addition, the PHPCI framework's components were explicitly utilised to gauge the CHOs' capacity and evaluate the support received from the district and block nodal officers. (Refer: Annexure I: Evaluation Matrix)

[5] Promoting recovery-oriented practice in mental health services: a quasi-experimental mixed-methods study | BMC Psychiatry
[6] https://www.itad.com/wp-content/uploads/2022/07/HSSEC-WG1-FA3-Conceptual-model-and-monitoring-learning-tool.pdf

2.3. Sampling Methodology

The Athena team covered 127 facilities (102 intervention + 25 non-intervention) across the 13 intervention districts.

Table 1: Sample breakup of stakeholders (achieved)

Stakeholders	Intervention	Non-intervention	Total	Tools
CInI Programme Team at State	2		16	IDI
CInI Programme Team at District	12			
Medical Colleges (part of Knowledge Management Network)	2			
State Nodal officer-NHM	1		1	IDI
District Nodal Officer	12 (1 per district)		12	IDI
CPHC -Consultant	12 (1 per district)		12	IDI
Block Nodal Officer	36 (1 per block)		36	IDI
FLWs (MPW/ANM/ASHA)	105	23	128	Semi-Structured
CHOs & MOs	102	24	126	Semi-Structured
Community Members	5	5	10	FGD
Patients at AAM	400 (4 per facility)	100 (4 per facility)	500	Structured Questionnaire
Facility Assessment	101 (1 per facility)	25 (1 per facility)	126	Observation Checklist

2.3.1. Selection of Districts

The study occurred across 13 districts (including Bhopal) out of the 23 intervention districts of Madhya Pradesh. Among the 23 intervention districts, 13 districts were selected purposively based on the following criteria:

- Representing all six divisions
- Aspirational and non-aspirational categorisation: The study districts were proportionally selected based on aspirational and non-aspirational categorisation.
- Districts under the catchment areas of medical colleges that are a part of the Knowledge Management Network (KMN) were given preference to assess the role of medical colleges and their departments.
- Presence of model UPHCs

The sampling strategy for district selection was prioritised proportionally across aspirational and non-aspirational categorisation.

Table 2: Sampling distribution of districts based on Aspirational and non-aspirational

Aspirational and non-aspirational categorisation	No. of Districts in MP	Selected for Evaluation Study
Non-aspirational	15	7
Aspirational	8	6
Grand Total	**23**	**13**

The sampling strategy for district selection was prioritised proportionally across all six state divisions.

Table 3: Sampling distribution of districts based on divisions in the state

Division	No. of Districts in Division	Selected for Evaluation Study
Bhopal	3	2
Gwalior	3	2
Indore	4	3
Jabalpur	2	1
Rewa & Shahdol	6	3
Sagar	5	2
Grand Total	**23**	**13**

Twelve districts were selected under the evaluation of the MPHSS project. An additional district (Bhopal) was considered to cover one urban PHC.

Table 4: Intervention district to be covered under evaluation

S. No.	Division	District
1	Rewa & Shahdol	Anuppur
		Umaria
		Singrauli
2	Bhopal	Rajgarh
		Bhopal
3	Indore	Barwani
		Jhabua
		East Nimar (Khandwa)
4	Jabalpur	Mandla
5	Sagar	Chhatarpur
		Sagar
6	Gwalior	Ashoknagar
		Guna

2.3.2. Selection of Blocks

In each study district (except Bhopal which was included to cover UPHC), three blocks were selected randomly. The prevalence of intervention facilities and distance from the district headquarters was utilised for the block selection.

2.3.3. Selection of AAMs/UPHCs

One hundred two intervention facilities (including 3 UPHCs) were selected for the evaluation. The UPHCs were selected from Bhopal and Singrauli districts. The 25 non-intervention facilities were selected from the selected blocks by district officials and the district project team. We also included a UPHC in the non-intervention category. (Annexure II: List of Facilities Assessed).

2.3.4. Selection of Respondents (Patients Survey)

Patients were selected based on their availability at UPHC/AAM on the survey day. To ensure unbiased and genuine feedback, the survey was conducted promptly, with patients or visitors approached randomly just outside the UPHC/AAM premises. This approach eliminated potential interference from officials or healthcare workers, allowing respondents to provide honest and independent feedback.

2.3.5. Selection of Respondents at Facility Level (IDI)

The CHO/MO, ANM and ASHA of the selected facility were interviewed.

2.3.6. Selection of Respondents at District and Block Level (IDI)

DNO and District CPHC consultants from all districts were interviewed. Block Nodal Officers of all 36 blocks were also interviewed. The interactions captured the difference they observed between their block's intervention and non-intervention facilities.

2.3.7. Selection of Respondents (Community FGDs)

There were 5 FGDs in the intervention facilities and 5 FGDs in the state non-intervention facilities. In the selected AAM/UPHC catchment area, one village/ location was chosen for a community FGD involving adults who have used UPHC/ AAM services in the past 3 months. A total of 10 FGDs represented male and female groups to capture diverse perspectives and experiences.

2.4. Development of Research Tools

The following tools were formulated based on the key indicators, which were canvassed with different stakeholders.

- **Structured interview tool:** Structured interview tools were used to capture the patient's experience and satisfaction with services delivered at the health centre.
- **In-depth interview tool:** In-depth interviews with a wide range of key informants, such as FLWs, BNOs, DNOs, CPHC Consultants, etc., captured granular insights into health systems strengthening. They also captured their suggestions and recommendations to improve key aspects of the project.
- **Focus group discussion tool:** Focus group discussions were carried out in the community in the catchment area of the health centres, and insights and perspectives of the community were captured concerning the services rendered through health centres. FGDs also provided information on implementation problems, suggestions, and recommendations for improving specific services at the health centres.
- **Facility Assessment Checklist:** The facility Assessment checklist provides data on physical infrastructure, supplies and equipment at the health facility. It provided information on the service delivery at the health facility and the interactions that take place between healthcare workers and the patients

The tools were shared with CInI's team for their feedback and finalisation. After this, field testing was done in intervention areas near Bhopal, and the tools were adjusted based on the feedback received. Once the feedback was incorporated, the tools were translated into the local language for ease of administration with various stakeholders.

2.5. Training and Deployment of Data Collectors

Post development of the tools, the screening of enumerators and supervisors cum moderators took place based on their experience and familiarity with the culture and geography. The shortlisted enumerators and supervisors cum moderators then underwent a two-day classroom training in the presence of the Athena core research team and CInI officials. The training included a mock test session to familiarise the field teams with the tools.

2.6. Data Collection

A team of two enumerators was placed per district for the quantitative component. A total of 6 supervisors cum moderators were deployed across the study districts, with one covering two districts. The deployed moderators conducted the qualitative research components proficient in the local dialect.

2.7. Data Quality

To ensure the quality of data, the following systems were kept in place:

Table 5: Data quality protocols

Research Activity	Definition of Quality	Indicators of Quality
Quality Assurance Plan	• Systematic, comprehensive, and detailed approach for assuring quality throughout the research process, and appropriate to methodology and theoretical approach	• Customized study plan as per research objective • Comprehension amongst the research team of implementing quality assurance measures and individual responsibility towards assuring quality.
Primary Research team onboarding	• Ensure the selection of the best-suited enumerators and supervisors	• Strict adherence to the selection criteria
Training	• Comprehensive survey team training covering all aspects of the research process and core methodological and ethical protocols. • Effective training leads to comprehension amongst each team member of their role in the research process and how to conduct it to a high-quality	• Well-designed manuals tailored to the researcher's level of understanding and reflecting the study's objectives. • Sharing of views and experiences of the research team reflecting their understanding of the responsibility and importance of conducting high-quality research.
Stakeholder consultation	• Identification, approach, and inviting people to participate ethically in the study. • Clear Communication of the objectives and the purpose of the study and answering their questions to enable informed consent in line with ethical standards	• Provide evidence of appropriate time and place for the participants, with the opportunity to ask questions and answer their doubts. • Consent forms signed and dated by participants and witnesses where necessary
Data Collection	• Appropriate use of data collection tools and moderation style. • Comprehensive recording of data	• Moderators use data collection tools with the awareness of the influence of their style on data collection, with modifications of style where appropriate. • Evidence of a flexible approach to questioning and prompting, reflecting an understanding of the research question • Reliable and consistent use of audio recorder equipment to record data collection events. • Existence of notes of ongoing communication between research team members to discuss progress, challenges, emerging ideas, changes to the topic guide, or sampling.
Transcription	• Systematic process of transcribing data collection recordings.	• Accurate and detailed transcripts consistent with audio files and note taker's notes. • Transparent process of translation, checking, and revision for all transcripts
Data Analysis	• Systematic, transparent, and comprehensive data management and coding procedures.	• Clear and consistent sharing of the coding process, evidence of how codes have been developed, discussed, and refined

2.8. Data Analysis

The following section provides the steps involved in analysing the primary data (quant & qual).

2.8.1. Quantitative Analysis

Survey questionnaires and data collection templates were analysed statistically using appropriate tools. After running all levels of checks and ensuring the cleanliness of the data, the data analysis tabulation plan was finalised in consultation with the CInI team. The required output tables were generated using SPSS. The results were disaggregated within the following categories: age, gender, socioeconomic status, and geography.

Figure 3: Quantitative data analysis

2.8.2. Qualitative Analysis

The qualitative data was recorded using an analysis framework, and insights were used to strengthen the analysis in the final report.

- **Coding:** The respondents' answers were coded across different schedules using qualitative tools to facilitate analysis and avoid bias. This ensured that while the quotations and stories were recorded, the analysis was not subject to any individual bias.

Figure 4: Qualitative data analysis

- The qualitative data was anonymised for storage.
- **Quasi-statistics:** Quasi-statistics typically count the number of times the respondents mention a particular phrase or category. This method was used to identify key motivations, existing trends of perceptions, attitudes, and practices regarding healthcare.

2.9 Risk Mitigation Strategies

The following table entails the risk mitigation strategies that were applied to the project.

Table 6: Risk mitigation strategies

Risk Type	Probability	Mitigation Measures
Reliance on key secondary data from activities	Low	• The proposed team had vast experience in adapting triangulation approaches. They identified critical gaps in existing data and complemented it with the primary survey
Appropriate Methodology	Low	• The proposed team brought national and international experience in leading and conducting research, monitoring, and evaluation. • The research design and the methodology were finalised in consultations with the CInI and relevant stakeholders. • The advisors reviewed the methodology
Stakeholder consultations	Low	• The beneficiary and stakeholder mapping and finalisation of the key stakeholders for consultations involved the CInI team. • In case of non-availability, support was sought from the CInI team to replace the non-available stakeholder(s) suitably. • We requested CInI to provide support as necessary to facilitate these consultations, such as letters of introduction and support
Client feedback	Low	• The work plan accounted for CInI feedback on the deliverables.

2.10 Ethical Considerations

The evaluation followed UNEG ethical guidelines, ensuring voluntary participation, the right to withdraw, anonymity through aggregate reporting and, if necessary, unique IDs. The table below outlines key ethical principles.

Table 7: Ethical consideration

Ethical Principles	Details
Informed Consent	• Informed consent of the participant in the most entire meaning, including genuine choice, is central to the consultations.
Do No Harm	• The principle of non-maleficence is sacrosanct to avoid harm to the respondents of the research, both through acts of commission and omission. Therefore, extensive training of the researchers with clear instructions for engagement and exit strategies in case of perceived harm during data collection is built into the methodology.
Privacy and Confidentiality	• Privacy and confidentiality are paramount in ethical data collection. We developed stringent security protocols for data handling, including collection, transmission, storage, analysis, and destruction. This includes limiting access, employing physical and electronic safeguards, using encryption, and ensuring secure data destruction and cloud storage. Utmost efforts were made to align the participants' understanding of the project's scope with realistic expectations regarding potential benefits, fostering transparency and trust throughout the process.
Respect and Justice	• The principle of respect implies valuing humans and their lived realities. It requires recognition that their decisions exist within broader personal, relational, social, cultural, legal and environmental contexts.

2.11 Study Limitations

While the Madhya Pradesh Health Systems Strengthening Project evaluation provides valuable insights into the project's effectiveness and impact, it is important to acknowledge certain limitations inherent in the study design and data available. These limitations should be considered when interpreting the findings and considering the generalizability of the conclusions.

Methodological Considerations:

- Qualitative Evidence Base: This evaluation draws significantly from qualitative data, primarily interview transcripts and summarized community feedback. While qualitative data offers rich contextual understanding and valuable perspectives on project implementation and perceived impacts, it inherently has limitations in terms of statistical generalizability to a broader population. The findings are indicative of project trends and impacts within the intervention sites but may not be statistically representative of all AAMs or primary healthcare facilities beyond the study areas.

- Potential for Recall and Social Desirability Bias: The reliance on patient satisfaction surveys and community feedback introduces the potential for recall bias, where respondents' memories of past experiences may be imperfect, and social desirability bias, where respondents may tend to provide answers, they perceive as positive or favorable. While efforts were made to mitigate these biases during data collection, their potential influence on the reported perceptions cannot be eliminated.
- Study Design and Causal Inference: The specific study design employed (quasi-experimental) is not fully detailed due to a limited non-intervention sample, so establishing comparative causal links between the intervention and observed outcomes may be limited. While the findings strongly suggest a positive association between the intervention and improvements, attributing causality solely based on the available information should be done with caution.

Sample and Non-intervention Group Considerations:

- Representativeness of Interviewee Sample: The analysis is informed by interviews. While these provide valuable program implementation and management perspectives, the representativeness of this sample in reflecting all stakeholder views (e.g., healthcare workers at different levels, diverse community members) is not fully ascertainable.
- Geographic Context Specificity: Implemented within a specific geographic and health system context, the findings are highly relevant to Madhya Pradesh but may not be directly generalized to other states or different healthcare settings without considering contextual differences.
- Limitations of Non-intervention Group Comparability and Size: The study utilizes a comparison between intervention and non-intervention AAMs. However, the information available indicates a limited number of non-intervention sites. The limited non-intervention group size, particularly concerning Community Health Officers (CHOs), introduces potential risks. Specifically, the smaller non-intervention group may not fully account for pre-existing differences in CHO characteristics (such as prior training, motivation levels, or access to other resources) between intervention and non-intervention areas. Furthermore, there is a potential risk of contamination, where CHOs in non-intervention areas might have indirectly benefited from program-related knowledge dissemination or broader government initiatives concurrent with the intervention, thus potentially underestimating the true impact of the program by reducing the differentiation between intervention and non-intervention groups. These limitations related to the non-intervention group, especially concerning CHOs, should be considered when interpreting the comparative findings.

Timeframe Considerations:

- Assessment of Short-Term to Medium-Term Outcomes: The findings primarily reflect outcomes observed during the project implementation and immediate post-intervention phases. Long-term sustainability and enduring impact may require further longitudinal evaluation.

Despite these limitations, the findings of this evaluation provide compelling evidence of the positive impact of the Madhya Pradesh Health Systems Strengthening Project on enhancing primary healthcare delivery. The identified limitations serve primarily to contextualize the findings and highlight areas for further research and more in-depth investigation. They do not negate the significant contributions of the project to improving service quality, patient satisfaction, and healthcare worker capacity within the intervention areas. Future evaluations could build upon these findings by employing even more robust study designs, incorporating larger and more representative samples, and collecting longitudinal data to further solidify the evidence base and comprehensively assess the long-term impact and generalizability of the project model.

03

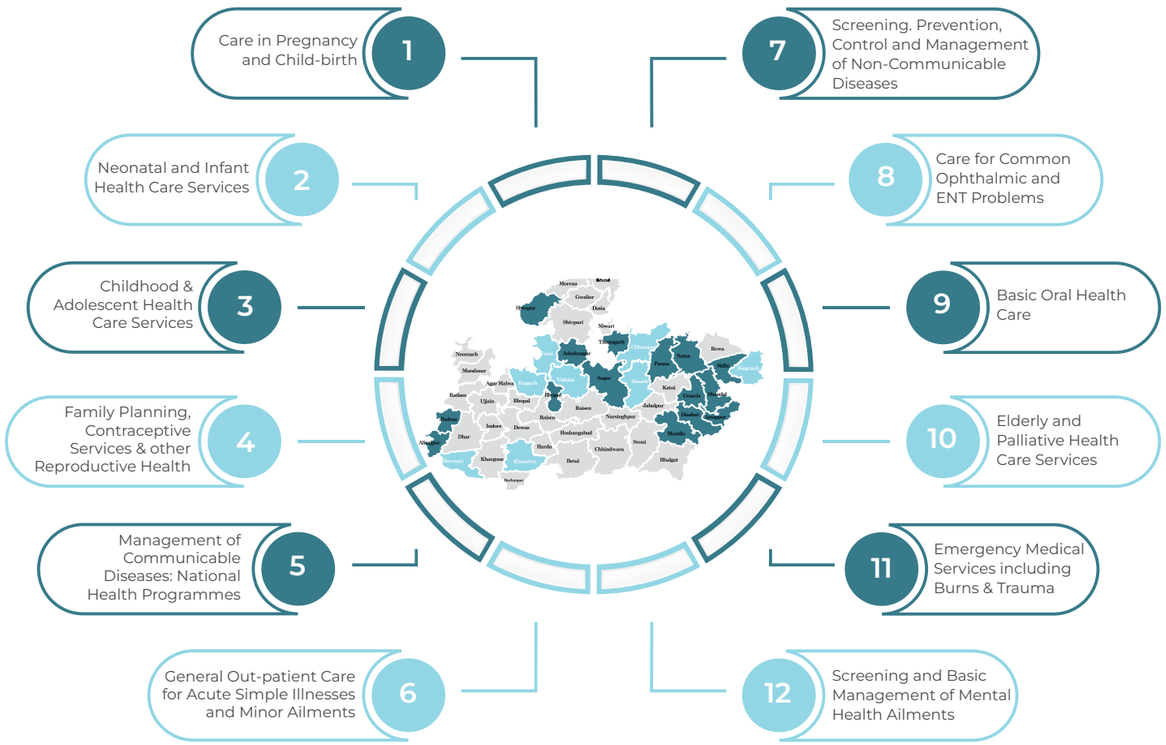
Literature Review

3. Literature Review

3.1. AB- AAM (Ayushman Bharat Ayushman Arogya Mandir)

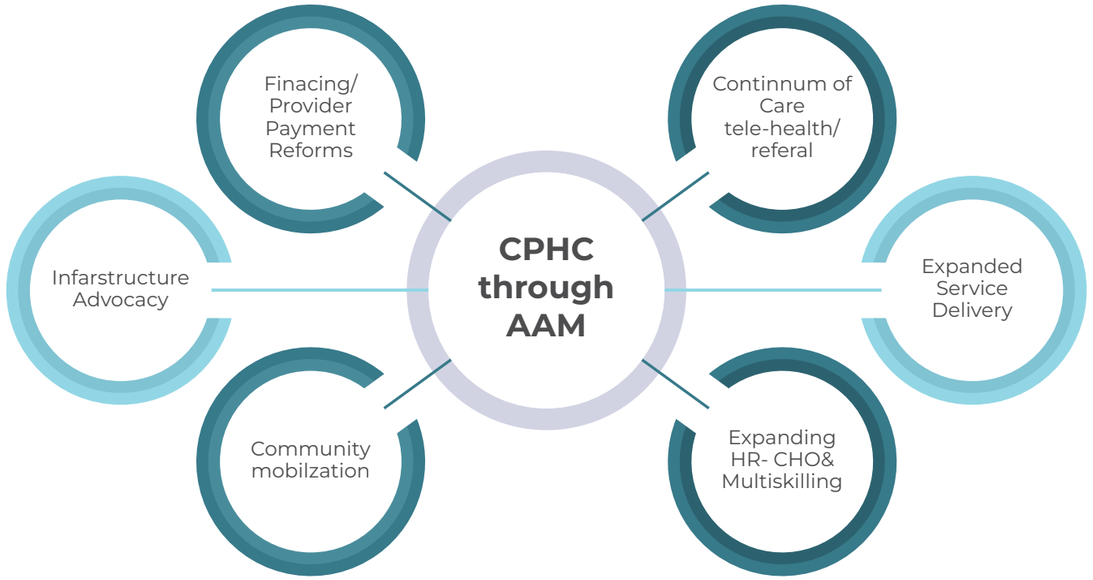
The National Health Policy (NHP) was formally published in 2017. It recommended significantly higher public spending on Primary Health Care (PHC) to strengthen the healthcare system. Subsequently, building upon these recommendations, the concept of Health and Wellness Centers, known as Ayushman Bharat-Ayushman Arogya Mandir (AB-AAM), was rolled out in Financial Year 2018-19. In its initial phase, the AB-AAM program was announced with a budget of ₹1200 crore. For service delivery enhancement, existing Sub-Health Centres (SHCs), each covering a population of 3000-5000, were targeted for conversion into Ayushman Arogya Mandirs. Respective state governments were then tasked with implementing comprehensive schemes to ensure health equity and broad service coverage. AAMs are envisioned to deliver 12 essential health service packages, expanding the scope of primary care.

Figure 5: CPHC expanded services



This ambitious national rollout of AB-AAMs has been a subject of considerable research and evaluation. For instance, Prinja et al. (2020) have examined the financial implications and resource needs for scaling up comprehensive primary healthcare under Ayushman Bharat, highlighting the substantial investments required for infrastructure, human resources, and service delivery.[7] Furthermore, studies by Porey et al. (2022), have explored the experiences of implementing Health and Wellness Centres in tribal districts, pointing to the critical role of context-specific strategies and community-level adaptations for successful program implementation.[8] These studies, and others in the field, provide a valuable context for interpreting the findings of this report, particularly in understanding how time allocation within HWCs and the initial phases of national rollout influence the observed improvements in service delivery metrics and patient satisfaction.

Figure 6: Key elements of CPHC



[7] **Prinja et al. (2020):** Prinja, S., Chauhan, A. S., Karan, A., Kaur, M., Kumar, R., & Aggarwal, S. (2020). Financial implications of scaling up comprehensive primary health care in India: What will it cost?. BMJ Global Health, 5(7), e002457.

[8] **Porey et al. (2022):** Porey, M., Iyer, A., Unnikrishnan, P. M., Devadasan, R., & Shankar, P. (2022). Early experiences of implementing health and wellness centres for primary health care in tribal districts of India: a mixed methods study.

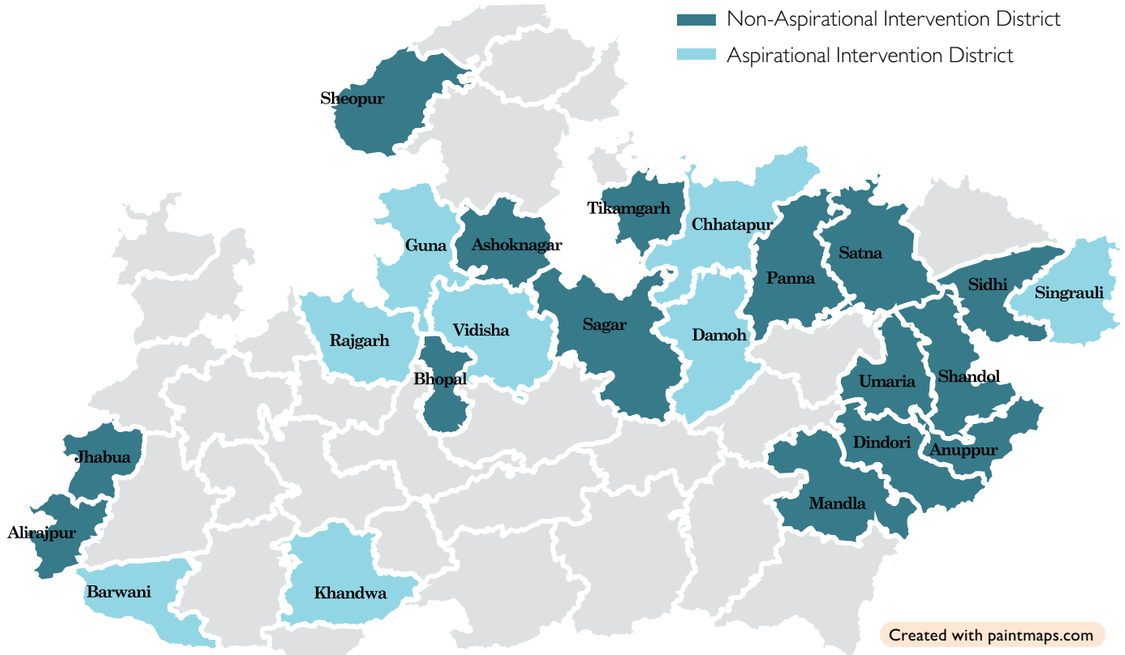
3.2. Overview of the MPHSS Project

Comprehensive Primary Health Care (CPHC) encompasses the full spectrum of care, including promotive, preventive, curative, rehabilitative, and palliative services. The National Health Policy of 2017 and the Ayushman Bharat initiative emphasise the enhancement of CPHC by establishing Ayushman Arogya Mandir (AAMs) across India, marking a significant step toward achieving Universal Health Coverage.

Strengthening CPHC ensures the delivery of prompt, high-quality healthcare services at the closest medical facilities. This approach reduces the prevalence and severity of diseases, minimises fatalities, and significantly lowers healthcare costs by reducing dependence on secondary and tertiary care. Early intervention through basic care at the community level not only prevents the progression of illnesses but also leads to fewer hospitalisations for advanced conditions, thereby decreasing treatment costs and overall health expenditure.

In Madhya Pradesh, Ayushman Bharat focuses on fortifying the foundation of primary healthcare by upgrading Sub-Centres and Urban Primary Health Centres into AAMs. These upgraded facilities aim to deliver expanded services, reinforcing the state's commitment to accessible and affordable healthcare at the grassroots level. In February 2020, The Government of Madhya Pradesh signed an MOU with Tata Trusts to establish 500 Model Health & Wellness Centers and 23 Urban Primary Health Centers, and Setting up a knowledge management network involving Government Medical Colleges . The project is implemented in 23 districts (including 8 aspirational districts), which will benefit almost 10,000 healthcare workers and around 25 lakh dependent populations using the HWCs and UPHCs.

Figure 7: CInI's intervention districts under the MPHSS



The State Government is implementing the project within the overarching framework of the National Health Mission (NHM). Collectives for Integrated Livelihood Initiatives (CInI), an associate organisation of Tata Trusts, provides critical support through management, advanced technology deployment, model AAM and UPHC facility development, quality certification, and comprehensive training for healthcare workers. These efforts are undertaken in collaboration with Government Medical Colleges, ensuring a holistic approach to strengthening healthcare delivery systems. CInI has been enhancing health systems in 23 districts across six administrative divisions. CInI's key roles include identifying and resolving gaps, building capacity and mentoring, adopting new technologies, monitoring, and promoting behaviour change initiatives.

Standard Operating Procedures (SOPs) have been documented for all the 12 Comprehensive Primary Health Care (CPHC) services available at AAMs. Proactive mentoring has improved the quality of services at intervention centres. Digitisation of health records has begun in UPHCs. The programme envisioned working towards sustainably leveraging the NHM across the state of Madhya Pradesh by building capacities of CPHC consultants, enhancing quality through technology-led tracking, and developing a cadre of Community Health Officers as mentors who will champion positive change.

3.3. Socioeconomic and Geographic Context of the Intervention

India is home to 104 million tribal people spread across 705 distinct tribes, constituting 8.6% of the nation's total population. Madhya Pradesh, one of the most populous states in the country, hosts the most significant tribal population, with 15.31 million individuals comprising 21.1% of the state's population.[9] Located in the remotest hills, forests, and deserts, tribal communities in Madhya Pradesh live culturally distinct lives largely untouched by acculturation and urbanisation. However, these communities represent one of the most vulnerable and marginalised segments of society, with a significant proportion still living below the poverty line. Their rural and remote settings exacerbate their limited access to social and safety nets, including healthcare.

Tribal populations in Madhya Pradesh lag behind other social groups across various social, health, and developmental indicators. This disparity hinders the state's socio-economic progress and underscores the impossibility of achieving the UN Sustainable Development Goals without addressing the concerns of this vulnerable group. Despite constitutional safeguards such as the "basic rights of the tribal people," introduced in 1950, meaningful socio-economic inclusion remains a distant goal, necessitating targeted interventions to bridge the gap in equity and access.

Madhya Pradesh, often called the "Heart of India," hosts a substantial tribal population comprising 21% of its inhabitants.[10] These communities, distributed across forests and remote regions, are socially and economically marginalised. They are particularly vulnerable to health disparities due to limited access to healthcare, malnutrition, and a heavy burden of both communicable and non-communicable diseases. Achieving sustainable healthcare improvements in these regions is essential for the state's socio-economic transformation and for fulfilling India's Sustainable Development Goals (SDGs)

[9] Census of India, 2011
[10] Census of India 2011

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3.3.1. Current Challenges About Primary Health Care

Inadequate Health Infrastructure: A significant shortfall exists in the availability of healthcare facilities. Studies reveal that sub-centres and Primary Health Centres (PHCs) in many tribal areas are under-equipped and lacking basic infrastructure, medicines, and equipment. Aspirational districts often have only 70-75% of the required health infrastructure per Indian Public Health Standards (IPHS). The remote location of villages exacerbates accessibility issues. Some communities must traverse 20-30 kilometres to reach the nearest health facility, discouraging timely medical intervention[11].

Severe Workforce Shortages: A chronic lack of trained medical professionals, including doctors, nurses, and midwives, hampers service delivery. Tribal areas have vacancy rates exceeding 25-30% for essential roles. Retaining health workers remains challenging due to poor working conditions, lack of career growth opportunities, and insufficient incentives for serving in remote areas[12].

High Disease Burden: The tribal population experiences a "triple burden of disease" encompassing malnutrition, infectious diseases such as malaria and tuberculosis, and non-communicable diseases like hypertension and diabetes. Data from districts like Jhabua, Sheopur, and Mandla indicate alarming rates of anaemia among women and adolescent girls, cervical cancer cases, and undernutrition in children[13].

Cultural and Behavioural Barriers: Indigenous beliefs often shape healthcare-seeking behaviour. Many tribal communities continue to rely on traditional healers to treat ailments, leading to delays in seeking modern medical care. Linguistic and cultural differences between health service providers and tribal populations also create trust issues.[14].

Economic and Geographical Barriers: Tribal regions are economically disadvantaged, with a high proportion of the population living below the poverty line. Out-of-pocket expenses for healthcare create further financial stress. Geographical isolation limits access, leaving tribal populations vulnerable to preventable deaths and diseases[15]

Mental Health Landscape & Treatment Gaps

Madhya Pradesh faces a substantial public health challenge concerning mental health, as highlighted by the National Mental Health Survey of India 2016.[16] The survey revealed that approximately **13.9%** of adults in the state currently experience a mental illness, with a lifetime prevalence reaching **16.7%**. Alarmingly, an estimated **91%** of individuals with mental health disorders in Madhya Pradesh do not receive any form of treatment, indicating a critical access gap. This situation is further compounded by a notable prevalence of substance use disorders and an elevated risk of suicide within the state's population.

[11] https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Madhya%20Pradesh.pdf
[12] Critical Specialist Shortage in Rural Madhya Pradesh Healthcare | Bhopal News - Times of India
[13] https://aiggpa.mp.gov.in/uploads/project/tribal_health.pdf
[14] https://nhsrcindia.org/sites/default/files/practice_image/HealthDossier2021/Madhya%20Pradesh.pdf
[15] The Tribal Health System in India: Challenges in Healthcare Delivery in Comparison to the Global Healthcare Systems - PMC
[16] Rao, G. Mental Health Issues in Madhya Pradesh: Insights from National Mental Health Survey of India 2016.

The scarcity of mental health resources within Madhya Pradesh contributes to this treatment gap.[17] The availability of mental health professionals remains limited, and the integration of mental healthcare services within primary healthcare facilities like CHCs and PHCs is often inadequate. The lack of infrastructure and human resources directly impedes the ability to provide timely and appropriate care to the significant portion of the population living with mental health conditions. The findings highlight the urgent need for initiatives aimed at strengthening mental health service delivery, such as the MPHSSP, to address this critical public health concern within the state.

3.3.2. National and International models

To bring about transformative improvements in healthcare delivery for the underserved populations of Madhya Pradesh, particularly in tribal and backward districts, it is essential to focus on the robust implementation of Comprehensive Primary Health Care (CPHC). This approach ensures that healthcare services are accessible, equitable, and holistic, addressing preventive and curative health aspects while catering to marginalised communities' specific needs.

The intervention carried out by CInI stands out as a unique and comprehensive model, integrating multiple dimensions of primary healthcare, community engagement, and system strengthening into a single framework. Finding such an all-encompassing healthcare intervention in one package is rare, making CInI's approach highly impactful and distinctive. However, recognising the diverse challenges and evolving healthcare needs, the team has also studied various national and international models that reflect some aspects of Madhya Pradesh's Health System Strengthening Project. These global and domestic experiences provide valuable insights and best practices that can be adapted to enhance further healthcare accessibility, efficiency, and sustainability within the state.

3.3.2.1 Comprehensive Primary Healthcare Model (Tamil Nadu)

Tamil Nadu has established a robust and comprehensive primary healthcare model, with its drug distribution system standing out as a best practice. The state's well-structured logistics and monitoring framework ensures an uninterrupted supply of essential medicines to healthcare facilities across urban and rural areas. This efficient system is backed by meticulous planning, centralised procurement, and streamlined inventory management, preventing shortages and ensuring timely availability of drugs at Health and Wellness Centers (AAMs) and Urban Primary Health Centers (UPHCs). By leveraging digital tools and real-time tracking mechanisms, Tamil Nadu has significantly minimised stockouts, thus enhancing service delivery and patient care.

[17] Kokane, A. M., Pakhare, A. P., Gururaj, G., Varghese, M., Benegal, V., Rao, G. N., Anniappan Arvind, B., Prasad M, K., Mitra, A., Shukla, M., Yadav, K., Ray, S., Ranjan, A., Chatterji, R., & Mittal, P. (2021). How Healthy Is State Mental Health System in Madhya Pradesh, India? An Assessment of Today to Plan for a Better Tomorrow. Psychiatry journal, 2021, 6364321. https://doi.org/10.1155/2021/6364321

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3.3.2.2 Universal Coverage through Village Health Volunteers (VHVs) (Thailand)

Thailand has achieved significant success in universal healthcare coverage, primarily due to its Village Health Volunteers (VHVs) program, which is critical in bridging the gap between communities and primary healthcare facilities. VHVs act as community-based health workers, ensuring preventive healthcare services reach even the most remote areas. These volunteers are trained to provide basic health education, conduct health screenings, support maternal and child health, and promote disease prevention efforts within their local communities. By fostering strong community engagement and improving health literacy, VHVs empower individuals to take charge of their health, ultimately reducing the burden on healthcare facilities.

A key strength of Thailand's VHV system is its focus on preventive care rather than just curative services. VHVs actively participate in vaccination drives, sanitation campaigns, nutrition awareness programs, and chronic disease management, such as diabetes and hypertension control. Their continuous engagement with communities ensures early detection of health risks, timely referrals to healthcare centres, and follow-ups for at-risk individuals. By maintaining a close relationship with households, VHVs help in tracking health trends, spreading awareness about public health initiatives, and enhancing community participation in national health programs. This system has significantly contributed to Thailand's success in reducing mortality rates, controlling communicable diseases, and improving public health indicators.

3.3.2.3 Family Health Strategy (FHS) (Brazil)

Brazil's Family Health Strategy (FHS) is one of the most successful community-based primary healthcare models, ensuring comprehensive and proactive healthcare delivery to populations across urban and rural areas. The FHS operates through family health teams consisting of doctors, nurses, and community health workers (CHWs) who work collaboratively to provide preventive, curative, and rehabilitative care directly to households. This model emphasises continuity of care, with healthcare teams regularly visiting families, monitoring their health status, and addressing medical concerns before they escalate into severe conditions. By integrating preventive healthcare, disease management, and health promotion, FHS has significantly improved maternal and child health indicators, chronic disease control, and overall health equity in Brazil.

3.3.2.4 Data-Driven Health Systems (Rwanda)

Rwanda has emerged as a global leader in leveraging data-driven health systems to improve healthcare accessibility and efficiency. A key component of Rwanda's success is its community-based health insurance model, which ensures that healthcare is affordable and accessible to all, particularly in rural areas. This universal health coverage system is integrated with real-time data monitoring and mobile health applications, allowing healthcare providers and policymakers to track disease patterns, patient visits, treatment outcomes, and service efficiency at a granular level. By embracing technology-driven healthcare management, Rwanda has significantly enhanced early disease detection, resource allocation, and response times to public health challenges.

One of the standout features of Rwanda's health system is its real-time data collection and analysis, which enables predictive healthcare planning and timely interventions. Mobile health (mHealth) applications allow community health workers (CHWs) to record patient data on disease symptoms, medication adherence, and treatment progress, ensuring seamless coordination with doctors and hospitals. These digital tools help in managing outbreaks, tracking maternal and child health indicators, and improving referral systems. Integrating data analytics in healthcare has empowered decision-makers with actionable insights, allowing them to address service gaps, optimise healthcare supply chains, and improve patient outcomes.

3.3.2.5 NHS Quality Improvement Initiatives (United Kingdom)

The National Health Service (NHS) in the United Kingdom has been at the forefront of quality improvement in healthcare, setting high standards through quality assurance frameworks, standardised clinical protocols, and patient feedback mechanisms. This structured approach ensures consistent, evidence-based care delivery across the healthcare system, reducing variations in treatment quality and improving patient outcomes. The NHS emphasises continuous monitoring, evaluation, and feedback loops, allowing healthcare providers to identify inefficiencies, implement corrective measures, and enhance service delivery. By integrating clinical governance frameworks, the NHS has created a culture of accountability, transparency, and patient-centred care, ensuring that healthcare services meet the highest quality standards.

One of the core elements of the NHS's success is its use of standardised protocols and guidelines, ensuring that medical professionals across the system adhere to best practices in diagnosis, treatment, and patient management. These protocols are regularly updated based on scientific research, technological advancements, and real-world patient data, ensuring that healthcare remains dynamic, efficient, and responsive to changing health trends. Moreover, the NHS significantly emphasises patient engagement, incorporating patient satisfaction surveys, feedback forms, and grievance redressal mechanisms into its quality improvement initiatives. This approach enables patients to participate actively in their healthcare journey, fostering trust in the system and allowing providers to tailor services based on real-time insights from those they serve.

In conclusion, Madhya Pradesh's way forward hinges on creating a comprehensive, integrated healthcare ecosystem that Centres on equitable access and quality service delivery. The state can overcome its historical health inequities by addressing foundational issues in primary healthcare, embracing technological innovations, mobilising community participation, and ensuring consistent policy and financial support. These efforts will not only uplift marginalised tribal and backward populations but also strengthen Madhya Pradesh's commitment to achieving universal health coverage, making healthcare genuinely inclusive and accessible for all.

04

Insights from the assessment

4. Insights from the assessment

4.1 Ownership, Participation and Accountability

This section examines the role of community participation, awareness generation, and local ownership in strengthening healthcare delivery. It explores how effectively communities engage with healthcare programs, their level of awareness about available services, and the mechanisms in place to ensure accountability in healthcare governance. The findings highlight the impact of community-based initiatives, the role of frontline healthcare workers in mobilizing participation, and the effectiveness of participatory decision-making in improving service uptake and trust in public health facilities.

4.1.1 Community Participation and Awareness Generation

Community participation and awareness generation are critical for ensuring the success of public health programs. Findings from focus group discussions (FGDs) with community members and patients indicate that most people learn about health awareness campaigns and special programs such as Pulse Polio Sundays, vaccination drives, and antenatal check-ups through multiple communication channels.

Additionally, community engagement initiatives such as Wellness Days have significantly boosted public awareness and trust in the services provided by Ayushman Arogya Mandirs (AAMs). These programs are designed to educate community members about healthcare services available at AAMs and encourage active participation. The involvement of local leaders, Community Health Officers (CHOs), and ASHAs in these outreach activities has played a key role in strengthening community ties and engagement with local health services.

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We mostly rely on ASHA didis to tell us about the health programs. They visit our homes and remind us about vaccinations and check-ups. Without them, we wouldn't know when to go for services.

– A community member from East Nimar shared during FG

Sources of Health Awareness Information

Frontline Health Workers (ASHAs & ANMs)

The most commonly cited source of information was **home visits by ASHAs and ANMs**, who inform households about upcoming vaccination drives, health check-up camps, and maternal-child health services.

Village Meetings & Community Gatherings

Some participants mentioned receiving information through **meetings organized by local leaders and frontline workers** where key health messages are shared.

Posters, Banners, and Wall Paintings

Posters, Banners, and Wall Paintings: Many villagers reported seeing **health-related messages on banners, posters, and wall paintings** placed in common areas such as health centers, schools, and Panchayat offices.

Public Announcements

Public Announcements: In some areas, **loudspeaker announcements in public spaces** were mentioned as an effective way of spreading information about health programs

Health Centers & Anganwadi Centers

Several participants stated that information about **free health camps and screenings** was available at **health facilities and Anganwadi centers**, allowing visitors to learn about upcoming services.

Community Participation in Health Programs

A significant number of community members reported active participation in health programs:

- **Ease of Access:** Programs like Pulse Polio Sundays and vaccination drives were described as well-organized, easily accessible, and held within the village or at nearby health centers, making it convenient for families to attend.
- **Positive Interaction with Health Workers:** Many participants appreciated the friendly approach of ASHAs and ANMs, noting that they provided clear instructions and addressed health-related concerns.
- **Quality of Services:** Most respondents felt that the services provided during these campaigns, such as vaccinations, anemia screenings, and health check-ups, were beneficial and helped them make informed health decisions.

While current efforts to inform the community are effective, discussions revealed **several gaps that need to be addressed** to further improve participation:

Need for More Interactive and Regular Awareness Sessions

Several participants suggested that **more frequent village meetings and interactive sessions** could help increase awareness about health programs.

Limited Awareness Among Certain Groups

Some **elderly individuals and men** were less informed about health programs, as information is often targeted at women and children. More inclusive **household-level outreach** is needed.

Better Utilization of Schools for Health Awareness

Participants felt that **health awareness sessions in schools** could educate children about **nutrition, hygiene, first aid, and preventive care**, who can then pass on this knowledge to their families.

Lack of Incentives for Participation

Some suggested that providing **small incentives such as hygiene kits, certificates, or refreshments** could **encourage greater participation in health programs**.

Expanding Digital Outreach

A few participants recommended exploring **mobile messaging services (SMS, WhatsApp groups) or local radio broadcasts** to share health-related updates and reminders.

> *The women in our house know about these health programs because ASHAs talk to them. But men like us don't always get this information. It would help if they informed everyone in the household.*
>
> *– A male respondent from Sagar highlighted during FGD*

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Insights from **FGDs with community members and patients** show that **ASHAs, ANMs, and other frontline workers play a crucial role in disseminating health information and mobilizing communities**. While existing awareness mechanisms—such as **home visits, posters, and village meetings—are effective, expanding outreach to underrepresented groups, increasing interactive engagement, and leveraging digital tools** can further enhance participation and impact.

Additionally, as mentioned by beneficiaries- Community engagement has been significantly enhanced through the project interventions. Direct feedback highlights the profound impact of health camps and Community Health Officer (CHO) home visits in raising health awareness and fostering service utilization. The increased availability of Comprehensive Primary Health Care (CPHC) services within their locality has been lauded as a major benefit, enabling convenient access to essential medical care close to home. Furthermore, positive word-of-mouth within communities is emerging as a powerful driver for service uptake, as the perceived quality of care at intervention Ayushman Arogya Mandirs increasingly speaks for itself, building trust and encouraging greater community participation in primary healthcare initiatives.

4.1.2 Inclusiveness and Stakeholder Participation in Decision-Making

A cornerstone of the project's success was its commitment to stakeholder engagement, particularly in the critical phases of design and implementation. The intervention proactively fostered collaboration with key partners, ensuring a robust and well-informed approach. The collaborative ethos were evident from the outset, with the project's framework benefiting significantly from the integration of diverse expertise. Early in the project's lifecycle, consultations with the core teams (including Tata Trusts, and Government stakeholders) were instrumental in shaping the project's conceptual underpinnings. This partnership extended beyond initial design, with quarterly review meetings established as a key mechanism for continuous improvement. These forums provided valuable opportunities to present program progress, openly discuss implementation challenges, and collaboratively develop adaptive solutions. This iterative process, driven by ongoing dialogue, ensured the project remained dynamic and responsive to evolving needs throughout its implementation. Engagement with government stakeholders was prioritized at the highest levels, demonstrating a commitment to aligning project objectives with national health priorities. A significant executive committee meeting, chaired by the Mission Director of the National Health Mission (NHM), convened key stakeholders including NHM leadership and Deputy Directors, which served as a crucial platform for soliciting and incorporating feedback on the proposed Key Performance Indicators (KPIs), ensuring governmental buy-in and alignment from the project's inception.

While recognizing the facility-centric nature of the intervention, the project also incorporated mechanisms to understand and respond to community needs. Although direct community participation in the initial design phase was less prominent, the project proactively engaged with community-level institutions and healthcare workers during implementation. A comprehensive baseline study, encompassing extensive data points, provided a valuable understanding of existing facility conditions and indirectly reflected community health needs. Furthermore, the project implemented facility-based activities such as health talks to enhance community awareness and promote positive health-seeking behaviors.

The intervention has effectively prioritized stakeholder engagement, fostering strong collaborations with technical design partners and government bodies. The commitment to inclusiveness, characterized by ongoing dialogue and feedback loops, was a key enabler of the project's adaptive and responsive implementation strategy. While primarily facility-focused, the project also incorporated mechanisms to address community needs and promote community engagement within the project framework.

4.1.3 Feedback and Grievance Redressal Mechanisms

A defining characteristic of the intervention was its commitment to establishing and utilizing effective feedback mechanisms to ensure accountability and responsiveness. While not employing formal grievance redressal systems in the conventional sense, the project successfully integrated a multi-faceted approach to feedback collection, analysis, and utilization, driving continuous project improvement and adaptation.

Supportive supervision visits, a central intervention strategy, functioned as an embedded feedback loop, driving continuous quality enhancement. These visits, utilizing detailed checklists, facilitated the identification of gaps in service delivery and capacity, while simultaneously serving as opportunities for immediate on-site training and best practice reinforcement. This dual-purpose approach to supportive supervision highlights its effectiveness as both a monitoring and a quality improvement mechanism.

Monthly review meetings served as a cornerstone of the feedback system, providing structured forums for open communication and collaborative problem-solving. These meetings, bringing together the design team and implementation teams, facilitated a robust exchange of information and perspectives. These recurring forums enabled proactive identification of challenges and fostered collaborative strategy development to overcome them. The commitment to quarterly physical meetings further underscores the importance placed on in-depth discussions and informed course correction. Beyond formal reviews, regular field engagement proved invaluable in gathering real-time, on-the-ground feedback. Monthly district visits by project personnel ensured a direct understanding of implementation realities, enabling proactive issue identification and responsive problem-solving. The proactive approach to field-based feedback collection was exemplified by strategic adaptations, such as project adjustments in specific districts based on on-the-ground assessments of support effectiveness. Such responsiveness demonstrates a flexible and adaptive management style, guided by real-time feedback.

While formal patient or community grievance mechanisms were not explicitly detailed, patient feedback was recognized as a critical indicator of success, particularly in relation to service quality and staff professionalism. Positive patient feedback, indicating improved quality of care and enhanced trust in the healthcare system, suggests that patient experiences, though perhaps not captured through formal grievance channels, were nonetheless a monitored and valued metric of project effectiveness.

In summary, the intervention effectively implemented a robust and responsive feedback system. Through structured quarterly reviews, proactive field engagement, and embedded supportive supervision practices, the project ensured continuous feedback collection and utilization to inform project adaptation and drive improvement. This commitment to responsiveness and adaptive management was a key factor in the project's overall effectiveness.

4.1.4 Performance Monitoring and Transparency

A hallmark of the Madhya Pradesh Health Systems Strengthening Project was its implementation of a robust performance monitoring system and a commitment to transparent reporting, particularly to government and technical stakeholders. The project established clear mechanisms for systematically tracking progress, ensuring accountability, and fostering a data-driven approach to project management. A dedicated monitoring function within the project management structure underscored the priority placed on performance oversight. This designated role focused on systematically tracking progress against a clearly defined logical framework and Key Performance Indicators (KPIs). Data collection was rigorously structured, with monthly reporting systems feeding into a multi-layered data validation process to ensure accuracy and reliability.

Quarterly physical meetings provided essential platforms for in-depth performance reviews. These forums facilitated detailed discussions of project status, KPI achievement, and challenges encountered. Demonstrably exceeding targets across most KPIs, the project proactively addressed remaining indicators, reflecting a strong performance-oriented approach. Regular monthly updates further ensured consistent dissemination of performance information, maintaining stakeholder awareness of progress. Transparency was a core principle in stakeholder engagement. Quarterly presentations to the PMU team fostered open communication regarding project progress, challenges, and strategic adaptations. Furthermore, the project's governance structure, characterized by high-level government oversight and daily coordination with government officials, ensured transparency and accountability to key governmental partners. Regular reporting and communication with government stakeholders were prioritized to facilitate necessary support and ensure alignment with governmental priorities.

Internally, the project cultivated a performance-driven culture through a structured reward and recognition system. This system, based on clearly defined parameters linked to field actions, capacity building outcomes, and reporting quality, incentivized high performance and fostered a culture of continuous improvement within the project team. The intervention successfully implemented a comprehensive and effective performance monitoring system. Coupled with a strong commitment to transparency, particularly in relation to government and technical stakeholders, this system ensured accountability, facilitated data-driven decision-making, and fostered a culture of continuous improvement, contributing significantly to the program's overall effectiveness and impact.

4.2 Service Delivery

This section evaluates the accessibility, quality, and efficiency of healthcare service delivery at intervention facilities. It assesses how easily communities can access essential health services, the extent to which service delivery aligns with quality standards, and whether healthcare workers demonstrate professionalism and responsiveness in patient interactions. The section also reviews the range of healthcare services provided, including maternal health, non-communicable disease (NCD) management, and other critical interventions. Additionally, it examines patient satisfaction levels and how the attitude of healthcare workers influences service utilization. The findings identify key strengths in service provision as well as persistent gaps that impact the overall patient experience.

4.2.1 Accessibility and Coverage

The Ayushman Arogya Mandirs (AAM) are vital hubs for delivering Comprehensive Primary Health Care (CPHC) across rural Madhya Pradesh. These centres aim to provide equitable, accessible, high-quality health services tailored to the community's needs, focusing on preventive, promotive, curative, rehabilitative, and palliative care. Key aspects of CPHC delivery through AAM include:

70-80% of Centres deliver quality services, but maternal health and childcare require further capacity strengthening to improve overall service delivery.

DQM, Mandla

AAM has done splendid work in providing health services. Better patient dealing by CHO, Better lab test facilities, screening of diseases and medicine given by CHOs, TB drive going on in full flow -1100 sputum samples for TB from among 5000 People 10% DOTS services provided to identified patients

DNO East Nimar

Service Provision

Essential services include maternal and child health, immunisation, managing communicable and non-communicable diseases, and family planning. Specialised care is extended to address conditions like diabetes, hypertension, and mental health issues, ensuring holistic health coverage.

Health Workforce

The AAM is staffed with trained Community Health Officers, Auxiliary Nurse Midwives (ANMs), and Accredited Social Health Activists (ASHAs). These personnel act as the first point of contact for rural populations. Ongoing capacity-building efforts are aligned with National Quality Assurance Standards (NQAS) and Kayakalp guidelines, ensuring staff are skilled in CPHC delivery.

Community Outreach

Active involvement of ASHAs and community health workers facilitates targeted interventions, health awareness campaigns, and early screening programs. The Centres focus on strengthening community linkages through Jan Arogya Samitis (JAS) and Village Health, Sanitation, and Nutrition Committees (VHSNCs).

Integration of Services

AAM Centres coordinate with higher-tier health facilities for seamless referrals and continuity of care, particularly for secondary and tertiary-level health needs. Integrating diagnostic and therapeutic services focusing on local health priorities enhances efficiency.

4.2.1.1 Accessibility and convenience of AAM

Our analysis of Comprehensive Primary Health Care (CPHC) delivery across intervention and non-intervention Ayushman Arogya Mandir (AAMs) in Madhya Pradesh provides key insights into the proximity of AAMs to patients' homes and their ease of access.

Findings indicate that all patients reside within 5 km of both intervention and non-intervention AAMs. Notably, a significant proportion of patients lived within 1 km of both the intervention AAMs and non-intervention AAMs—demonstrating overall physical accessibility.

91% of patients found it very easy to access the intervention AAMs, compared to only **49%** for non-intervention AAMs

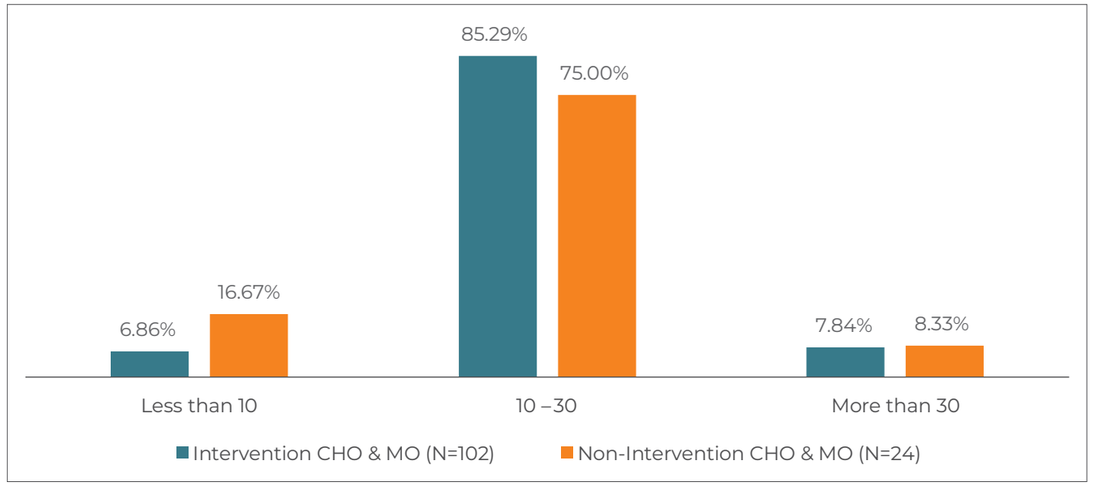
However, the perceived ease of reaching the AAMs varied significantly despite similar distances. A striking 90.5% of patients found it very easy to access intervention AAMs, compared to only 49% for non-intervention AAMs. While all patients from both groups reported either a very easy or somewhat easy experience in reaching their respective centers, the findings suggest that intervention AAMs offer a notably superior experience in terms of availability of staff, accessibility and convenience. These results highlight the importance of physical proximity, infrastructure, transportation, and other facilitating factors in enhancing healthcare accessibility. Strengthening ease of access at non-intervention AAMs could further improve patient experience and healthcare utilization.

These findings are further corroborated by beneficiaries - The transformation in accessibility and convenience at Ayushman Arogya Mandirs is remarkable. Community members contrasted the past state of these centres – noting they "earlier were lacking quality, both infra and doctor wise" – with the present reality. Now, they express a strong sense of improved accessibility and convenience, emphasizing that they "can now say that we also have quality care on par with private hospitals" right within their communities. This qualitative feedback underscores the significant strides made in enhancing both the physical accessibility and the perceived quality of care at AAMs, making healthcare far more convenient and reassuringly comparable to private sector options for local populations.

Previously the medical center did not have quality both in terms of doctor availability and infrastructure services, but now we can also say that our local center has quality as good as private hospitals

Building on our accessibility analysis, we further examined the delivery of Comprehensive Primary Health Care (CPHC) by assessing the daily patient load at both intervention and non-intervention Ayushman Arogya Mandir (AAMs). This evaluation provides valuable insights into the capacity and utilisation of these facilities, shedding light on patient demand and service efficiency.

Figure 8: Average number of OPDs/day at AAMs



**The N refers to the number of CHOs & MOs interviewed at the centres*

The distribution of daily patient load between the intervention and non-intervention facilities indicates that intervention AAMs regularly maintain a higher volume of patient care. While the majority of both intervention (85.3%) and non-intervention (75%) Centres see between 10 and 30 patients daily, indicating that AAMs are moderate sized. A smaller percentage of intervention Centres have less than 10 daily patients (6.9%) compared to non-intervention Centres (16.7%) where a slight increase was observed possibly indicating a lower usability. The observed differences between intervention and non-intervention Centres should be interpreted within the context that intervention Centres demonstrate relatively higher patient throughout, this implies that intervention Centres are better utilised, contributing to more efficient healthcare service delivery in those areas.

The data presents a case for the effectiveness of health systems strengthening initiatives, particularly regarding human resource stability and service delivery capacity at primary health Centres. As we continue to analyse further aspects of the MPHSS project, these foundational insights will inform our understanding of the broader impacts on health system performance and community health outcomes in Madhya Pradesh.

4.2.1.2 Access to Key Health Services

Understanding patient's access to various health services is essential for evaluating the effectiveness and reach of healthcare provision. This section examines the availability of medical consultations, specialist services, diagnostics, and medicines as experienced by the patients.

Medical Consultations

The standout feature is the relatively better high access to Community Health Officers (CHOs), with 94.8% in intervention areas compared to 87.0% in non-intervention areas. This suggests a strong reliance on CHOs for primary care, highlighting their critical role in the healthcare delivery system in both intervention and non-intervention settings.

Specialist Consultations

Physical consultations with specialists are absent across both groups, which could point to systemic limitations or resource allocation policies that favour primary care. Virtual consultations through platforms like e-sanjeevani are more prevalent in the intervention This emerging trend reflects the integration of telemedicine into healthcare systems, providing a promising avenue for expanding access to specialist care, particularly in remote or underserved areas.

Implications for Healthcare Delivery

The data underscores the importance of CHOs in delivering primary care and the potential of telemedicine to enhance access to specialised care. To improve healthcare outcomes, there may be a need to further integrate specialist services, both physical and virtual, and ensure consistent availability of essential medicines. Addressing these gaps will help build a more comprehensive and responsive healthcare system that can meet the population's diverse needs. Overall, the insights from patient access to services indicate both progress and areas for improvement in healthcare delivery, with significant implications for future health systems strengthening initiatives.

The beneficiaries mentioned

Access to key health services has been significantly improved at the local level. Communities reported that "all basic care is now available in the nearby AAMs," marking a substantial improvement in primary care accessibility. They indicated that district hospitals are now primarily involved in diagnosis, management and treatment of cases referred from periphery, also in provisioning of advanced diagnostic tests, highlighting the AAMs' role in managing routine healthcare needs. Crucially, even when referrals are necessary, community members emphasized the supportive role of the AAM, noting that "the center helps them with referrals and the CHO and center staff are very helpful in assisting." The feedback underscores the AAMs' effectiveness in providing comprehensive basic care, appropriately triaging cases, and offering crucial support to patients navigating the referral system, ultimately improving access to the broader healthcare system.

4.2.1.3 Convenience of Service Delivery Modalities and Operational Timings

Building on our analysis of accessibility, we further examined the delivery of Comprehensive Primary Health Care (CPHC) by assessing the convenience of service delivery and operational timings at both intervention and non-intervention Ayushman Arogya Mandir (AAMs) across Madhya Pradesh. This evaluation provides insights into how well these facilities align with patient preferences, particularly in terms of their operating hours and the availability of teleconsultation services.

The intervention AAMs have better infrastructure, awareness, and patient engagement strategies for digital healthcare services. Strengthening teleconsultation accessibility and quality in non-intervention AAMs could bridge the gap and ensure more equitable service delivery across all facilities.

earlier many times the doctors were only available for a short duration of time per day, now they sit throughout the day

Beneficiaries mentioned the significant improvements in the convenience of service delivery modalities and operational timings at AAMs have been realized. They contrasted the previous situation where "earlier many times the doctors were only available for a short duration of time per day" with the current enhanced doctor availability, noting "**now** they sit throughout the day." Furthermore, community members highlighted the increased clarity and predictability of centre timings, stating "we even have clarity on the centre timings and its convenient based on our own available time." This highlights the tangible improvements in service convenience, with enhanced doctor availability throughout the day and clear, community-friendly operating hours, making healthcare access more predictable and adaptable to community members' schedules.

4.2.1.4 Impact on Service Accessibility and Efficiency

As part of assessing the impact of infrastructure upgrades on healthcare delivery, we examined waiting times, the effectiveness of referral services, and the continuity of service delivery across intervention and non-intervention Ayushman Arogya Mandir (AAMs) in Madhya Pradesh. Understanding these factors provides insight into whether the advocacy for infrastructure improvements have led to better patient experiences and operational efficiency in intervention AAMs compared to non-intervention AAMs.

Most patients reported a waiting time of less than **30 mins**

Reduced Waiting Time for Patient Care

Most patients reported waiting less than 30 minutes; however, intervention AAMs demonstrated a slight advantage in reducing waiting times further to around 20 minutes. This suggests that infrastructure improvements may have contributed to more efficient patient flow and reduced congestion.

94% of patients reported that referral services were properly explained

Effectiveness of Referral Services

A well-functioning referral system ensures timely access to specialized care when required. In intervention AAMs, **94%** of patients stated that referral services were properly explained and arranged, when necessary. This indicates that infrastructure enhancements, potentially coupled with better-trained staff and streamlined processes, have improved the clarity and efficiency of patient referrals.

74% of patients reported no delays or interruptions in service delivery

Continuity and Uninterrupted Service Delivery

Service continuity is critical for maintaining patient trust and healthcare effectiveness. Among patients at intervention AAMs, **94%** reported no delays or interruptions in service delivery. This suggests that advocacy for improved infrastructure in intervention AAMs may have played a role in minimizing service disruptions, ensuring that patients receive timely and uninterrupted care.

The findings highlight a clear difference in service efficiency between intervention and non-intervention AAMs. While both groups performed well in terms of short waiting times, efficient referral processes, and service continuity, intervention AAMs consistently demonstrated better outcomes. These improvements suggest that infrastructure upgrades contribute to more efficient patient management, streamlined referrals, and fewer service disruptions—ultimately enhancing the overall quality of care.

The findings highlight that Ayushman Arogya Mandirs (AAMs) have significantly improved healthcare access and service delivery in rural Madhya Pradesh. Intervention Ayushman Arogya Mandir (AAMs) consistently outperformed non-intervention AAMs in accessibility, efficiency, and patient satisfaction. While both groups had similar physical proximity, patients at intervention AAMs found them easier to reach. These Centers also managed higher patient loads, had shorter waiting times, and ensured better service continuity, with fewer disruptions and more effective referrals. Access to medical consultations, diagnostics, and medicines was generally strong, though intervention AAMs showed higher reliance on Community Health Officers (CHOs) and greater adoption of teleconsultations. However, gaps remain in specialist consultations and medicine availability, underscoring the need for further investment in infrastructure, staffing, and digital health systems. Overall, intervention AAMs demonstrate the benefits of targeted healthcare improvements, but scaling these advancements to non-intervention centers is essential to achieving equitable, high-quality healthcare across the state.

4.2.2 Quality of Care

4.2.2.1 Quality Assurance Mechanisms and Their Effectiveness

The feedback from intervention group participants provides valuable insights into how CInI's involvement has influenced the attainment of quality standards and accreditations in Ayushman Arogya Mandir (AAMs).

Capacity-building activities improved skills through training, better gap identification, use of data for follow-ups, and the creation of specific registers for wellness and counselling activities.

CHO, Jhabua

Participants overwhelmingly acknowledge the importance of CInI's role in achieving quality accreditation:

- **Very Important:** 40.9% of respondents believe that CInI's involvement was significant to their facility receiving quality accreditation. This indicates a high level of value attributed to CInI's guidance, resources, and support in navigating the accreditation process.
- **Important:** An additional 56.0% rate CInI's role as necessary, further emphasising the substantial impact of CInI's efforts on ensuring that healthcare facilities meet established quality standards.
- Notably, no responses are categorising CInI's role as unimportant, underscoring the positive perception and effective presence of CInI in the quality improvement processes at these facilities.

The strong endorsement of CInI's role by healthcare professionals within the intervention group highlights the critical nature of targeted support and strategic partnerships in achieving high standards of healthcare delivery. CInI's involvement appears to be pivotal in providing the necessary resources, knowledge, and motivation to pursue and maintain quality accreditations, which are key to fostering trust and ensuring high standards of patient care.

Since the implementation of MPHSSP by CInI, healthcare access in tribal areas has improved significantly, with more patients visiting AAMs/UPHCs for routine and preventive care. The quality of services has also improved due to enhanced staff training and better infrastructure. Maternal and child health indicators have notably improved, such as institutional deliveries and immunisation rates. Patients report higher satisfaction with reduced waiting times and better availability of medicines. The program has successfully bridged gaps in healthcare delivery and built community trust in public health systems.

DNO, Ashoknagar

Evaluation of Standardized Service Delivery in Model AAMs

The Model Ayushman Arogya Mandirs (AAMs) in Madhya Pradesh demonstrate improved service delivery aligned with the Comprehensive Primary Health Care (CPHC) framework. The transition of selected Ayushman Arogya Mandir (AAMs) into model AAMs reflects improvements in infrastructure (through advocacy), training, technology adoption, and adherence to service protocols.

Improvements in Standardized Service Delivery

Expanded Scope of Services

Model AAMs are now delivering all 12 designated health services under the CPHC mandate. Enhanced operational alignment with National Quality Assurance Standards (NQAS) has improved patient care, with all medicines included in the Essential Drug List (EDL) available on-site. Specific improvements were noted in disease screening, wellness activity organisation, and service coverage for family planning and non-communicable diseases (NCDs).

Reduction in Referral Rates

Consistent mentoring and training has demonstrably enhanced the capacity of CHOs and ANMs to effectively manage local health needs. This strengthened capacity, reflected in the successful delivery of 12 CPHC services at AAMs and increased healthcare provider confidence, is perceived by community members and beneficiaries as significantly improving primary care accessibility at the local level. **Community feedback indicates a noticeable shift in the perceived role of district hospitals**, which are now seen as focusing primarily on diagnosing and managing cases referred from primary facilities, as well as providing advanced diagnostics. **Beneficiaries highlighted the supportive function of AAMs within the referral system**, emphasizing the helpfulness of centre staff in assisting with necessary referrals. Overall, **stakeholder responses suggest that AAMs are effectively addressing routine healthcare needs and providing crucial support in navigating the referral process**, leading to a perceived decrease in unnecessary referrals to higher-level facilities.

Improved Documentation Practices

The adoption of systematic documentation procedures, supported by training and the use of digital tools such as the AAM portal and e-Sanjeevani, has streamlined reporting and accountability at model Centres.

Technology Uptake

Tools such as MP Aushadhi for indenting and recieving drugs and logistics and e-Sanjeevani for teleconsultations have improved efficiency. Enhanced use of digital portals like NCD and AAM for tracking patient data has resulted in better management and reporting.

CInI has played a significant role in facilitating technology uptake among healthcare workers at Ayushman Arogya Mandirs (AAMs) and Urban Primary Health Centres (UPHCs). The extent of this facilitation can be observed through several key initiatives and outcomes: Training on 12 service care, Training on Digital Tools and Support for Technology Integration

DNO, Guna

Outcomes Achieved Through Supportive Supervision

- Supportive supervision visits conducted by CINI were instrumental in closing operational gaps. These visits focused on identifying weaknesses in service delivery, improving compliance with SOPs, and enhancing inter-departmental coordination.
- Peer mentors were developed to support underperforming Centres, ensuring consistent quality improvements across districts

Impact of Model Centres: Model AAMs distinguish themselves with superior infrastructure, consistent availability of essential medicines, and well-trained staff, all of which contribute to higher patient attendance. These Centres are equipped to deliver all 12 mandated health services more effectively than their non-certified counterparts, ensuring comprehensive healthcare coverage.

Improved Perceptions: The high standards of care maintained at certified model Centres have solidified their reputation as reliable healthcare providers. This reliability has attracted a significant number of patients to these facilities. Positive testimonials from beneficiaries and observable improvements in community health outcomes have further solidified the trust and reliance placed on these Centres.

4.2.2.2 Training, Supervision, and Support for Healthcare Workers

Evaluating the effectiveness of supportive supervision visits and training sessions provides insights into their impact on service delivery and skill enhancement in Ayushman Arogya Mandir (AAMs). These metrics indicate the success of interventions to improve healthcare quality and staff competency.

Table 8: Effectiveness of supportive supervision visits in improving service delivery

Effectiveness	Intervention (N=102)
Poor	0.0%
Neutral	0.0%
Good	60.8%
Excellent	39.2%
Total	**100.0%**

**The N refers to the number of CHOs & MOs interviewed at the centres*

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The effectiveness of supportive supervision visits in improving service delivery shows a significant feedback from the healthcare workers. In the intervention group, 39.2% of participants rated these visits as excellent in enhancing service delivery. Additionally, 60.8% of the intervention group rated the impact as good.

The data does not present non-intervention group as no CInI supportive supervision visits were carried out. However, the non-intervention respondents did affirm to general supervisory visits from government officials with around 60% saying they were good, 30% felt neutral about the effectiveness, and 10% even rated it as poor, indicating a lack of perceived benefit from these visits.

Table 9: Effectiveness of training/ mentoring/ hand-holding sessions in building HCWs skills

n building HCWs skills	Intervention (N=102)
Effectiveness	Intervention (N=102)
Very Poor	0.0%
Poor	0.0%
Neutral	2.0%
Good	57.8%
Excellent	40.2%
Total	**100.0%**

**The N refers to the number of CHOs and MOs interviewed at the centres*

> *Effective changes include improved OPD data analysis, consistent follow-up, community awareness via posters and diagrams, stock-out management*
>
> *CHO, Jhabua*

The impact of training , mentoring, and hand-holding sessions on building skills among healthcare providers is notably positive in the intervention group. A substantial 40.2% rated these sessions as excellent and 57.8% as good. The data does not present non-intervention group as no CInI visits were carried out. In the non-intervention areas, a significant portion of the non-intervention group (56.5%) remained neutral, suggesting either a lack of engagement or ineffectiveness in the training sessions.

The substantial difference in perception of the effectiveness of supportive handholding visits and mentoring sessions between the two groups highlights the impact of comprehensive intervention strategies. In intervention areas, these strategies likely include more structured and consistent supervision and training programs, which are critical for continuous improvement and adherence to healthcare standards. The high effectiveness ratings in the intervention group suggest that regular and high-quality supportive supervision, combined with practical training sessions, are key drivers of better service delivery and staff skill enhancement. This highlights the need for ongoing investment to maintain service quality and staff performance.

4.2.2.3 Resource Management and Its Impact on Patient Flow and Waiting Times

Efficient resource management, encompassing staff allocation, medicine availability, and medical equipment functionality, is crucial for optimizing patient flow and minimizing waiting times at Ayushman Arogya Mandir (AAMs). The findings from this evaluation indicate key differences between intervention and non-intervention AAMs in terms of patient waiting times, service delivery, and overall efficiency.

Waiting Times

Data reveals that intervention AAMs have slightly shorter waiting times, with 54.5% of patients receiving care within 15 minutes, compared to non-intervention AAMs. This suggests that intervention facilities have implemented more effective patient flow management strategies, possibly due to better staff allocation and enhanced infrastructure improvements.

Timeliness of Care

A higher proportion of patients in intervention AAMs (94%) reported that healthcare services were delivered without interruptions or delays. This reflects better resource planning and supply chain management in intervention sites.

Availability of Human Resources

Both intervention and non-intervention AAMs have 100% availability of Mid-Level Health Providers (MLHPs)/Community Health Officers (CHOs) and Auxiliary Nurse Midwives (ANMs). However, intervention AAMs demonstrate slightly better staffing levels, particularly in additional roles such as a second ANM (90.1% vs. 84.0%) and Multipurpose Workers (96.0% vs. 84.0%). This may contribute to more efficient service delivery and improved patient experience.

Medicine and Equipment Stock Management

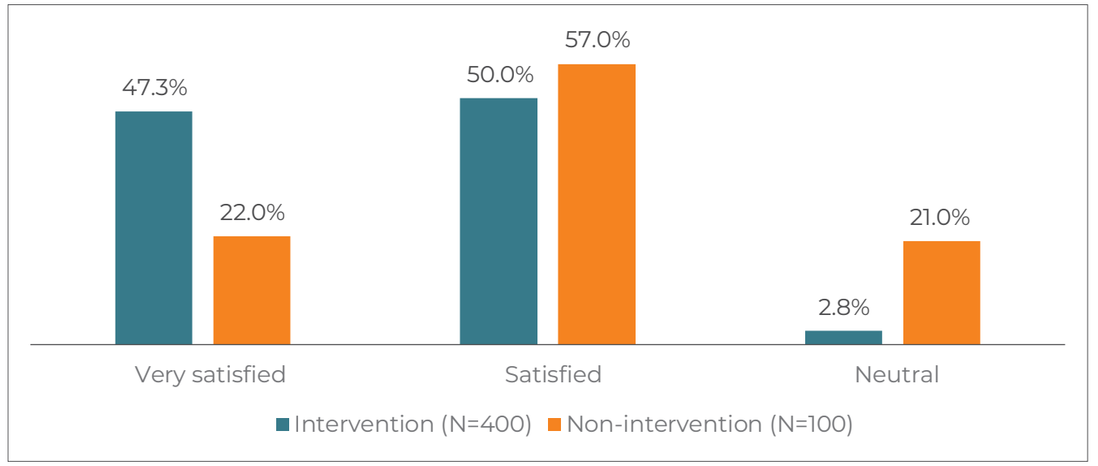
Intervention facilities report fewer stockouts and better availability of essential medicines, ensuring that patient consultations do not face delays due to a lack of medical supplies. Timely restocking through digital inventory systems such as e-Aushadhi has improved supply chain reliability, reducing patient inconvenience.

These findings indicate that while both intervention and non-intervention AAMs perform well in ensuring timely care, intervention AAMs have a slight edge due to better resource planning and staff management.

4.2.2.4 Perceived Quality of Care and Influence of Upgrades

The findings indicate that a majority of patients reported satisfaction with the facilities at both intervention (97.3%) and non-intervention (79%) AAMs. However, a significant variation was observed in the degree of satisfaction between the two groups. Nearly half (47.3%) of the patients at intervention AAMs expressed being very satisfied, compared to only 22% in non-intervention AAMs. Additionally, a notable proportion (21%) of patients at non-intervention AAMs remained neutral regarding their satisfaction with the overall facilities, suggesting a potential area for improvement.

Figure 9: Satisfaction Level of patients with overall facilities in the facility



**The N refers to the number of patients/beneficiaries interviewed at the centres*

The findings demonstrate that the upgrades at intervention AAMs contribute to significantly higher patient satisfaction. Patients at intervention AAMs were more likely to report being very satisfied, suggesting that better-equipped facilities and improved service environments enhance healthcare experiences. **The increased satisfaction is likely linked to specific infrastructure enhancements implemented at intervention sites through advocacy. Patient feedback consistently highlighted improvements such as cleaner and more sp acious waiting areas with adequate seating, the provision of fans and access to drinking water, and improved toilet facilities and overall building maintenance. The presence of ramps for accessibility was also noted as a positive improvement. These tangible enhancements in the physical environment of the facilities demonstrably improved patient comfort and contributed to a more positive healthcare experience.** In contrast, the lower satisfaction levels and higher neutrality among non-intervention AAM patients may highlight the need for further improvements in non-intervention sites, highlighting the effectiveness of the intervention model in delivering a superior healthcare experience, making a strong case for scaling up similar infrastructure enhancements across all AAMs.

4.2.3 Range of Services Provided

4.2.3.1 Services availed by patients at AAMs

The utilisation patterns of health services by patients in the intervention and non-intervention Ayushman Arogya Mandir (AAMs) provide a clear perspective on the reach and effectiveness of these Centres in addressing diverse health needs. This analysis helps understand which services are most accessed and potentially indicates areas where additional focus may be needed .

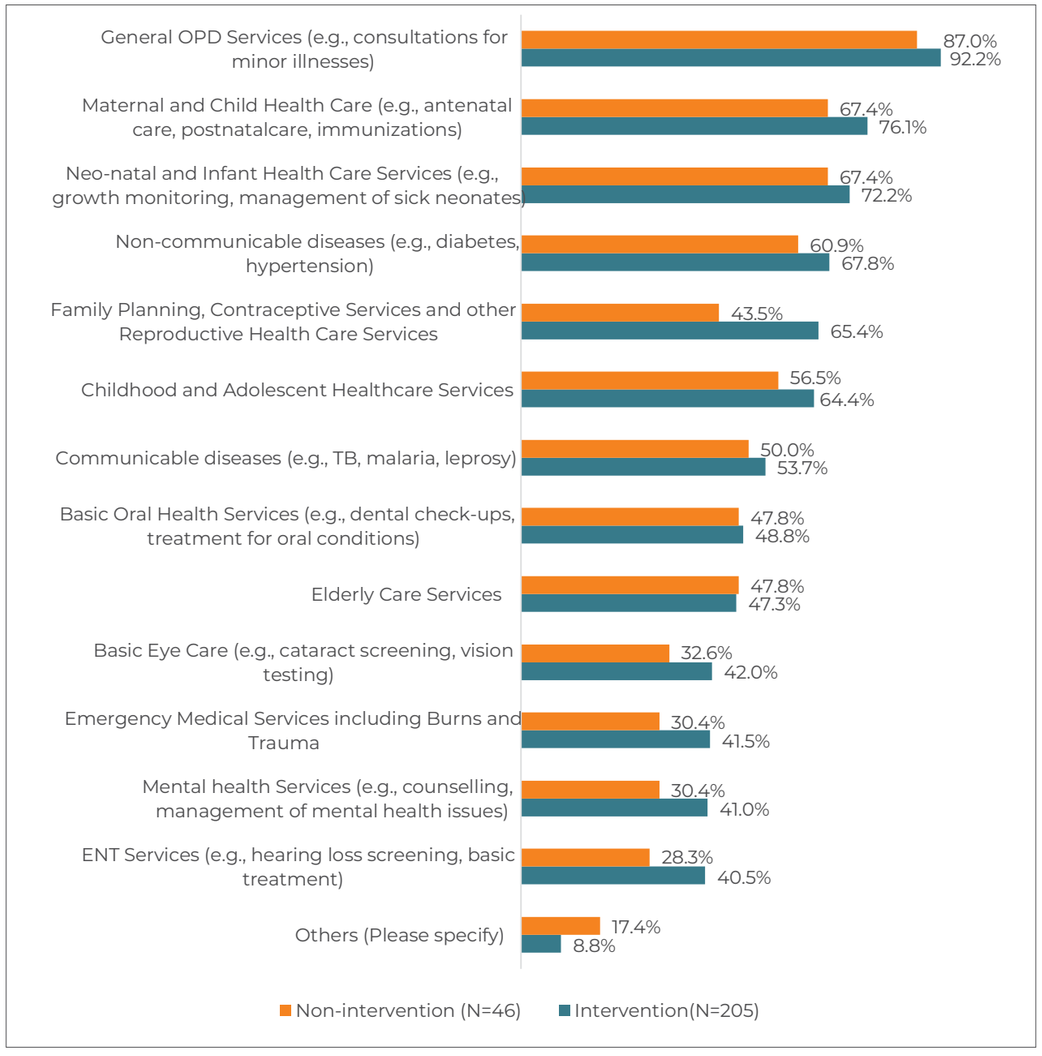
- Most patients in both intervention (92.5%) and non-intervention (89.0%) groups sought General OPD Services, suggesting a high reliance on AAMs for everyday health concerns. This high utilisation underscores the importance of these Centres in providing essential health services to the community.
- Maternal and Child Health Care Services, including antenatal care, postnatal care, and immunisations, were more frequently accessed in non-intervention areas (54.0%) compared to intervention areas (41.8%). This could suggest a higher demand or a better response to maternal and child health needs in the non-intervention areas.
- Similarly, Neonatal and Infant Health Services saw higher utilisation in non-intervention areas (45.0%) than in intervention areas (36.3%), which may point to specific regional needs or differences in service promotion between the two groups.
- Chronic and Emergency Care Management of Non-Communicable Diseases like diabetes, hypertension, and cancers was notably prevalent, with a slightly higher percentage in non-intervention areas (46.0%) compared to intervention areas (41.8%). In contrast, Emergency and Trauma Care services were similarly accessed in both groups, highlighting the essential role of AAMs in providing critical care.
- Expanded range of Services such as Family Planning and Geriatric Health Services show considerable engagement, with Family Planning services being accessed slightly more in intervention areas. Geriatric services were utilised by 22.0% of patients in intervention areas, which is a bit higher than in non-intervention areas (18.0%), indicating the ageing population's reliance on these services.
- **Low Utilization:** Mental Healthand ENT Services, indicate potential areas for increased awareness and resource allocation. Notably, only 3.0% of patients in intervention areas and an even lower 1.0% in non-intervention areas accessed mental health services, suggesting a significant gap in mental health care provision or patient willingness to seek such care.

The data illustrates a broad spectrum of healthcare needs across the communities served by these Centres. The higher utilisation of maternal and neonatal services in non-intervention areas might prompt a review of how these services are promoted and integrated into intervention strategies. Meanwhile, the relatively lower engagement with services addressing chronic conditions and specialised care like mental health in some areas suggests a need for targeted health promotion and education initiatives. Enhancing the capacity of AAMs to meet these diverse needs, particularly for underutilised services, may involve strategic outreach efforts, staff training, and possibly expanding the range of services offered to meet community expectations and health requirements better. This approach could improve health outcomes and greater patient satisfaction across intervention and non-intervention groups.

4.2.3.2 Health issues addressed at AAMs

In exploring the range of health issues addressed within the catchment areas of intervention and non-intervention Ayushman Arogya Mandir (AAMs), we spoke with CHO, CO, ANM and MPW and a broad spectrum of services that cater to diverse healthcare needs was revealed from the findings. The distribution and focus of services provide insights into these regions' priorities and health challenges.

Figure 10: Health services reported at AAM



**The N refers to the number of Healthcare workers interviewed at the centres*

Primary Health Concerns: General Outpatient Department (OPD) services, which cover consultations for minor illnesses, are the most commonly reported service in both intervention (92.2%) and non-intervention (87.0%) groups, suggesting a high demand for routine medical care across the board. This is followed closely by Maternal and Child Health Care services, which are more prevalent in intervention areas (76.1%) than non-intervention areas (67.4%). Such services include antenatal care, postnatal care, and immunisations, emphasising the critical focus on mother and child health in these communities.

"Seasonal outbreaks of diseases like Cold cough and high anaemia rates among women and adolescents

ASHA, East Nimar

Comprehensive Primary Healthcare (CPHC) Services: Intervention facilities report higher engagement in almost all health service categories than non-intervention facilities, particularly in Family Planning and Reproductive Health Care Services (65.4% vs. 43.5%). This indicates a robust approach in the intervention areas towards family planning and reproductive health, which are crucial for non-interventionling population growth and improving maternal health.

Chronic and Communicable Diseases: The management of Non-communicable diseases like diabetes and hypertension is also more actively reported in intervention areas (67.8%) than in non-intervention areas (60.9%), reflecting a targeted approach towards chronic disease management. Likewise, intervention facilities tend to have a slightly higher focus on Communicable diseases such as TB, malaria, and leprosy (53.7% vs. 50.0%), which remains a significant public health challenge.

Mental Healthcare: Under the Madhya Pradesh Health Systems Strengthening Project, healthcare providers across both intervention and non-intervention facilities increasingly recognize the significant need for mental health services within their communities. Specifically, **48.0%** of CHOs in intervention areas and **30.4%** in non-intervention areas identified mental health support as a common requirement. In response to this recognized need, intervention facilities demonstrate a greater capacity for providing these services, with **89.1%** observed availability compared to **68.0%** in control facilities, a trend likely supported by **81.0%** of intervention CHOs receiving training on mental health service delivery.

While intervention efforts have demonstrably increased the availability of mental health services at the facility level, the actual utilisation of these services by patients remains modest, with only **3%** of patients in intervention areas and **1%** in control areas reporting availing of mental health services during their visits. This suggests a potential gap between service provision and uptake, possibly influenced by factors such as persistent stigma, limited awareness within the community, or the integration of mental health support within broader consultations not explicitly identified by patients as *"mental health services."*

The limited uptake may be interconnected with the considerable challenges reported by healthcare providers in delivering these services effectively. A substantial **70.0%** of intervention CHOs cited difficulties in providing mental health support, suggesting that barriers in implementation or patient engagement might hinder service access and utilisation. Addressing these challenges, alongside efforts to raise community awareness and reduce stigma, will be crucial to translating the enhanced availability of mental health services into tangible benefits for patients seeking care within the primary healthcare system. Future strategies will likely need to focus both on addressing the barriers above and enhancing patient engagement with the increasingly available mental health resources within the primary healthcare system.

Essential Health Services: AAMs have been pivotal in enhancing access to critical services such as maternal and child health (MCH), family planning, immunisations, and non-communicable disease (NCD) management. These services have seen high utilisation rates, especially in model Centres that meet the rigorous standards of Kayakalp and NQAS. Screening programs targeting NCDs like diabetes and hypertension are particularly well-attended, offering early detection and ongoing management that anchors community health initiatives.

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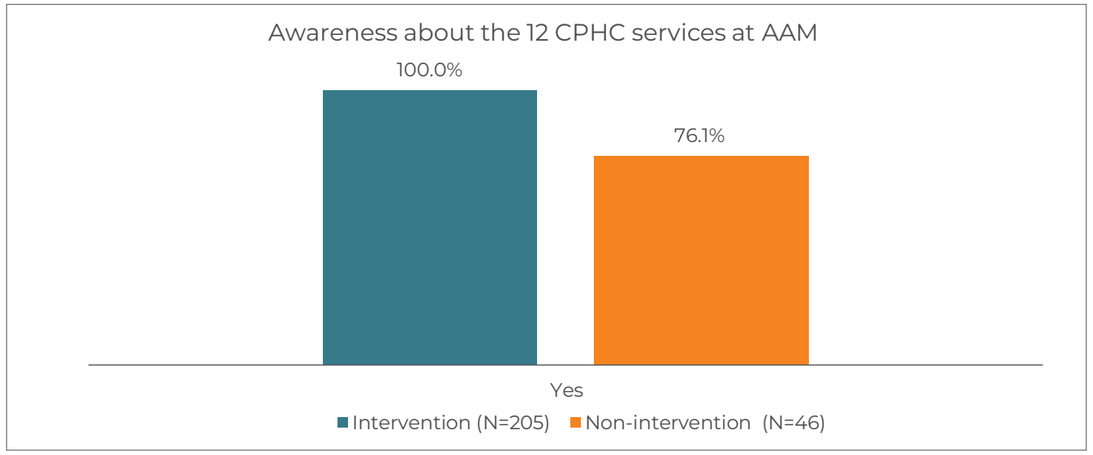
4.2.4 Attitude of health care workers

4.2.4.1 Knowledge about CPHC services

Evaluating health workers' knowledge and ability to deliver services at Ayushman Arogya Mandir (AAMs) offers critical insights into the efficacy of training and the implementation capacity of health systems strengthening initiatives.

Figure 11: Awareness about the 12 CPHC services



**The N refers to the total number of Healthcare workers (CHO, MO, ANM & MPW) interviewed at the centres*

Awareness of Service Packages A striking difference in knowledge about the Comprehensive Primary Healthcare (CPHC) service packages is observed between intervention and non-intervention groups. All health workers in intervention areas know the 12 service packages under CPHC, compared to 76.1% in non-intervention areas. This complete awareness in intervention areas underscores the success of training and informational programs aimed at health workers, ensuring they are fully informed about the services they are expected to offer.

Knowledge of service packages is fundamental for effective healthcare delivery, as it ensures that health workers can adequately prepare and respond to the community's needs. The higher capability for service delivery in intervention areas reflects better training, more robust support systems, and better staffing or resource allocation, enabling health workers to utilise their knowledge effectively.

These findings highlight the importance of comprehensive training and resource provision in enhancing the capabilities of healthcare systems to meet the demands of primary healthcare. By ensuring that health workers are both aware of and capable of delivering the full spectrum of services, health systems strengthening projects can significantly improve the quality and scope of healthcare services offered to communities, leading to better health outcomes. The data thus reflects positively on the interventions aimed at boosting healthcare worker competencies in primary health settings, pointing towards a scalable model for other regions aiming to enhance their health service delivery frameworks.

4.2.4.2 Proactiveness, Communication, and Responsiveness of Healthcare Workers

This combined heading captures the key aspects of healthcare workers' approach to patient care, including their initiative in problem-solving, effectiveness in communication, and responsiveness to patient needs and feedback.

Patients in the intervention group report exceptionally high satisfaction with healthcare workers' communication clarity. 98% stated that their health conditions and treatments were explained in a manner easy to understand, compared to 84% in the non-intervention group. Similarly, attentiveness to patient needs was rated highly, with 98.3% satisfaction in the intervention group versus 82% in the non-intervention group. These figures underscore the success of training programs to enhance patient-provider interactions in intervention areas.

4.2.5 Patient Satisfaction

4.2.5.1 Satisfaction with Healthcare Staff and Medical Supply Availability

Evaluating patient satisfaction provides crucial insights into the effectiveness of health services from the perspective of those directly impacted. Assessing healthcare staff behaviour and the availability of essential medical supplies is instrumental in understanding patient experience in both intervention and non-intervention Ayushman Arogya Mandir (AAMs).

51.3% of patients in intervention group rated the behaviors of center staff as excelled compared to 22% in non-intervention group

Behaviour of Healthcare Staff The behaviour of healthcare staff, encompassing their friendliness and professionalism, shows significant differences in patient perception between intervention and non-intervention groups. **Most patients in the intervention group (51.3%) rated the behaviour of healthcare staff as excellent, compared to only 22.0%** in the non-intervention group. These results suggest that patients in intervention areas perceive higher professional conduct and friendliness among healthcare workers. This can be attributed to better training or more stringent hiring standards as part of the health systems strengthening initiative.

51.3% of patients in intervention group reported being very satisfied with the availability of medical supplies and services, compared to 18% in the non-intervention group

Availability of Essential Medical Supplies Regarding the availability of essential medical supplies, such as point of care diagnostic tests and medicines, patients in the intervention group again report higher satisfaction levels. **More than half of the patients in the intervention group (51.3%) reported being very satisfied with the availability of medical supplies, significantly** higher than the 18.0% in the non-intervention group. The findings on staff behaviour highlight the positive impact of the health systems strengthening initiative on enhancing the interpersonal aspects of healthcare delivery, which is crucial for patient satisfaction and trust. Meanwhile, the high satisfaction with medical supply availability in the intervention group underscores the effectiveness of improved logistical and supply chain strategies implemented under the initiative. To further enhance patient experience, continuous training and professional development for healthcare staff are essential, alongside sustained efforts to improve the supply chain for medical essentials. Addressing these aspects will likely lead to even higher satisfaction levels and better overall healthcare outcomes, strengthening the relationship between community members and their healthcare providers. The insights are vital for ongoing and future health system strengthening efforts, ensuring that the human and material components of healthcare provision effectively meet the needs and expectations of the community.

4.2.5.2 Assessment of Facility Infrastructure

The facility infrastructure is fundamental to evaluating the quality and effectiveness of healthcare services provided by Ayushman Arogya Mandir (AAMs). A comprehensive assessment of this factor in both intervention and non-intervention groups reveal significant insights into the impact of health system-strengthening initiatives.

Table 10: Assessment of patients' experience and facility infrastructure

	Intervention (N=400)	Non-intervention (N=100)
Sufficient seating in the waiting area	90.8%	56.0%
Availability of toilets	99.5%	93.0%
Availability of separate toilets for men and women	77.8%	40.0%
Functionality of toilets	86.5%	57.0%
Cleanliness of toilets	85.3%	53.0%
Availability of drinking water	86.8%	46.0%
Adequate lighting in the facility	96.3%	78.0%
Adequate ventilation in the facility	95.0%	72.0%
Availability of prescribed medicines at the facility pharmacy	97.3%	100.0%
Availability of tests at the Health Centre	97.6%	96.4%
Effectiveness of treatment in addressing health concerns	99.0%	96.0%
Timely and uninterrupted healthcare services	94.0%	82.0%

**The N refers to the number of patients/beneficiaries interviewed at the centres*

Facility amenities and comfort

Amenities, such as sufficient seating in waiting areas and the availability of clean and functional toilets, are crucial for patient comfort and overall satisfaction. The intervention group reported significantly better facilities, with 90.8% affirming sufficient seating compared to only 56% in the non-intervention group. Toilets were available in nearly all intervention facilities (99.5%), and most were clean (85.3%) and functional (86.5%). This contrasts with the non-intervention group, where only 93% had available toilets, and fewer reported them as clean (53%) or functional (57%).

Resource Availability

The availability of essential resources like drinking water, lighting, and ventilation also scored higher in the intervention group, indicating better overall facility management. Notably, 96.3% of intervention facilities were adequately lit, compared to 78% in the non-intervention group, and 95% were adequately ventilated, versus 72% in the non-intervention group.

Both intervention and non-intervention facilities exhibit high reported availability of essential medicines (intervention: **97.3%**, non-intervention reported as 100%) and diagnostic tests (intervention: **97.6%,** non-intervention: **96.4%**), suggesting a generally robust supply system across the region. **However, it is important to interpret this figure cautiously. The reported 100% figure in non-intervention facilities should likely be understood as representing a very high *perceived* availability based on facility-level reporting or patient feedback during the assessment period, rather than a definitive verification against daily stock records**.

Interpreting patient satisfaction data requires contextual awareness. In settings with historically constrained healthcare access, patient perceptions of "satisfaction" may be influenced by adjusted expectations and incremental improvements. While reported availability is uniformly high, the significantly greater proportion of "very satisfied" patient responses regarding medical supply availability in intervention facilities (**51.3% vs 18.0%, Table 19**) indicates a demonstrably enhanced patient experience concerning supply reliability and accessibility within the upgraded AAMs. This suggests that the intervention fostered a tangible improvement in the quality of supply availability, translating to a more positive and confident patient perception, even when accounting for the nuanced context of baseline expectations in underserved communities.

Timeliness of Care: Timeliness of service delivery was another area where intervention facilities outperformed. 94% of patients reported that services were delivered without delays or interruptions, compared to 82% in the non-intervention group. This indicates more efficient processes and better patient flow management in the intervention facilities.

These findings highlight the positive outcomes of health systems strengthening initiatives, particularly advocacy to improve facility infrastructure and patient-provider interactions. The higher satisfaction rates in the intervention group across various parameters reflect the successful implementation of targeted improvements in healthcare service delivery. Continued focus on maintaining and enhancing these standards is crucial for sustaining patient trust and ensuring high-quality healthcare across all regions.

4.2.6 Service Reliability

Ensuring consistent and reliable service delivery was a central tenet of the Madhya Pradesh Health Systems Strengthening Project. The intervention strategically emphasized the implementation of standardized protocols and robust quality assurance mechanisms to enhance the reliability and consistency of services offered at Ayushman Arogya Mandirs (AAMs). The focus on standardization aimed to minimize variability in care quality and establish a dependable service delivery framework across intervention facilities.

The widespread adoption of 12 Standard Operating Procedures (SOPs) across intervention facilities stands as a testament to this commitment. As highlighted earlier, the standardization directly contributed to ***"improved health outcomes, demonstrating the critical role of consistency in healthcare practices."*** Facilities adhering to these protocols reported enhanced service delivery outcomes, including improvements in patient care efficiency and a reduction in treatment errors. The development of these SOPs was a meticulous process, involving the collation of materials from government resources and their simplification into readily accessible documents for each service area. This approach aimed to provide clear, actionable guidelines for Community Health Officers (CHOs), acknowledging their diverse backgrounds and training levels. One PMU team member explained the rationale: ***"We collated all the material available from government sites and resources. Then, we decided to create SOPs... to deliver each service. This made it easier for CHOs to deliver services because they were also not initially unaware about the service implementation."***

To further ensure service quality, the project incorporated rigorous supportive supervision visits. These visits, utilizing detailed checklists, facilitated the assessment of service delivery against established standards and protocols. Beyond assessment, these visits were designed to be constructive, providing ***"on-the-spot training, immediate resolution of operational issues, and reinforcement of best practices."*** The proactive approach to quality assurance, combining standardized protocols with ongoing supportive supervision, aimed to cultivate a culture of continuous quality improvement and ensure reliable service delivery across the intervention sites. In essence, intervention prioritized the establishment of a service delivery model characterized by quality and reliability. Through the strategic implementation of SOPs and robust quality assurance mechanisms like supportive supervision, the intervention sought to ensure consistent, high-quality care delivery across all participating facilities, ultimately enhancing the dependability of primary healthcare services within the intervention areas.

4.2.7 Healthcare Worker Competence and Support

Recognizing that healthcare worker competence and well-being are foundational to quality service delivery, the Madhya Pradesh Health Systems Strengthening Project placed significant emphasis on providing comprehensive training, supervision, and ongoing support to healthcare workers at Ayushman Arogya Mandirs (AAMs). The multifaceted approach aimed to enhance the skills, knowledge, and confidence of healthcare providers, empowering them to deliver high-quality Comprehensive Primary Health Care (CPHC) services effectively. Capacity building emerged as a central pillar of the intervention strategy. The project implemented a three-pronged approach, encompassing virtual expert sessions, structured departmental trainings, and intensive on-site supportive handholding. Virtual sessions leveraged the expertise of faculty from Government Medical colleges, providing a platform for knowledge dissemination and standardized training delivery. Healthcare workers were also nominated for structured departmental trainings, ensuring alignment with government-led professional development initiatives. Crucially, supportive handholding visits, provided individualized mentorship and on-the-job training at the facility level. One PMU team member described the personalized support: ***"With the CHOs, we understand their individual mentoring needs. Additionally, we formed small groups to conduct structured training at the center itself."***

Supportive supervision visits played a vital role in not only assessing service delivery but also identifying and addressing individual healthcare worker needs. These visits, utilizing checklists, helped to ***"identify gaps in terms of capacity building of healthcare workers,"*** enabling targeted training and mentorship. The needs-based approach ensured that support was tailored to address specific skill gaps and performance areas requiring improvement. The project further adapted its training modalities to include virtual training options, recognizing the intensive nature of field work and the need for flexible learning opportunities. The positive impact of these capacity-building efforts on healthcare worker performance is evident. Project team members confirmed the positive changes highlighted by HWCs, mentioning improvements in CHOs' ***"confidence, knowledge, and practices, particularly in clinical areas, adherence to standard treatment guidelines and protocols, and process management."***

The enhanced competence and confidence directly translated to improved service delivery and patient care. In summary, the intervention effectively invested in healthcare worker competence and support through a comprehensive and multi-faceted capacity-building strategy. This approach, encompassing diverse training modalities, personalized mentorship, and ongoing supportive supervision, demonstrably enhanced the skills, knowledge, and professionalism of healthcare providers, contributing significantly to the improved quality of care observed at intervention facilities.

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4.2.8 Resource Management and Efficiency

Efficient resource management and optimized patient flow were critical considerations within the intervention, particularly in ensuring effective and timely service delivery at Ayushman Arogya Mandirs (AAMs). The project proactively addressed resource utilization and logistical challenges to streamline service delivery and enhance the overall patient experience.

While a detailed discussion of overall resource allocation is presented in Section 4.3 (Use of Resources), **within the context of service delivery** - the project focused on optimizing the utilization of available resources to improve efficiency at the point of care. This included a focus on minimizing patient waiting times and streamlining patient flow within facilities. This was corroborated by observations conducted by the moderators with swift waiting times and healthy patient flow were observed, the project's emphasis on infrastructure upgrades through advocacy and digital health integration indirectly contributed to resource efficiency in service delivery.

Improved facility conditions, such as enhanced waiting areas and better-equipped consultation rooms, directly contributed to smoother patient flow and a more efficient service environment. Digital health integration, particularly the implementation of Electronic Health Records (EHRs) and platforms like e-Aushadhi and e-Sanjeevani, further streamlined administrative processes and enhanced resource management. As mentioned by the PMU team, ***"digital platforms revolutionized patient record management and expanded access to specialist consultations via telemedicine,"*** contributing to a more efficient and responsive service delivery model. One PMU team member acknowledged the initial challenges with EHR adoption, stating, ***"Electronic Health Record implementation faced challenges due to capacity of HCWs,"*** but emphasized the ongoing efforts to "strengthen adoption" recognizing its critical role in modernizing healthcare delivery.

The project also demonstrated flexibility in addressing resource challenges encountered during implementation. For example, recognizing that ***"one person at the district level...having to manage 20 or 30 facilities"*** in remote locations presented logistical and resource constraints, the project adapted its staffing strategy in certain districts. ***"In districts with extensive engagement needs or where the district itself was very active strategically, we deployed two people,"*** a PMU member explained. This adaptive approach to staffing, in response to on-the-ground resource challenges, highlights a commitment to optimizing resource allocation for effective service delivery.

4.2.9 Patient-Centred Care

A commitment to patient-centered care was demonstrably woven into the fabric of the intervention, with infrastructure enhancements serving as a key enabler in creating a more comfortable and patient-friendly service environment at Ayushman Arogya Mandirs (AAMs). The project strategically advocated investments in infrastructure upgrades, recognizing their direct impact on patient satisfaction, accessibility, and overall service experience. Infrastructure improvements were a tangible and widely appreciated aspect of the intervention. As previously mentioned, ***"advocacy leading to upgraded infrastructure at intervention sites has improved accessibility and patient comfort, increasing patient visitation rates."*** Improved facility conditions, encompassing "enhanced waiting areas, better-equipped consultation rooms, and more reliable medical equipment," directly contributed to a more welcoming and efficient service environment. The advocacy for investment in infrastructure aimed to enhance patient comfort and create a more positive healthcare experience – directly contributing to increased patient visitation and utilization of services.

Patient feedback strongly validated the positive impact of infrastructure upgrades. ***"Upgraded infrastructure significantly boosted patient satisfaction with facility infrastructure, with 97.3% of patients in intervention facilities reporting satisfaction compared to 79.0% in non-intervention facilities."*** The increase in patient satisfaction directly underscores the effectiveness of the project's investments in improving the physical environment of healthcare facilities. Furthermore, advocacy for improvements extended beyond basic infrastructure to include aspects directly impacting patient comfort and perceptions of care quality. Patient feedback indicated a significant improvement in staff professionalism and empathetic care, with ***"Patient feedback highlighting a significant improvement in the quality of care and staff professionalism."***

The project also emphasized patient-centered communication and responsiveness. The emphasis on staff training and supportive supervision suggests an indirect focus on enhancing patient interaction skills. The observed improvement in staff professionalism and patient satisfaction further implies a positive shift towards more patient-centered communication practices and a more responsive approach to patient needs within the intervention facilities. The intervention prioritized patient-centered care through strategic advocacy for infrastructure enhancements and a focus on improving staff professionalism. These investments demonstrably improved patient satisfaction, enhanced accessibility, and fostered a more positive and patient-friendly healthcare environment at AAMs, contributing significantly to the project's overall success in strengthening primary healthcare delivery.

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4.2.10 Protocol Adherence

Ensuring consistent adherence to standardized service delivery protocols was a fundamental objective of the intervention, which strategically focused on promoting the understanding and consistent application of Standard Operating Procedures (SOPs) across intervention facilities, aiming to establish a uniform and high standard of care delivery.

The development and dissemination of 12 standardized SOPs were central to this effort. As mentioned in ***section 4.2.6***, these SOPs, meticulously collated from government resources and simplified for practical application, provided clear guidelines for service delivery across key areas of Comprehensive Primary Health Care (CPHC). The simplification and consolidation of SOPs aimed to empower Community Health Officers (CHOs) to confidently and consistently deliver standardized services, despite their diverse backgrounds and training. Training and supportive supervision played crucial roles in promoting protocol adherence. Healthcare workers were trained on the standardized protocols through structured training programs and on-the-job mentoring during supportive supervision visits. Supportive supervision visits, utilizing detailed checklists, included assessment of “adoption of SOP,” directly monitoring and reinforcing protocol adherence at the facility level. This ongoing mentorship and reinforcement aimed to embed standardized practices into the daily routines of healthcare providers.

Detailed in ***Section 4.3.5, - A significant outcome of the intervention is the widespread adoption of the 12 standardised operating procedures across intervention facilities***. The standardisation has directly contributed to improved health outcomes, demonstrating the critical role of consistency in healthcare practices.” Facilities that effectively adopted these protocols reported improved service delivery outcomes, underscoring the link between protocol adherence and enhanced quality of care. The intervention prioritized protocol adherence and standardized service delivery through the development and dissemination of simplified SOPs, comprehensive training, and ongoing supportive supervision. This focused approach to standardization demonstrably improved the consistency and quality of care delivered at intervention facilities, contributing to enhanced health outcomes and a more reliable primary healthcare system.

4.3 Use of Resources

This section analyses the availability and utilization of essential resources in healthcare facilities, including human resources, medical supplies, digital tools, and operational protocols. It examines staffing levels, workforce capacity, and whether healthcare workers receive adequate training and support. Additionally, the section reviews the efficiency of financial resource allocation and expenditure to determine if funding effectively meets service delivery needs. The availability of medicines, medical equipment, and digital resources, such as electronic health records and telemedicine platforms, is also assessed. The adoption of Standard Operating Procedures (SoPs) and their role in improving service consistency and efficiency is another critical focus. The findings provide insights into resource gaps, operational efficiencies, and areas that require further strengthening to optimize healthcare delivery.

4.3.1 Human Resources

In 2021, an additional 2,078 HCWs were trained, followed by 3,009 HCWs mentored in 2023. By 2024, 6,560 HCWs have been trained, surpassing the project target of 4,184. Training in IT applications has also seen significant progress, with the project targeting 2,092 HCWs, while 3,009 were trained in 2023 and a remarkable 10,186 in 2024. Additionally, efforts to train HCWs as peer facilitators have exceeded expectations; against a project target of 523, a total of 3,009 were trained in 2023.

4.3.1.1. Availability of Human Resources in AAMs

The analysis of human resources available in intervention and non-intervention Ayushman Arogya Mandir (AAMs) indicates a high level of staffing across both groups, with some variations in specific roles.

Both intervention and non-intervention AAMs have 100% availability of Mid-Level Health Providers (MLHPs)/Community Health Officers (CHOs) and Auxiliary Nurse Midwives (ANMs), ensuring the presence of key frontline healthcare providers.

Higher availability of additional staff in intervention AAMs: The presence of a second ANM is slightly higher in intervention AAMs (90.1%) compared to non-intervention AAMs (84.0%), which may contribute to improved maternal and child health services. Multipurpose Workers (MPWs) are more frequently available in intervention AAMs (96.0%) than in non-intervention AAMs (84.0%), potentially enhancing outreach and preventive care services. ASHA Sahyoginis, who support Accredited Social Health Activists (ASHAs) in community health activities, are also significantly more present in intervention AAMs (93.1%) compared to non-intervention AAMs (80.0%), strengthening community engagement efforts.

Meanwhile, the presence of ASHAs and Yoga Instructors is nearly equal in both groups, indicating consistent support for community health and wellness initiatives.

Intervention AAMs demonstrate better staffing levels, particularly for additional healthcare and outreach workers, which may contribute to more efficient service delivery and improved patient engagement.

4.3.2 Medical Supplies and Equipment

The availability of essential medical equipment and facility infrastructure plays a crucial role in ensuring high-quality healthcare services. The evaluation highlights key differences in equipment availability, facility maintenance, and their impact on service delivery in intervention and non-intervention AAMs.

Facility amenities and comfort

Effect advocacy is evident through a significant proportion of intervention AAMs reported having adequate infrastructure compared to non-intervention AAMs. For instance, adequate lighting was reported in 96.3% of intervention facilities, compared to 78% in non-intervention AAMs. Similarly, adequate ventilation was present in 95% of intervention facilities versus 72% in non-intervention facilities.

Essential Amenities

Availability of functional toilets was higher in intervention AAMs (86.5%) compared to non-intervention AAMs (57%). Similarly, access to clean drinking water was reported at 86.8% in intervention AAMs, while only 46% of non-intervention AAMs had this basic amenity.

Medical Equipment Availability

Both intervention and non-intervention AAMs report high availability of essential medical tests and prescribed medicines. However, intervention AAMs report better management of equipment functionality and maintenance, ensuring uninterrupted service delivery.

Impact on Service Delivery

The presence of well-maintained infrastructure and medical equipment has contributed to higher patient satisfaction in intervention AAMs. Nearly 97.3% of patients in intervention AAMs reported being satisfied with overall facilities, compared to 79% in non-intervention AAMs.

Digital Health Infrastructure

The deployment of digital platforms such as e-Aushadhi for medicine inventory management is significantly higher in intervention AAMs (98%) compared to non-intervention AAMs (64%), leading to better stock management and reduced medicine shortages.

Additional Facility Availability

Intervention AAMs showed a significant improvement in available healthcare spaces compared to non-intervention AAMs:

- Space for yoga and wellness activities: 79.2% in intervention AAMs vs. 28.0% in non-intervention AAMs.
- OPD room availability: Availability of OPD room is high across intervention and non-intervention AAMs.
- Examination rooms: 97.0% in intervention AAMs vs. 80.0% in non-intervention AAMs.
- Space for laboratory/diagnostic services: 92.1% in intervention AAMs vs. 52.0% in non-intervention AAMs.
- Pharmacy/medicine dispensing area: Availability of pharmacy/medicine dispensing area is high across intervention and non-intervention AAMs.

These findings demonstrate that intervention AAMs generally have superior infrastructure and equipment availability, contributing to enhanced patient care and satisfaction levels.

4.3.3 Digital Resources

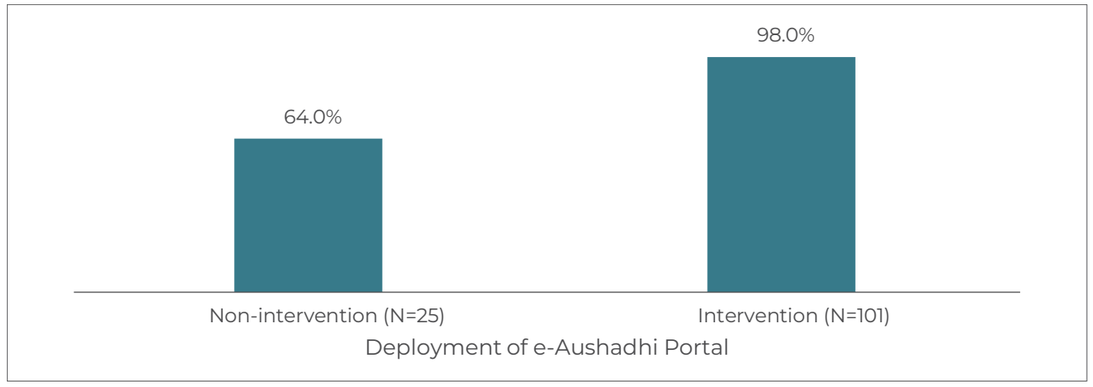
The adoption of digital health records and health information systems plays a crucial role in strengthening the delivery of **Comprehensive Primary Health Care (CPHC)** at Ayushman Arogya Mandir (AAMs). As part of this study, we assessed the extent to which AAMs—both intervention and non-intervention—have integrated electronic health records (EHRs) for patient data management and the E-Aushadhi platform for medicine inventory tracking. Comparing these two groups provides valuable insights into the effectiveness of digital interventions in enhancing healthcare efficiency.

98% of observed centers in the intervention group had deployed e-aushadi compared to **64%** in non-intervention centers

4.3.3.1 Deployment of e-Aushadhi Portal

The data indicates that the e-Aushadhi portal has a significantly higher deployment rate in the intervention group compared to the non-intervention group. **While 98% of respondents** in the intervention group reported the portal's deployment in AAM/ UPHC, the non-intervention group showed a much lower adoption rate at 64%. Additionally, range of healthcare professionals were trained on the e-Aushadhi portal such as CHO, ANM, MPW.

Figure 12: Deployment of e-Aushadhi Portal by Health Institutions



**The N refers to the number of observations conducted at the centres*

4.3.3.2 Change in Usage Over Time

Table 11: Change in Use of the e-Aushadhi Platform

	Intervention (N=205)	Non-intervention (N=46)
Yes, increased	100.0%	6.5%
Yes, decreased	0.0%	2.2%
No	0.0%	91.3%
Total	100.0%	100.0%

**The N refers to the total number of Healthcare workers (CHO, MO, ANM & MPW)*

There was already support for NCD, but now there is support for e-Aushadhi and e-sanjeevani. Id creation is ensured at all intervention centres, ensuring functional, timely medicine delivery at centres. Electronic documentation is only available at UPHC. Challenges in technology adoption are- ANM has difficulty, so many are not working on that, no challenges at CHO level

District Coordinator, Singrauli

Strikingly, all facilities in the intervention group reported an increase in the usage of e-Aushadhi over the last 2-3 years. This indicates successful adoption and effective integration of the platform into their operational routines, enhancing their inventory management capabilities. Contrastingly, in the non-intervention group, only 6.5% reported an increase, while 91.3% saw no change in usage. This stark difference underscores the impact of external support in the adoption and sustained use of technological solutions in healthcare settings.

The adoption and effective use of the e-Aushadhi platform are crucial for modernising healthcare delivery in Madhya Pradesh. Healthcare providers can provide better service delivery, enhanced patient care, and optimised resource management by ensuring all facilities are equipped to use such platforms.

4.3.3.3 Qualitative Insights

Introducing the e-Aushadhi platform across Ayushman Arogya Mandirs (AAMs) in Madhya Pradesh marks a pivotal advancement in managing medicine inventories and supply chain logistics. This digital tool, embedded within the operational ecosystem of Ayushman Arogya Mandir (AAMs), has revolutionised how medicines are tracked, managed, and made available, particularly within model Centres. The platform's integration signifies a substantial leap forward in refining healthcare delivery, ensuring that essential medications are consistently available and efficiently distributed across the state.

Integration into AAM Operations: The e-Aushadhi platform has become an indispensable asset in stock management at AAMs. It provides Community Health Officers (CHOs) with the capability to monitor stock levels of Essential Drug List (EDL) medicines accurately and in real-time. This ensures the timely replenishment of stocks, preventing any potential shortages of crucial medications required for family planning and Non-Communicable Disease (NCD) management. Model AAMs have systematically utilised the platform, particularly those certified under Kayakalp and the National Quality Assurance Standards (NQAS). This has not only improved the availability of prescribed medications but also bolstered patient trust and increased footfall, reflecting the direct impact of e-Aushadhi on enhancing service delivery at these facilities.

CInI facilitated IT app adoption (e.g., e-Aushadhi, e-Sanjeevani). Success: Improved IT usage even in challenging districts like Anuppur, though barriers such as inconsistent ID functionality and unequal laptop distribution persist. Electronic record-keeping is functional at UPHCs but less so at AAMs due to inconsistent technology adoption and infrastructure limitations

District Coordinator, Anuppur

Impact on Service Delivery: The e-Aushadhi platform streamlines processes by allowing for real-time tracking of stock levels. This capability enables healthcare staff to preemptively identify potential shortages and coordinate effectively with higher authorities to ensure timely resolutions. Consequently, CHOs can focus more on patient care and be secure in knowing that essential medicines are readily available. This operational efficiency reduces the need for patients to make multiple trips to district facilities, thereby enhancing the patient experience at local Centres.

Support for Adoption: Recognizing the challenges in adopting new technologies, especially among Auxiliary Nurse Midwives (ANMs) who may face difficulties with digital tools, CInI has proactively facilitated the platforms. Healthcare workers are equipped with the necessary skills to use e-Aushadhi effectively through targeted training and capacity-building sessions. Supportive supervision visits further ensure that staff can navigate the platform efficiently, even in challenging operational contexts.

Recommendations for Optimizing Usage: To maximise the potential of e-Aushadhi in improving healthcare delivery, several strategies can be implemented:

- **Addressing Distribution Gaps:** Strengthening coordination between district—and block-level supply chain mechanisms is crucial to ensuring the comprehensive fulfilment of inquiries raised through e-Aushadhi.
- **Enhanced Training:** Expanding digital literacy training for CHOs and ANMs, particularly at non-certified Centres, will support more widespread and effective platform use.
- **Technology Integration:** Simplifying the platform interface will help reduce learning barriers, making it more accessible to all users. Integrating automated alerts for expiring stocks or low inventory levels can further streamline operations and prevent potential crises in medicine availability.

Through these strategic enhancements, e-Aushadhi can serve as a robust tool for improving the management of healthcare supplies and ensuring that the broader goals of Universal Health Coverage (UHC) are met across Madhya Pradesh. The continued support and resource allocation by stakeholders like CInI will be pivotal in achieving these objectives, ensuring that all health facilities, irrespective of their certification status, can provide high-quality and reliable healthcare services.

There is an improvement in indenting for inventory management through e Aushadhi app use which CInI has facilitated

DQM, Sagar

4.3.3.4 Inventory Management Tools

Overall, 84.9% of respondents reported using the Inventory Management tool as guided by CInI. However, when broken down by group, the Intervention group (N=101) showed 100% usage, demonstrating full compliance with the recommended practices. In contrast, only 24% of the Non-intervention group (N=25) reported using the tool, while 76% did not, highlighting a significant gap in adoption. The consistent use of the inventory management system across all intervention sites suggests a robust framework supported by CInI that facilitates real-time tracking of medical supplies, enhancing the overall management and accessibility of essential resources.

There is improved use of digital portals for OPD data and NCD reporting. Though challenges remain with portal updates, M&E and resolving technical glitches, which can take up to 15 days. Success stories include CHOs' increased confidence and improved digital reporting

District Coordinator, Barwani

4.3.3.5 Stockout Monitoring Tool Usage

A similar trend was observed for Stockout Monitoring Tool Usage wherein 83.3% of respondents reported using the Stockout Monitoring tool, with the Intervention group (N=101) again achieving 100% usage. However, in the non-intervention group (N=25), only 16% reported using the tool, while a significant 84% did not. This substantial discrepancy underscores potential challenges in the non-intervention group's healthcare facilities, such as lack of access to the tool, insufficient training on its use, or possibly a lower priority given to stock management systems, which can severely impact service delivery and patient outcomes. The stark differences in tool usage between the intervention and non-intervention groups reflect disparities in resource management and suggest areas where targeted improvements can lead to better healthcare outcomes. By addressing these disparities, healthcare facilities can significantly enhance their operational efficiency and patient care quality.

The integration and use of inventory and stockout management tools in healthcare facilities, particularly under the guidance of Collectives for Integrated Livelihood Initiatives (CInI), highlight a significant divergence in practice and efficacy between intervention and non-intervention groups. These tools are crucial for maintaining the efficiency of healthcare services by ensuring that necessary medical supplies and medications are available and adequately stocked, thus preventing disruptions in patient care.

4.3.4 Electronic Health Records (Health Information Systems) and Referral Mechanism

4.3.4.1 Offline Referral Process in Intervention AAMs

In intervention AAMs, referrals are conducted entirely offline. The referral process consists of writing the name of the referral place or doctor and providing a receipt to the patient. There are only three primary reasons for referrals:

- High Complication or Emergency Cases: Patients requiring urgent or highly specialized medical care beyond the capacity of the AAM are referred to higher-level health facilities.
- Unavailability of Required Facilities: If a specific diagnostic or treatment facility is unavailable at the AAM, patients are referred to centers that offer the necessary services.
- Non-Delivery Point for the Facility: If the AAM is not designated as a delivery point for a particular treatment or service, the patient is referred to an appropriate healthcare facility.

This offline referral system ensures that critical cases receive the necessary care while maintaining an organized record of patient referrals within the intervention AAMs.

4.3.4.2 Advancements in Usage of IT Platforms

Table 12: Adoption of Electronic Health Recording Systems at AAM

	Intervention (N=205)	Non-intervention (N=46)
Yes	100.0%	69.6%
No	0.0%	30.4%

**The N refers to the total number of Healthcare workers (CHO, MO, ANM & MPW) interviewed at the centres*

The integration of Information Technology platforms in healthcare facilities under the Madhya Pradesh Health Systems Strengthening Project has markedly improved the management and tracking of patient data. Facilities in the intervention group have universally adopted Electronic Health Records (EHRs), illustrating a significant advancement in digital health solutions. This widespread adoption underscores the success of initiatives aimed at enhancing digital literacy and infrastructure advocacy within healthcare settings. In contrast, only about 70% of non-intervention group facilities have adopted EHRs, highlighting a gap that needs addressing to ensure equitable access to these technological benefits.

4.3.4.3 Usage of ANMOL & CPHC-NCD App

As a part of the health systems strengthening, health institutions have been provided with ANMOL app to register and track pregnant women and children. The data indicates that the ANMOL app is widely used for registering and tracking pregnant women and children in both the non-intervention and intervention groups, with a slightly higher adoption in the intervention group. While 100% of respondents in the intervention group reported using the app.

A similar trend was observed for the usage of CPHC-NCD app by the institutions which provided referral services (N=124). The data highlights that the app is widely used for registering, screening, and referring individuals aged 30 and above in both the non-intervention and intervention groups, with a slightly higher adoption in the intervention group. The 100% of respondents in the intervention group reported using the app.

The full adoption of EHRs in intervention facilities compared to a significant non-adoption rate in the non-intervention group suggests a successful deployment of digital tools in the former. These tools not only streamline patient data management but also enhance the accuracy and accessibility of medical records, thereby improving treatment outcomes. The ANMOL app further complements this by ensuring meticulous tracking and management of maternal and child health, crucial for timely medical interventions, improving health indicators and ensuring that the technology serves its intended purpose without interruption. By furthering the implementation of these IT solutions and ensuring that all facilities are equipped to use them effectively, healthcare services in Madhya Pradesh can achieve a higher standard of care delivery characterised by efficiency, accuracy, and improved patient outcomes.

> *Despite the efforts made by CInI to facilitate technology adoption among healthcare workers at Ayushman Arogya Mandirs (AAMs) and Urban Primary Health Centers (UPHCs), several challenges remain like limited digital literacy, infrastructure issues and training gaps*
>
> *DNO, Guna*

4.3.4.4 Telehealth and Digital Training Integration

Integrating telehealth services and comprehensive digital training for healthcare workers under the Madhya Pradesh Health Systems Strengthening Project has showcased remarkable success, particularly within intervention groups.

Table 13: Telemedicine and Digital Training Integration

	Intervention (N=101)	Non-intervention (N=25)
Availability of Teleconsultation Service at the AAM/UPHC	96.0%	76.0%
Usage of CPHC - NCD used for registering, screening and referring 30 plus individuals?	100.0%	95.8%
Electronic health record management through e-Sanjeevani for AAM / NCD	100.0%	72.0%
Training of CHO/ ANM/ 2nd ANM/ MPW on electronic health record management	98.0%	60.0%

**The N refers to the number of observations conducted at the centres*

> *CInI has facilitated technology uptake among healthcare workers in effective way. Technology uptake has improved and all CHOs are using different apps for data management*
>
> *DPM, East Nimar*

The availability of teleconsultation services has reached 96% in intervention facilities compared to 76% in non-intervention groups, illustrating significant progress in making healthcare accessible remotely. This digital approach extends the reach of healthcare services to remote areas and ensures continuous patient care amidst various constraints, such as travel or physical distance.

Moreover, electronic health records through e-Sanjeevani have been implemented fully in intervention areas, demonstrating a proactive approach to digital healthcare management. The lower adoption rate in the non-intervention areas (72%) suggests a need for increased support and resources to elevate these facilities to the benchmark set by their counterparts. Training on electronic health record management has been extensive among healthcare providers in intervention areas, with 98% of relevant personnel trained, compared to 60% in non-intervention groups. This training is crucial for ensuring that healthcare workers are proficient in using digital tools effectively, enhancing data management and patient care quality.

4.3.4.5 Patients' Feedback

As illustrated by the adoption of digitally issued IDs and teleconsultation services, the transition to digital healthcare platforms has played a pivotal role in transforming patient experiences at Ayushman Arogya Mandir.

Table 14: Issuance of Digital ID for Patients on Mobile

	Intervention (N=400)	Non-intervention (N=100)
Yes	73.3%	48.0%
No	14.8%	32.0%
Don't know	12.0%	20.0%

**The N refers to the number of patients/beneficiaries interviewed at the centres*

Most intervention group patients (73.3%) report having a digitally issued ID, such as ABHA ID, RCH ID, or insurance ID, compared to less than half in the non-intervention group (48.0%). This significant disparity underscores the effectiveness of digital integration initiatives in the intervention areas, enhancing patient accessibility to organised and swift healthcare services.

Teleconsultation services, another cornerstone of modern healthcare, show a promising uptake, with 27.8% of patients in the intervention group receiving virtual consultations from specialists. This is considerably higher compared to 16.0% in the non-intervention group, highlighting the broader reach and acceptance of digital healthcare solutions in areas receiving targeted support. The satisfaction rates with these teleconsultations speak volumes about their effectiveness, with 55.0% of intervention group patients feeling very satisfied and a further 43.2% satisfied. In contrast, the non-intervention group's satisfaction, though substantial, is less pronounced, with 31.3% very satisfied and 56.3% satisfied.

Table 15: Satisfaction with the Teleconsultation at AAM

	Intervention % (N=111)	Non-intervention % (N=16)
Very satisfied	55.0%	31.3%
Satisfied	43.2%	56.3%
Neutral	1.8%	12.5%
Dissatisfied	0.0%	0.0%
Very dissatisfied	0.0%	0.0%

**The N refers to the number of patients/beneficiaries interviewed at the centres*

This data reflects a growing comfort with digital health services among patients and indicates a critical enhancement in the quality of care delivered remotely. The introduction of digital tools and platforms ensures that more patients can access specialist advice without travelling, reducing time and financial constraints associated with physical visits to healthcare facilities. Moreover, the high satisfaction rates suggest that teleconsultations have adequately addressed patient concerns, marking a significant step towards achieving universal health coverage and more equitable healthcare access. Through strategic implementation of digital solutions like e-Aushadhi and teleconsultation services, there's a clear path forward for enhancing patient care. Expanding these services will be crucial for improving access and ensuring the sustainability of healthcare advancements in rural and underserved regions.

4.3.4.6 Insights from In-Depth Conversations & Field Observations

The integration of digital health platforms such as e-Sanjeevani and the National NCD (Non-Communicable Diseases) Portal into the operational framework of Ayushman Arogya Mandirs (AAM) in rural Madhya Pradesh marks a significant advancement in making healthcare accessible and efficient. These tools are pivotal in the AAM's commitment to delivering Comprehensive Primary Health Care (CPHC) and addressing the complex health needs of underserved populations.

e-Sanjeevani's Impact

As a critical component of India's digital health initiatives, e-Sanjeevani facilitates both doctor-to-doctor and patient-to-doctor consultations, effectively bridging the substantial gap in specialist care available to rural communities. AAM Centres leverage this platform to connect patients directly with specialists at district hospitals or tertiary care Centres, providing essential health services that were previously inaccessible. This integration has proved invaluable, especially in regions with scant access to qualified health professionals, ensuring that residents receive timely and appropriate care for specialised medical needs.

Service Delivery Enhancements

Through real-time teleconsultations, patients at AAM Centres can access a comprehensive array of services—including NCD consultations, antenatal care, and mental health support—directly from their community. This reduces the necessity for patient referrals to distant health facilities, thereby decreasing travel burdens and expediting the provision of critical care. The adoption of telemedicine has particularly enhanced healthcare accessibility for vulnerable groups in remote and tribal areas, demonstrating a marked improvement in patient engagement and health outcomes.

National NCD Portal Utilization

At the heart of its utility, the NCD portal enables Community Health Officers (CHOs) at AAM Centres to register and monitor individuals with chronic conditions such as diabetes, hypertension, and chronic respiratory diseases. This centralised patient data management system facilitates enhanced disease tracking and follow-up care, ensuring effective management of NCDs across the community.

Monitoring and Reporting Capabilities

The portal also supports the generation of detailed insights from population-level data, allowing for well-informed decisions about healthcare interventions and resource allocation. CHOs use this portal to refine referral processes and enhance the continuity of care across primary and secondary healthcare facilities, streamlining patient management and improving treatment outcomes.

Strategic Integration and Outcomes

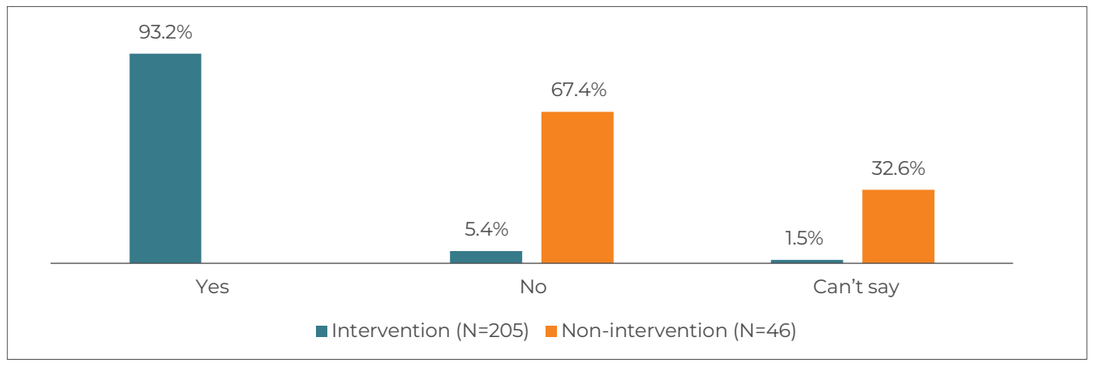
The successful incorporation of e-Sanjeevani and the National NCD Portal into the AAM operations illustrates the transformative potential of technology-driven solutions in overcoming rural healthcare challenges. By enabling direct access to specialist consultations and centralised disease management, these digital tools play a crucial role in advancing the healthcare agenda of rural Madhya Pradesh, moving closer to achieving sustainable health outcomes and aligning with global health standards.

By harnessing these advanced digital solutions, AAM Centres improve service delivery and elevate patient satisfaction, ensuring that the healthcare infrastructure in rural areas is robust, responsive, and aligned with national healthcare goals. The widespread adoption and positive impact of these platforms underscore the critical role of digital health in achieving comprehensive and equitable healthcare coverage, particularly in resource-limited settings.

4.3.5 Adoption of Standard Operating Procedure (SOP)

Adopting standardised protocols is essential to ensuring consistent and high-quality healthcare delivery across Ayushman Arogya Mandirs (AAM) in Madhya Pradesh. These protocols, guided by government-issued guidelines for delivery of the 12 CPHC services such as the provide a structured framework for delivering Comprehensive Primary Health Care (CPHC). However, the accessibility and effective implementation of these protocols vary across different AAM Centres, presenting both opportunities and challenges.

Figure 13: Adoption of SoP at AAM



**The N refers to the total number of Healthcare workers (CHO, MO, ANM & MPW) interviewed at the centres*

In intervention areas, an impressive 93.2% of Ayushman Arogya Mandir (AAMs) report having SOPs available and adopted, indicating that a structured and systematic approach is being implemented. This high percentage reflects the effectiveness of the health systems strengthening project in promoting standardised practices, which are essential for ensuring consistency and quality in healthcare delivery. The data suggests that intervention strategies, which include the development and dissemination of SOPs as well as training on their use, are highly effective in standardising care. The implementation of SOPs not only enhances the capacity of health workers to deliver services but also ensures that care is provided in a manner that is consistent with recognised best practices.

> *CinI has played a significant role in developing standard operating procedures (SoP) for implementing board services at UPHCs. Their contributions typically include training and capacity building, record keeping, limited digital literacy, infrastructure issues and training gaps*
>
> *DNO, Singrauli*

During qualitative interviews, it was reported that Standard Operating Procedures (SOPs) for the 12 mandated health services under AAM are primarily available in digital and hard-copy formats. The recent distribution of hard-copy SOPs is expected to improve accessibility, especially for centres in remote areas where digital tools are not consistently utilised. MILAAP virtual training sessions and Structured Competency Assessment Framework have been introduced to familiarise healthcare providers with standardised procedures. These sessions have proven beneficial in addressing knowledge gaps, though participation and frequency vary by location.

Implementation Challenges: Limited orientation on standardised protocols after receiving hard-copy SOPs has hindered their effective adoption. Additionally, since these modules are in English, it has been challenging for CHOs to understand them fully. Staff at specific Centres reported minimal training on applying these guidelines to service delivery. Advanced services such as mental health, palliative care, and oral health face more significant barriers in protocol adoption due to inadequate training and resource availability.

Gaps and Challenges in Protocol Implementation

Implementing health services across different Ayushman Arogya Mandir (AAMs) faces several notable challenges that can hinder the effectiveness of healthcare delivery. Identifying these gaps is crucial for devising strategies to enhance service consistency and improve patient outcomes.

- **Common Gaps:** Among the pervasive issues are delays in the supply chain, and the inconsistent implementation of Standard Operating Procedures (SOPs). These factors collectively contribute to operational inefficiencies and can significantly impact the quality of care provided. Inconsistent application of SOPs, in particular, can lead to variability in treatment outcomes and patient satisfaction, undermining the goals of standardised care.

> *HR shortages (e.g., CHOs), medicine availability and transport issues, infrastructure deficiencies at some centres*
>
> *DNO, Umaria*

> *Major challenges: Infrastructure gaps like building, staff gaps like ANM/CHOs*
>
> *Internal egos and tussle within staff over work responsibilities*
>
> *BNO, Jhabua*

- **Resource Shortages:** Many non-certified Centres lack systematic operations, which are exacerbated by insufficient staffing and irregular supplies of essential medicines. This shortage affects the consistency of service delivery and erodes patient trust in the healthcare system. Such Centres struggle to maintain operational standards, resulting in sporadic service availability and potential compromises in patient care quality.

Major challenges have been migration/transfers of AAM staffs, infra gaps in some centres and also overburden of work

BNO, Jawar, East Nimar

- **Staffing Gaps:** A critical challenge particularly evident in remote areas such as Umaria and Mandla is the limited availability of Community Health Officers (CHOs) and supporting staff. This scarcity places an undue burden on the existing personnel, who must handle increased workloads without adequate support. The strain on these workers can lead to burnout and may negatively impact the efficiency and quality of healthcare services.

To address these challenges, it is imperative to:

- Enhance recruitment and retention strategies for healthcare personnel, particularly in underserved and remote areas.
- Improve supply chain mechanisms to ensure timely and consistent medical supplies and equipment availability.
- Standardize operations across all Centres through robust training programs and the rigorous implementation of SOPs to ensure uniformity in healthcare delivery.

4.3.6 Financial Resource Management and Transparency

Effective financial resource management and transparency are paramount to the success and sustainability of any large-scale health intervention. The interaction with the PMU team provides valuable insights into the project's commitment to financial accountability and responsible resource utilization. The team highlighted the importance of financial considerations in planning and adaptation.

Regarding resource efficiency, a PMU team member noted, "...if you want to operate at a subsector level, you will need to keep that kind of budget implications also in mind." The statement underscores an awareness of the budgetary implications of project design choices, particularly concerning operational scale and geographic reach. Furthermore, the project demonstrated a capacity to adapt its operational strategies in response to financial realities. The example of adjusting staffing levels in certain districts, deploying two personnel instead of one where needed, suggests a flexible approach to resource allocation, optimizing impact within budgetary constraints. As explained by a PMU team member, "The program was flexible enough to accommodate these requirements. The regional or the specific district-wise requirements? Our approach was also flexible as an implementation team..."

Transparency in financial matters was also implied through the project engagement with government stakeholders. Regular meetings and report sharing with government officials, including the Mission Director of NHM, suggest a commitment to keeping governmental partners informed about progress and resource utilization. While the analysis does not explicitly detail financial audits or dedicated financial transparency mechanisms for broader public access, the close collaboration with government and the emphasis on accountability suggest a framework of responsible financial stewardship.

Moreover, the discussion around government processes and approvals, particularly concerning changes to centrally managed IT platforms, indirectly highlights the importance of adhering to established financial and administrative procedures. The PMU team acknowledged that changes involving financial instrument investment or human resource investment often faced ***"reluctancy because of elections or transfers of government officials or push back from the government to adopt,"*** not due to intentional resistance, but because of established governmental processes and centralized decision-making. The understanding and navigation of government financial processes further implies a commitment to operating within a transparent and accountable financial framework. Overall, the intervention has demonstrated a clear commitment to financial accountability and responsible resource utilization. This is evidenced by the project consideration of budgetary implications in strategic decisions, its adaptive resource allocation strategies, its engagement with government stakeholders, and its adherence to established governmental financial processes.

4.3.7 Availability of Medical Supplies and Equipment & Supply Chain

Ensuring the consistent availability of medical supplies and equipment is crucial for effective service delivery at primary healthcare facilities. The intervention recognizes this critical element, addressing both the availability of essential supplies and the functionality of the supply chain within its intervention strategy.

While ***Section 4.3.2*** (Medical Supplies and Equipment) of the broader report provides a more general overview of resources, **this section focuses specifically on insights related to availability and supply *chain challenges***. The PMU team interviews revealed a proactive approach to monitoring and addressing supply-related issues. Supportive supervision visits, utilizing detailed checklists, included assessments of ***"status of drugs diagnostics,"*** directly evaluating the availability of essential medical supplies at the facility level. The regular monitoring mechanism allowed for the identification of supply gaps and informed targeted interventions to ensure adequate stock levels.

The integration with existing government IT platforms, particularly the e-Aushadhi platform, also played a significant role in enhancing supply chain management. As noted earlier, ***"79.5% of intervention facilities use the E-Aushadhi platform for medicine inventory"*** - This digital integration aimed to streamline medicine inventory management, improve stock tracking, and potentially enhance the efficiency of the supply chain. However, the PMU team also acknowledged challenges with the e-Aushadhi platform itself, specifically mentioning that ***"the portal is very slow and a lot of buffering is there which means it takes a lot of time to...upload."*** The feedback highlights a practical challenge with the government's existing system and suggests areas for potential improvement.

Despite these challenges, the project proactively utilized the e-Aushadhi platform to the extent possible, leveraging its capabilities to enhance supply chain visibility and management within the intervention framework. Furthermore, the PMU team's discussion of government processes for change requests related to IT platforms indirectly touches upon supply chain considerations. The acknowledgment that changes to centrally managed systems require significant time and effort, due to centralized ownership and state-wide implications, suggests potential constraints in rapidly addressing supply chain related IT system issues. However, the project's proactive engagement with government stakeholders and its demonstrated flexibility in adapting to existing systems indicates a pragmatic approach to navigating these challenges and working within the existing supply chain infrastructure.

Overall, the intervention actively addressed the availability of medical supplies and equipment and engaged with supply chain management within its intervention. Through regular monitoring via supportive supervision, integration with the government's e-Aushadhi platform, and a pragmatic approach to navigating system-level challenges, the project aimed to ensure a consistent and reliable supply of essential medical resources to support effective service delivery at AAMs. While challenges with existing systems were acknowledged, the project demonstrated a proactive and adaptive approach to optimizing resource availability within the existing supply chain framework.

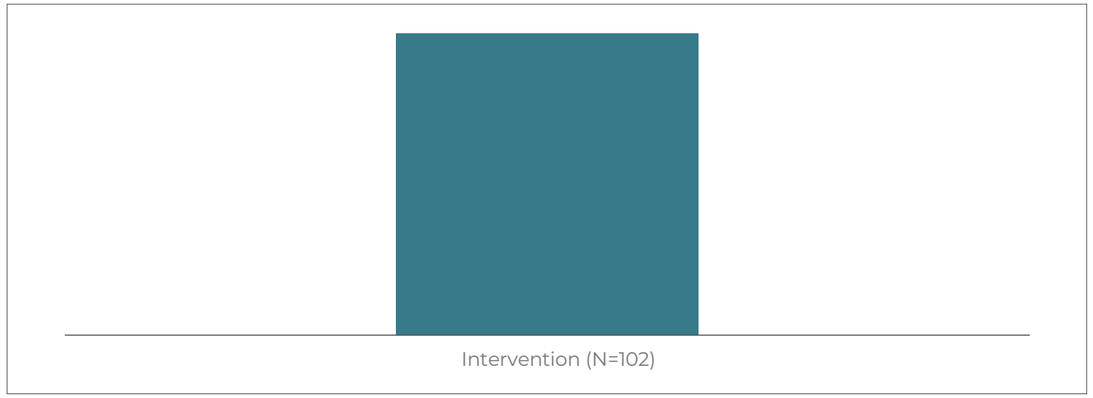
4.4 Learning and Resilience

This section highlights the importance of continuous learning, quality improvement mechanisms, and resilience-building efforts in intervention healthcare facilities. It examines the role of supportive supervision visits, on-the-job mentoring, and quality assurance cycles in strengthening healthcare worker skills and service efficiency. The section also reviews the activities conducted during SHV visits and how they contribute to improving service quality, compliance with protocols, and overall healthcare outcomes. Furthermore, it explores the Knowledge Management Network (KMN) as a tool for capacity-building, digital training, and information-sharing among healthcare professionals. The findings assess how these interventions have contributed to sustainable improvements in service delivery and the long-term resilience of healthcare systems.

4.4.1 Supportive Handholding and Quality Cycles

Supportive supervision visits are critical to maintaining and enhancing healthcare services at Ayushman Arogya Mandir (AAMs). These visits help ensure facilities adhere to expected standards, provide staff mentoring and feedback, and identify improvement areas.

Figure 14: HCWs' Access to Supportive Supervision



**The N refers to the number of CHOs & MOs interviewed at the centres*

Presence of Supervision Visits. In the intervention group, 100% of facilities reported receiving such visits.

The data does not represent the non-intervention data as it must also be noted that the supervisory visits reported at the non-intervention facilities refer to visits from the district/block office and does not include a handling and step by step supervision of care provided by CInI. 54.2% of respondents reported to having general supervisory visits from government officials. This is also evident from the fact that 100% of respondents in the intervention group affirmed CInI's presence in supportive visits whereas 100% of non-intervention group reported Block, district, or other officials.

CInI' 's role in terms of supportive supervision of AAMs/UPHCs has helped to improve the health service delivery

BNO, Kalyanpura, Jhabua

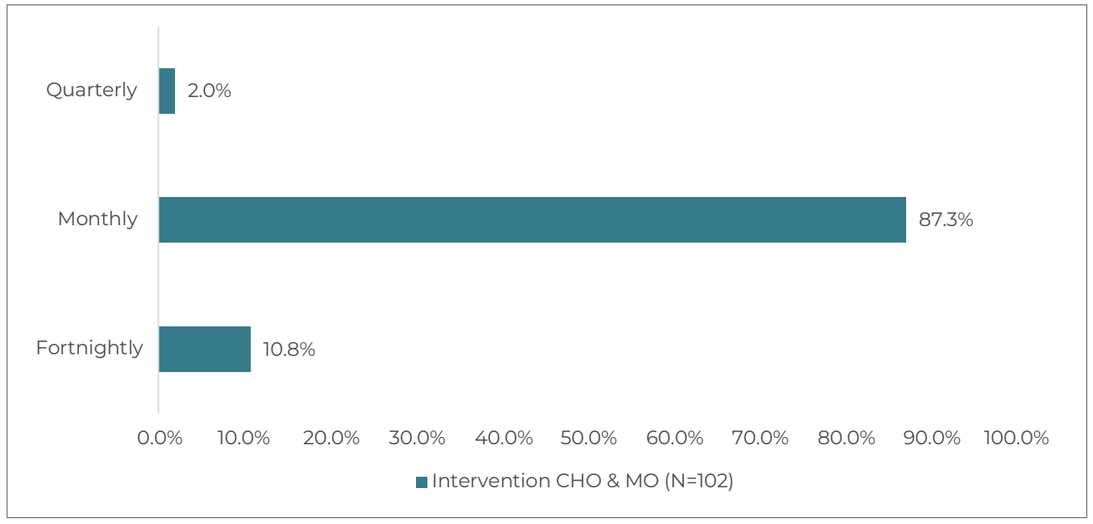
This disparity highlights the focused efforts in intervention areas to maintain consistent oversight and guidance, likely contributing to the higher performance metrics observed in these facilities.

CInI has played a crucial role in supportive supervision, especially in addressing quality issues at AAMs and UPHCs through regular audits and feedback.

Examples: CInI identified problems like delayed immunisation records and organised workshops to improve documentation and service adherence. They also helped address gaps in equipment and facilities at AAMs

DPM, Sagar

Figure 15 Frequency of Supportive Supervision Visits at AAM in the Intervention Facilities



**The N refers to the number of CHOs & MOs interviewed at the centres*

Frequency of Supervision Among those facilities that receive visits, the majority in intervention (87.3%) group report these visits occurring monthly. This regularity ensures ongoing support and the opportunity for continuous improvement in service delivery. The intervention group also reports fortnightly visits at 10.8%, suggesting a more intensive supervision schedule.

The non-intervention data is not presented as firstly, the supervisory visits in non-intervention areas are not particularly supportive supervision and a general visit of senior official; and secondly, the affirmative N for non-intervention (13) can create variances not reflecting field realities.

The high rate of supportive supervision in intervention areas is a positive indicator of the structured and proactive management approach. These visits are crucial for ensuring that facilities operate according to set standards and that healthcare workers receive the support and training to address the community's health needs effectively. In contrast, the lower frequency of supportive visits in non-intervention areas might contribute to less optimal service delivery outcomes. This lack of regular oversight could lead to inconsistencies in healthcare provision and slower responses to emerging challenges within these facilities.

4.4.2 Reported Activities During Supportive Supervision Visits

The activities conducted during supportive supervision visits significantly contribute to the continuous improvement and operational effectiveness of Ayushman Arogya Mandir (AAMs). These activities range from service provision reviews to IT support, each crucial in enhancing service delivery and operational efficiency.

Table 16: Activities conducted during supportive supervision visits

Activities	Intervention % (N=102)
Periodic Assessment for model inputs/kayakalp/NQAS	98%
Identification of any gaps	98%
Facility reorganisation	88.2%
Assist in the adoption of IT applications	97.1%
Total	**100.0%**

**The N refers to the number of Healthcare workers interviewed at the centres*

In addressing the challenges related to the establishment and functionality of Ayushman Arogya Mandirs, CINI activities are very relevant as they analyse gaps and provide support accordingly at AAM facilities across blocks

BNO, Meghnagar, Jhabua

The non-intervention data is not presented as firstly, the supervisory visits in non-intervention areas are not particularly supportive supervision and a general visit of senior official; and secondly, the affirmative N for non-intervention (13) can create variances not reflecting field realities.

Periodic Assessments and Gap Identification Periodic assessments for model inputs and frameworks like Kayakalp and NQAS are notably frequent in intervention areas (98%). This underscores a focused effort in intervention facilities to align with best practices and quality standards, fostering an environment of continuous improvement. Similarly, identifying gaps is proactive in intervention facilities (98%), facilitating timely interventions to address service delivery or operational inefficiencies.

CInI has been effective in improving documentation by standardising formats and training staff on accurate reporting practices

DPM, Chhattarpur

Implications for Quality Healthcare Provision The activities conducted during these visits are integral to maintaining and elevating the quality of healthcare provided. The focus on mentoring, periodic assessments, and IT adoption in intervention areas aligns with broader goals of health system strengthening by ensuring that facilities are not only compliant with standards but are also advancing in technology and process efficiency.

These targeted activities contribute significantly to building a resilient health infrastructure that is adaptable, technologically equipped, and consistently aligned with quality standards. This will ultimately lead to better healthcare outcomes and higher patient satisfaction. This comprehensive approach exemplifies a successful model of supportive supervision that could be replicated across other regions to improve healthcare systems nationally.

Recommendations for Improvement:

- **Increase Supervision in Non-intervention Areas:** Strategies to increase the frequency and effectiveness of supportive supervision visits in non-intervention areas should be implemented to ensure uniform quality across all AAMs.
- **Training and Development:** Use insights from supervision visits to tailor training programs that address healthcare workers' specific challenges, enhancing their skills and ability to provide high-quality care.
- **Feedback Mechanisms:** Establish robust feedback mechanisms during these visits to allow healthcare staff to share their challenges and successes, fostering a collaborative environment for continuous improvement.

4.4.3 Knowledge Management Network

The Knowledge Management Network (KMN), initiated under the MPHSSP in Madhya Pradesh by Collectives for Integrated Livelihood Initiatives (CInI), has played a pivotal role in standardising and improving primary healthcare delivery across the region by actively engaging government medical colleges in capacity-building and skill enhancement initiatives. This initiative aims to bridge critical skill and knowledge gaps among CHO while fostering a collaborative ecosystem between the National Health Mission (NHM) and the Department of Medical Education. Madhya Pradesh has taken the lead in merging the Public Health and Medical Education departments, ensuring greater policy convergence and coordinated healthcare strengthening efforts.

A comprehensive KMN framework has been successfully developed and rolled out, onboarding of 13 government medical colleges as active partners in the initiative. To institutionalize these efforts, a state-level Steering Committee along with six thematic working committees has been established under the Knowledge Management Network (KMN).

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Physical sessions are time-consuming; virtual sessions are done through milaap. In their free time, the CHOs can review the videos at their own pace via milaap. If there are doubts, questions can be posted on Milaap

KMN, Jabalpur

To ensure effective knowledge transfer and skill enhancement, a structured mentoring framework has been introduced, where medical faculty from government medical colleges actively participate in mentoring interactions with CHOs. These interactions focus on building clinical competencies, improving diagnostic and treatment protocols, and enhancing service delivery at the Ayushman Arogya Mandir.

A key feature of this initiative is the organization of periodic exposure visits where medical faculty visit Ayushman Arogya Mandir to provide on-site mentoring and technical guidance. Additionally, virtual mentoring interactions have been set up to provide continuous capacity-building support on specific medical topics and identified gap areas. This dual approach—physical mentoring through exposure visits and digital knowledge-sharing via virtual platforms—ensures that CHOs receive real-time support, expert guidance, and continued professional development opportunities. **Feedback from field personnel indicates that both online and offline training modes have been valuable. Virtual sessions offer flexibility and accessibility, particularly for remote locations, while in-person exposure visits provide invaluable hands-on experience and direct mentorship.**

The Knowledge Management Network (KMN) plays a pivotal role in continuous medical education and knowledge dissemination. A Learning Management System called MILAAP has been established to distribute standardized learning modules and support virtual mentoring of Community Health Officers (CHOs). While the current system primarily caters to CHOs, its scalability allows for future inclusion of Medical Officers (MOs) at the Primary Health Center (PHC) level, ensuring wider access to structured learning, evidence-based medical updates, and skill development opportunities for all frontline health workers.

The CHOs are happy with the initiative. Some CHOs are doing their tasks efficiently, properly doing good work. But some are facing issues with reporting. More hands-on training required

KMN, Jabalpur

Structured Training and Capacity Building: KMN's structured training approach centres on modules meticulously aligned with Comprehensive Primary Healthcare (CPHC) guidelines. The development of 15 training modules on diverse themes such as biomedical waste management, soft skills, lab services, and National Quality Assurance Standards (NQAS) has improved the consistency and quality of healthcare delivery. These modules are delivered through innovative means such as virtual platforms, which not only ensure wide accessibility but also continuous mentorship, especially in remote locations.

Virtual Platforms and Continuous Learning: Utilizing virtual platforms like MILAAP for tele-mentoring sessions ensures that Community Health Officers (CHOs) and other healthcare workers receive ongoing support. This method allows for disseminating knowledge across vast geographic areas without the limitations imposed by physical distances, ensuring that even those in the most remote locations have access to the latest information and training resources.

Collaboration and Practical Exposure: One of the standout features of the KMN initiative is its collaboration with medical colleges. This partnership has facilitated a two-way knowledge exchange where CHOs gain from the academic rigour and latest medical practices taught in medical institutions, and students receive practical exposure by visiting healthcare Centres. Such interactions enrich the learning experience and ensure that theoretical knowledge is effectively translated into valuable skills that can be applied in real-world settings.

Sustainability and Scalability: The sustainability of such a network is underpinned by continuous updates to training content, reflecting evolving healthcare needs and practices. KMN's steering committee and thematic working groups ensure that the training remains relevant and practical. Moreover, integrating these training modules with national guidelines and regularly upgrading skills ensure that healthcare workers are well-trained and adaptable to new challenges and changes in the healthcare sector. **The KMN's design incorporates several elements crucial for long-term sustainability. The established state-level Steering Committee and thematic working groups provide governance and ensure ongoing relevance of training content. The Learning Management System (LMS) offers a scalable platform for knowledge dissemination, and its potential expansion to include MOs and other cadres enhances its reach. Continuous updates to training modules and integration with national guidelines further contribute to the network's enduring value. Looking ahead, a robust sustainability strategy should prioritize dedicated government funding for KMN operations, formal integration within the health system's administrative structures, and ongoing monitoring and evaluation to adapt to evolving needs and ensure sustained impact on healthcare delivery**.

Impact on Healthcare Service Delivery: The KMN's effect is evident in the enhanced service delivery across healthcare Centres. With better-trained staff, facilities have reported improvements in maternal and child health indicators, management of non-communicable diseases, and overall patient care. This has increased outpatient department footfall, indicating a higher public trust and reliance on healthcare services.

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Recommendations for Future Enhancements of the Knowledge Management Network

Building upon the KMN's demonstrated success and addressing areas for further strengthening, the following enhanced and more targeted recommendations are proposed:

- **Expand KMN Training Scope Beyond CHOs:** While the KMN has effectively targeted CHOs, its scalable framework and Learning Management System (LMS) should be strategically expanded to provide continuous medical education and skill enhancement opportunities for other critical healthcare worker cadres. This includes Medical Officers (MOs) at PHCs, ANMs, and potentially even ASHAs, tailoring training modules to their specific roles and responsibilities within the primary healthcare system.
- **Develop Specialized and Advanced Training Modules:** Move beyond foundational CPHC training to develop specialized and advanced modules addressing emerging health challenges and specific skill gaps identified through ongoing needs assessments and performance data. This could include modules on topics such as advanced NCD management protocols, mental health integration in primary care, management of geriatric health issues, and effective utilization of newer digital health technologies.
- **Formalize and Institutionalize Blended Learning Approach:** Further refine and formalize the blended learning approach combining virtual platforms (LMS, tele-mentoring) with in-person exposure visits. Develop clear protocols and standardized formats for both online and offline components, optimizing the balance between flexibility, accessibility, and the invaluable hands-on learning and mentorship offered by physical sessions. Systematically collect and analyze feedback on training modality effectiveness to continuously improve the blended approach.
- **Replicate and Adapt KMN Model for Wider Application:** Actively promote the KMN model for replication and adaptation in other states and for different health programs within Madhya Pradesh itself. The KMN framework, with its emphasis on government medical college partnerships, structured mentoring, and cost-effective blended learning, offers a valuable template for building sustainable capacity-building networks for various healthcare workforce training needs across different geographies and program areas.
- **Leverage Cost-Effective Technology Solutions:** The KMN has successfully leveraged readily available and cost-effective technology platforms like MILAAP for virtual mentoring and the LMS. This cost-conscious approach should be maintained and further emphasized. Highlight and document the KMN's efficient technology utilization and lower operational costs compared to more expensive proprietary platforms like ECHO, showcasing the potential for impactful capacity building through affordable and scalable digital solutions.
- **Strengthen Integration with Programmatic Data and M&E:** Enhance the integration of KMN training with routine programmatic data and monitoring & evaluation (M&E) systems. Use performance data from AAMs to identify specific skill gaps and training needs, and conversely, utilize M&E data to assess the impact of KMN training on service delivery indicators and healthcare worker performance. This data-driven feedback loop will ensure training remains highly relevant and impactful.

The KMN has established a robust framework for enhancing the skills and knowledge of healthcare workers, which is crucial for advancing healthcare systems. By continuing to invest in such educational and collaborative initiatives, healthcare services in Madhya Pradesh are set to improve continually, aligning with national health objectives and ensuring comprehensive healthcare for all.

4.4.4 Capacity Building and Handholding Support Provided

Capacity building and ongoing handholding support were integral components of the intervention's approach to enhancing primary healthcare delivery. Recognizing that sustained improvements require empowered and skilled healthcare professionals, the intervention implemented a multi-faceted capacity building strategy, complemented by continuous on-site handholding and mentorship. As previously mentioned in section 4.2.7, the project adopted a three-pronged capacity building approach. This involved leveraging virtual expert sessions to disseminate standardized knowledge, facilitating participation in structured departmental trainings for alignment with government initiatives, and, crucially, providing intensive supportive handholding visits. The supportive handholding visits were not merely supervisory; they were primarily designed as capacity building exercises delivered directly at the facility level. As a PMU team member described, "Supportive handholding visits...which is our major intervention because...our public health professional used to do the mentoring on site when they used to visit the healthcare centers."

The domains of capacity building were comprehensive, addressing both clinical and non-clinical aspects of service delivery. Clinical capacity building focused on reinforcing knowledge and skills related to "critical parameters," standard treatment guidelines, and essential clinical protocols. Non-clinical capacity building encompassed areas such as data management, record-keeping, quality assurance processes, and technology adoption. The supportive handholding visits utilized checklists, including both supportive supervision checklists and NQAS checklists, to systematically assess gaps and tailor capacity building activities to specific facility needs. These checklists helped to "get the gaps in terms of capacity building of healthcare workers like the level of status of record keeping. the status of drugs, diagnostics, which infra needs to be upgraded," enabling targeted and relevant capacity building interventions.

The project also fostered a continuous learning environment within the implementation team itself, recognizing that effective external capacity building requires a well-trained and supported internal team. Internal training sessions were regularly conducted, covering topics such as quality assurance, data analytics, and soft skills. As noted by a PMU team member, "Every Monday is something going on...we used to see which training is required for...[the team] to perform there." The internal capacity building efforts ensured that the project team remained equipped with the skills and knowledge necessary to effectively support healthcare workers on the ground. In conclusion, the intervention effectively provided comprehensive capacity building and handholding support, addressing both clinical and non-clinical domains through a multi-pronged strategy. This sustained investment in healthcare worker development, delivered through diverse modalities and tailored to identified needs, was a key driver of improved service delivery and project success.

4.4.5 Building Resilience and Adaptive Capacity for Demanding Situations

While the analysis may not have included explicitly defined modules on "stress management" or "emergency preparedness drills," a closer examination reveals that the project inherently fostered resilience and adaptive capacity within the healthcare system and amongst its workforce through several key strategies. These embedded approaches contributed to a primary healthcare system better equipped to handle demanding situations and maintain service delivery under pressure.

The project robust capacity building initiatives (detailed in ***sections 4.2.7*** and ***4.4.4)*** served as a foundational element in building resilience. By significantly enhancing the skills, knowledge, and confidence of healthcare workers, the intervention empowered them to effectively manage a wider range of healthcare challenges and complexities. As evidenced by the PMU team's observation of improved confidence, knowledge, and practices among CHOs, the project instilled a stronger sense of professional capability. The enhanced competence, in itself, contributes significantly to individual and system-level resilience, enabling healthcare providers to confidently address demanding situations and maintain quality care under pressure.

The supportive supervision model further embedded resilience-building mechanisms within the project operational framework. These regular supportive visits provided crucial on-the-job mentorship, offered a platform for healthcare workers to discuss challenges and receive guidance, and reinforced best practices in real-time. The consistent support system fostered a sense of security and preparedness amongst healthcare workers, knowing that they had access to ongoing guidance and problem-solving support. By addressing challenges proactively and providing continuous reinforcement, supportive supervision acted as a vital mechanism for mitigating stress and building resilience within the workforce. Furthermore, the project's emphasis on internal team building and fostering a collaborative environment also contributed to resilience. The PMU team highlighted soft skill training and team building operating as part of their internal capacity building efforts. The focus on teamwork and interpersonal skills is crucial for building a resilient workforce, enabling teams to effectively support each other, share workloads, and navigate challenging situations collectively. A cohesive and well-supported team is inherently more resilient in the face of demanding circumstances.

The very design and implementation of the intervention demonstrated organizational resilience and adaptive capacity. The project's flexibility, highlighted by the PMU team's description of adapting staffing models and even making strategic decisions based on ground-level feedback, underscores an inherently adaptive and resilient approach. The capacity to learn, adjust, and respond effectively to evolving challenges is a hallmark of a resilient project, ensuring its ability to navigate complexities and maintain momentum despite unforeseen obstacles.

4.5 Intervention in Urban Primary Health Centers (UPHCs)

CInI has actively strengthened Urban Primary Health Centers (UPHCs) under the Madhya Pradesh Health System Strengthening (MPHSS) project. A structured and systematic approach has been adopted to strengthen Urban Primary Health Centers (UPHCs), ensuring efficient service delivery, improved patient care, and enhanced facility management. The intervention began with identifying UPHCs in consultation with the Urban Cell, ensuring that the selected facilities were those most in need of capacity-building and infrastructure improvements. This step was crucial in targeting interventions effectively and optimising resource utilisation for maximum impact.

Following identification, a baseline assessment and initial evaluation were conducted to understand the existing gaps in infrastructure, service delivery, workforce availability, and patient management. This data-driven assessment helped design tailored interventions to enhance UPHC functionality and effectiveness. A key focus was reorganising facility layouts to create a more patient-centric environment, ensuring better accessibility, improved flow of services, and enhanced comfort for patients seeking care. Additionally, essential patient-friendly inputs were incorporated, such as proper waiting areas, systematic triage processes, and clear signage for improved navigation within the facility.

Healthcare experts and supervisors carried out supportive handhold visits (SHVs) to provide continuous technical support and capacity-building. These visits were crucial in enhancing service delivery, improving record-keeping practices, guiding UPHCs on the National Quality Assurance Standards (NQAS) framework, and addressing key service gaps. Technical mentoring during these visits ensured that healthcare providers and administrators were equipped with the necessary skills and tools to maintain high-quality healthcare services.

4.5.1 Strengthening Service Delivery & Infrastructure

CInI has played a crucial role in building the capacity of urban primary health centres (UPHCs), ensuring they function as comprehensive Ayushman Arogya Mandir capable of delivering a wide range of preventive, promotive, and curative healthcare services. The intervention has focused on advocacy for strengthening the overall infrastructure, service delivery mechanisms, and referral pathways, making UPHCs more efficient, patient-friendly, and capable of addressing the diverse healthcare needs of urban populations.

A key aspect of the initiative has been upgrading UPHC infrastructure through advocacy, which includes enhancing sanitation and ensuring the availability of essential medical equipment. By supporting these centres, the intervention has created a more hygienic, safe, and conducive environment for both patients and healthcare providers, leading to better service delivery and improved patient experiences.

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Another primary focus has been ensuring the continuous availability of essential medicines and diagnostics, reducing patients' dependency on overburdened secondary and tertiary care hospitals. By strengthening supply chain management and digital inventory tracking, UPHCs are better equipped to handle common illnesses, maternal and child healthcare needs, and chronic disease management, ensuring patients receive timely and effective treatment at the primary healthcare level.

Additionally, CInI has worked on strengthening referral mechanisms and linking UPHCs with secondary and tertiary care institutions to create a seamless patient care system. Patients requiring specialised care can be transferred efficiently through better coordination and structured referral pathways, ensuring timely diagnosis, treatment, and follow-up care. This integrated approach has improved patient outcomes, reduced treatment delays, and optimised the use of healthcare resources, ultimately contributing to a more effective and resilient urban healthcare system in the intervention UPHCs.

4.5.2 Enhancing Maternal and Child Healthcare Services

One of the key activities under this intervention has been antenatal and postnatal care, which plays a vital role in the early detection and management of pregnancy-related complications. Through regular check-ups, screenings, and counselling, expectant mothers receive essential guidance on nutrition, hygiene, and pregnancy care, ensuring a safe pregnancy and healthier outcomes for both mother and child.

Immunisation drives have been a significant component of the intervention to safeguard the health of newborns and young children. By strengthening vaccination outreach efforts, the initiative has helped improve immunisation coverage, reducing the incidence of preventable diseases such as measles, polio, and pneumonia among infants and young children.

Furthermore, nutrition support programs have been integrated to address malnutrition and growth deficiencies, strongly emphasising breastfeeding promotion, complementary feeding awareness, and adolescent health education. Educating mothers and caregivers on proper nutrition, infant feeding practices, and dietary diversity has contributed to better child growth and development while reducing the risk of childhood illnesses and undernutrition.

The intervention has successfully improved maternal and child health indicators through this holistic approach. It ensures that women and children in urban, underserved areas receive the essential healthcare services they need for a healthier and more secure future.

4.5.3 Non-Communicable Disease (NCD) Management & Preventive Healthcare

With the rising prevalence of non-communicable diseases (NCDs) such as diabetes, hypertension, and cardiovascular diseases, the CInI intervention has played a crucial role in integrating early screening, diagnosis, and preventive healthcare into Urban Primary Health Centers (UPHCs). Recognising the long-term health risks and economic burden of untreated NCDs, the intervention has prioritised early detection, continuous monitoring, and lifestyle modifications to improve health outcomes and reduce complications.

Regular health screening camps within UPHCs helped detect conditions like high blood pressure, high blood sugar levels, and obesity, allowing for early medical intervention and personalised health guidance. By integrating preventive care into routine healthcare services, the initiative ensures that NCDs are managed proactively rather than reactively.

By maintaining electronic health records (EHRs) and digital patient histories, healthcare providers can ensure timely follow-ups, medication adherence, and better disease management, reducing the risk of complications and hospitalisations. Real-time data tracking has also enabled health administrators to monitor NCD trends, helping them plan targeted interventions and resource allocation more effectively.

The intervention has also focused on health education and behavioural change communication (BCC) to promote sustainable health improvements. Through awareness sessions and counselling, individuals are educated on the importance of regular exercise, healthy eating habits, stress management, and smoking cessation to prevent and control NCDs. By integrating NCD management into primary healthcare services, the CInI intervention has strengthened urban healthcare systems, ensuring that early detection, digital tracking, and preventive measures become standard practices in UPHCs.

4.5.4 Digital Health Innovations & Data-Driven Decision-Making

CInI has introduced digital health innovations in urban primary health centres (UPHCs) to improve efficiency, optimise healthcare delivery, and ensure seamless patient care. These technological advancements have helped streamline operations, reduce patient overload at higher-level facilities, and improve overall healthcare accessibility for urban populations.

A significant step in this digital transformation has been the implementation of and e-Sanjeevani platforms, enabling telemedicine consultations and remote healthcare services. These platforms allow patients to connect with doctors and specialists from tertiary healthcare institutions, eliminating the need for long-distance travel and reducing the burden on overburdened hospitals.

4.5.5 Community Engagement & Behavior Change Communication (BCC)

A community-centric approach has created a more inclusive and responsive healthcare system within Urban Primary Health Centers (UPHCs) by fostering community ownership, participatory decision-making, and local engagement.

One key strategy has been the formation of urban health committees, which serve as bridges between healthcare providers and local communities. These committees facilitate citizen participation in UPHC operations, allowing residents to voice their healthcare needs, provide service feedback, and participate in decision-making processes. By involving local leaders, community representatives, and health workers, these committees help identify service gaps, improve accountability, and ensure that UPHCs align more with community health priorities.

Through door-to-door awareness drives, community meetings, and IEC (Information, Education, and Communication) materials, the initiative has strengthened public awareness about preventive healthcare, disease control, and maternal-child health, ensuring that individuals are better informed and proactive about their well-being.

The supportive supervision of frontline health workers, particularly ASHAs and ANMs, has strengthened home-based care and patient follow-ups. The supportive supervision has equipped these workers with essential skills, digital tools, and updated medical knowledge, enabling them to identify high-risk cases, conduct home visits, and provide timely referrals. This has significantly improved maternal and child health follow-ups, chronic disease monitoring, and early detection of illnesses, ultimately enhancing healthcare outreach and service quality at the community level.

Overall, the CInI intervention has set a strong foundation for a resilient and people-centred urban healthcare system in Madhya Pradesh. By enhancing service delivery, leveraging technology, improving disease prevention strategies, and actively involving the community, this model can serve as a blueprint for urban healthcare strengthening across other regions in India.

4.5.6. Success Story

In November 2022, Nirali Hada, a fresh and enthusiastic Community Health Officer (CHO), embarked on her first posting at Health and Wellness Center (HWC) Dhadniya, Block - Meghnagar, District – Jhabua. The centre was far from its ideal state, grappling with inadequate facilities, limited resources, and an underserved community. Despite these challenges, Nirali saw an opportunity to make a difference and transform HWC Dhadniya into a beacon of hope and health for the community.

The Challenge: When Nirali arrived at HWC Dhadniya, the centre was struggling to meet the healthcare needs of its community. The infrastructure was underdeveloped, supplies were inconsistent, and morale among staff was low. Many in the community were hesitant to seek care due to these inadequacies. The potential for providing quality healthcare was there, but it required strong leadership and a clear vision to unlock it.

The Turning Point: Partnership with CINI: Recognizing the pressing needs of HWC Dhadniya, CinI, decided to adopt the centre as an intervention site. CINI's decision was driven by its commitment to improving healthcare delivery in underserved areas. The collaboration between CINI and the HWC was a turning point, marked by mutual respect and a shared goal of uplifting the community's health standards.

Nirali Hada's (CHO) Leadership: Nirali Hada's role as CHO was pivotal in the centre's transformation. Despite being newly appointed and less experienced than her peers, she possessed an firm determination and a fresh perspective that became invaluable assets. Her approach was rooted in understanding the unique challenges faced by the centre and tailoring solutions to address them effectively.

Key Initiatives Led by Nirali:

- **Community Engagement:** Nirali organized regular community meetings and health awareness camps to build trust and educate residents about available health services. This proactive engagement encouraged more people to seek healthcare, significantly increasing patient turnout.
- **Resource Optimization:** By conducting a thorough assessment of available resources, Nirali ensured that existing supplies were used efficiently. She advocated for additional resources from local health authorities, securing essential medicines and equipment that improved service delivery.
- **Staff Motivation and Training:** Recognizing the importance of a motivated workforce, Nirali focused on boosting staff morale. She conducted training sessions, emphasizing teamwork and patient-centered care. Her leadership style was inclusive, empowering staff members to take ownership of their roles.

CINI's Supportive Supervision: CINI played a critical role in the center's transformation through regular visits and consultations. The organization provided guidance on best practices, quality improvement, and efficient management techniques and conducted virtual meetings as well. CINI's support was instrumental in building a strong framework for sustainable development at HWC Dhadniya.

Key Contributions of CINI:

- Capacity Building: CINI facilitated training programs for the staff, enhancing their skills in areas such as patient care, data management, and operational efficiency. These programs were tailored to address the specific needs of HWC Dhadniya, ensuring relevance and effectiveness.
- Quality Assurance: Through the implementation of the National Quality Assurance Standards (NQAS), CINI helped the center establish clear benchmarks for quality care. This framework not only improved service delivery but also prepared the center for future assessments and accreditations.
- Mentorship and Guidance: CINI offered ongoing mentorship to Nirali and her team, providing expert advice and solutions to emerging challenges. This mentorship was crucial in maintaining momentum and ensuring continuous improvement.

The Transformation: The collaborative efforts of CHO Nirali Hada and CINI resulted in remarkable progress at HWC Dhadniya. Within 6 months, the centre not only improved its infrastructure and services but also achieved recognition as a model centre.

Achievements:

- Accreditation as a Model Center: HWC Dhadniya was accredited as a model centre for its excellence in service delivery and operational efficiency. This recognition served as a testament to the hard work and dedication of Nirali and her team.
- District Mentor for NQAS Training: Among five others more experienced CHOs, Nirali from HWC Dhadniya was selected as the district mentor for NQAS training. This role allowed the centre to share its success story and best practices with other healthcare facilities, amplifying its impact across the district.
- Improved Community Health Outcomes: The centre's transformation led to improved health outcomes for the community, with increased access to quality healthcare services. The trust and confidence in the centre grew, reflecting in higher patient satisfaction and community well-being.

Conclusion: The success story of HWC Dhadniya is a shining example of how effective leadership, collaborative partnerships, and dedicated efforts can transform a struggling healthcare facility into a model of excellence. Nirali Hada's leadership, supported by CINI's strategic intervention, demonstrates that with the right guidance and determination, significant progress is achievable, even in the most challenging circumstances. This journey is not just about the transformation of a health center; it is about the empowerment of a community and the promise of a healthier future for all.

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4.6 National Quality Assurance Standard (NQAS) Certification of AAMs/UPHCs

This section evaluates the progress of healthcare facilities in achieving National Quality Assurance Standards (NQAS) certification, a benchmark for ensuring high-quality healthcare services. It outlines the criteria and processes required for certification and assesses the extent to which intervention facilities have met these standards. The section also examines the impact of NQAS accreditation on service delivery, patient trust, and overall facility performance. The findings highlight how quality assurance frameworks contribute to strengthening primary healthcare services and improving patient outcomes at both Ayushman Arogya Mandirs (AAMs) and Urban Primary Health Centres (UPHCs).

Exploring the aspects of skill development and quality accreditation provides insight into the professional growth of healthcare workers and the operational standards of Ayushman Arogya Mandir (AAMs). These factors are crucial for delivering high-quality healthcare services and achieving patient satisfaction.

Table 17: Assessment of CHOs using the Structured competency assessment tool Method

Assessment of CHOs	Intervention (N=205)	Non-intervention (N=46)
Yes	64.4%	0.0%
No	35.6%	100.0%
Total	100.0%	100.0%

**The N refers to the number of Healthcare workers interviewed at the centres*

64.4% of healthcare workers have undergone skill assessment in the intervention areas

Skill Assessment through Structured Competency Assessment Tool: The stark contrast in skill assessments between intervention and non-intervention groups is particularly noteworthy. In the intervention group, **64.4% of healthcare workers have** undergone skill assessments using the Structured Competency Assessment Tool, a comprehensive and practical approach to evaluating clinical competence. This contrasts sharply with the non-intervention group, where none of the workers have undergone such assessments. The absence of skill assessments in the non-intervention group could reflect a significant gap in training and development opportunities, impacting the quality of care provided.

Table 18: Percentage of AAMs Receiving Quality Accreditation

	Intervention % (N=194)	Non-intervention % (N=20)
Yes	82.0%	0.0%
No	17.5%	95.0%
Don't know	0.5%	5.0%
Total	100.0%	100.0%

**The N refers to the number of Healthcare workers interviewed at the centres*

CInI activities, such as NQAS certification support and monitoring, are relevant but limited to certain AAMs. Expanding their scope to all centres in the district is recommended for greater impact

DPM Mandla

82% of intervention centers have received quality accreditation

Quality accreditation is another critical measure of a facility's commitment to maintaining high standards of healthcare delivery. In the intervention group, **82.0% of facilities have** received quality accreditation (such as Model, Kayakalp, and NQAS), underscoring the successful implementation of quality standards and protocols. Conversely, 95.0% of facilities in the non-intervention group have not received accreditation, and 5.0% are unaware of their accreditation status. This discrepancy highlights a fundamental difference in the two groups' emphasis on quality and standards. The data illustrates a significant divide in professional development and quality assurance practices between intervention and non-intervention areas. The high rate of skill assessments and quality accreditations in the intervention group suggests a robust framework for continuous improvement and adherence to high standards, likely contributing to better healthcare outcomes.

4.6.1 NQAS Certification Status and Areas for Improvement

One of the Madhya Pradesh Health Systems Strengthening Project's primary objectives was to develop Ayushman Arogya Mandirs (AAMs) into **model centers** of primary healthcare delivery, adhering to specific quality parameters. While not the sole objective, achieving National Quality Assurance Standards (NQAS) certification was strategically pursued as a significant indicator and external validation of achieving model center status, alongside Kayakalp certification. The project demonstrated success in both, reflecting a strong focus on enhancing facility quality to model center standards and demonstrating adherence to national benchmarks through certifications like NQAS.

The project attained NQAS certification for a substantial number of facilities, **demonstrating their achievement of model center qualities at a national standard**. As reported, ***"NQAS certification is an extra level certification, which is valid for three years. Right now, we had more than 150 centers, which are certified on NQAS standards."*** The achievement of over 150 NQAS-certified centers highlights the project's effectiveness in guiding facilities towards meeting rigorous model center parameters as validated by national quality benchmarks.

Furthermore, a core aim was to **prepare all intervention facilities to be eligible for quality certification**, underscoring a broad effort to instill model center characteristics across the project sites. It was indicated that ***"Our key performance indicator is to make the centers eligible for quality certification. If you talk of certification, they have two kinds. One is 'model,' which is certified through an external party. We have empaneled national-level assessors who visit our centers and assess key parameters, certifying them as 'model.'"*** This suggests a tiered approach: first, establishing foundational **model center characteristics** in all intervention facilities, and then pursuing formal NQAS certification to externally validate the quality of a significant portion of these model centers.

Regarding areas for improvement in sustaining and expanding model center status and NQAS certification, the demanding nature of the NQAS certification process itself warrants consideration. The fact that NQAS certification was described as an "extra level certification" and achieved by just over 150 centers, implies its rigor and the sustained effort required for facilities to maintain model center standards at that level. It was noted that ***"Pushing for NQAS certification requires significant effort... To complete the applications, submit applications, prepare documentation, and liaise with State Support Agencies."*** This suggests that the certification process – application, documentation, and liaison – is resource-intensive and demanding, potentially representing an area where ongoing support and process streamlining could be beneficial for facilities seeking to achieve and maintain model center status and NQAS certification. Overall, the intervention achieved significant progress in developing model primary healthcare centers, with NQAS certification serving as a key external validation of this success. With over 150 facilities attaining this national quality benchmark, the project demonstrated effective strategies for enhancing facility quality to model center standards. While specific areas for improvement in NQAS readiness (and thus, model center maintenance at NQAS level) are not explicitly detailed, the demanding nature of the NQAS certification process, particularly application and documentation, suggests potential areas for ongoing focus and support to further expand NQAS certification coverage and broader model center sustainability.

4.6.2 Impact of NQAS Certification on Quality and Outcomes

While direct, quantifiable data explicitly linking NQAS certification to specific improvements in health outcomes is not presented by the analysis, the project strongly suggests a positive impact of NQAS certification on both perceived and actual quality of care within intervention facilities, which emphasizes that NQAS certification was pursued as a marker of enhanced quality, and the certification process itself drove improvements across various aspects of service delivery.

The project pursuit of NQAS certification was strategically linked to quality enhancement. The aim was "to make them eligible for quality certification," indicating that NQAS certification was not merely a procedural target, but a strategic objective aligned with the project's goal of improving healthcare quality. The project viewed NQAS as a recognized benchmark of quality, signifying a commitment to achieving nationally recognized care standards. The analysis reinforces the connection between quality initiatives and positive outcomes, highlighting that regular supportive supervision is a key differentiator. Furthermore, 82.0% of intervention facilities achieved quality accreditation, while 0% in non-intervention facilities – Although, this refers to broader quality accreditation, encompassing both Kayakalp and NQAS, the significantly higher rate in intervention facilities, where NQAS efforts were concentrated, strongly suggests that the project's quality-focused interventions, including pursuing NQAS, effectively improved quality.

Patient feedback, directly tied to NQAS certification, indicates a significant improvement in perceived quality of care in intervention facilities. Patient satisfaction with infrastructure and staff professionalism notably increased. While not solely attributable to NQAS certification, these improvements in patient perception align with NQAS goals to enhance the patient experience and care environment. Furthermore, the process of NQAS preparation appears to have driven positive change. The effort involved suggests that the preparatory work, focused on NQAS standards, likely led to tangible improvements in infrastructure, processes, and service delivery practices, irrespective of formal certification in every instance.

In conclusion, while direct, quantifiable outcome data specifically linked to NQAS certification is not presented, the project's strategic focus on NQAS as a quality benchmark, the significantly higher rates of quality accreditation in intervention facilities, and positive patient feedback strongly suggest a positive impact of NQAS-related efforts on enhancing the quality of care and patient experience within the Madhya Pradesh Health Systems Strengthening Project. The process of pursuing NQAS certification itself appears to have been a valuable driver of quality improvement.

4.6.3 NQAS Process Effectiveness and Support Mechanisms

The Madhya Pradesh Health Systems Strengthening Project implemented a comprehensive approach to support facilities in navigating the National Quality Assurance Standards (NQAS) certification process. The project's strategies focused on providing practical support, mentorship, and guidance to facilitate facility readiness and successful engagement with the NQAS framework. Supportive supervision visits were a primary mechanism for NQAS preparation. These visits, incorporating NQAS checklists, directly assessed facilities against NQAS criteria. As described, ***"We adopted NQAS checklists - these checklists have comprehensive checkpoints related to the entire subcenter, ranging from subcenter infrastructure to reporting, infection control, bio-waste parameters, and services. We used this checklist to identify gaps."*** This assessment was formative, helping facilities understand specific areas for improvement to meet NQAS standards. The use of NQAS checklists during supportive supervision provided a structured framework for gap analysis and targeted support.

Beyond assessment, supportive supervision incorporated active handholding and mentorship to guide facilities through NQAS preparation. The supervisors offered on-site guidance, assisting facilities in developing action plans and implementing necessary improvements to meet NQAS requirements. The hands-on support addressed practical challenges faced in understanding and implementing NQAS standards. A PMU team member explained the follow-up process: ***"After the assessment, a major task is to document the Action Taken Report (ATR) – what actions should be taken in terms of capacity building, logistics, housekeeping, and infrastructure."***

The PMU team also played a crucial role in facilitating the application and documentation aspects of the NQAS process. As previously noted, the project actively assisted facilities with the often-complex bureaucratic processes of application submission, document preparation, and liaison with State Support Agencies, streamlining the certification path. The project's effectiveness in supporting facilities through the NQAS process is evidenced by the significant number achieving certification. The attainment of NQAS certification by over 150 facilities suggests that the support mechanisms implemented, particularly supportive supervision and application assistance, were demonstrably effective in enabling facilities to successfully navigate the NQAS process and achieve certification.

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5.1 Summary of Key Insights

Table 19 Summary of key indicators

Theme	Key Indicator/ Parameter	Intervention AAMs	Non-Intervention AAMs	Key Difference & Interpretation
Patient Experience & Satisfaction	Behaviour of healthcare staff (Rated Excellent by patients)	51.30%	22.00%	Significantly Enhanced Staff Behaviour: Intervention AAMs show a 2.3 times higher proportion of patients rating staff behaviour as excellent. This substantial difference underscores the effectiveness of structured soft skills training provided to staff in intervention facilities, leading to a markedly improved patient experience.
	Satisfaction with availability of medical supplies (Very satisfied)	51.30%	18.00%	Substantially Higher Satisfaction with Supplies: Satisfaction with medical supply availability is 2.8 times greater in intervention AAMs. This indicates the success of improved stock management and logistics systems implemented, ensuring consistent availability of essential medical supplies and boosting patient confidence.
	Patient satisfaction with facility infrastructure	97.30%	79.00%	Markedly Improved Infrastructure Satisfaction: Patient satisfaction with facility infrastructure is significantly higher in intervention AAMs (18.3 percentage points difference). This clearly reflects the positive impact of direct infrastructure upgrades, creating more comfortable and accessible facilities. However, it's important to recognize that improved patient feedback on infrastructure is likely also influenced by other synergistic interventions. For example, the enhanced behaviour of healthcare staff, improved availability of medical supplies and services, and even the efficiency gains from digital health integration within these upgraded facilities likely contribute to a more positive overall facility experience, thus enhancing patient perception of the infrastructure as well. This holistic improvement in the service environment, beyond just the physical structure, likely drives the higher satisfaction scores.

Theme	Key Indicator/ Parameter	Intervention AAMs	Non-Intervention AAMs	Key Difference & Interpretation
CPHC Service Delivery Capacity	Awareness of 12 CPHC service packages	100%	76.10%	Universal Awareness of CPHC Packages: Healthcare workers in intervention AAMs demonstrate complete awareness (100%) of the 12 CPHC service packages, a 24 percentage point advantage over non-intervention facilities. This highlights the effectiveness of training programs in enhancing knowledge of comprehensive primary healthcare services.
	Capacity to deliver all 12 CPHC services	64.40%	37.10%	Significantly Higher Service Delivery Capacity: Intervention AAMs exhibit a 1.7 times higher capacity to deliver the full range of 12 CPHC services. This enhanced capacity, stemming from targeted training and resource allocation, enables intervention facilities to address a broader spectrum of primary health needs locally, potentially reducing referrals to higher-level facilities.
Digital Health Integration	Availability of electronic health records (EHRs)	100%	69.60%	Complete Digital Record Keeping: Intervention AAMs have achieved universal EHR availability (100%), a 30.4 percentage point improvement over non-intervention facilities. This demonstrates the successful integration of digital health platforms, streamlining patient record management and improving data availability for informed care.
	Use of E-Aushadhi platform for medicine inventory	79.50%	60.90%	Enhanced Medicine Inventory Management: Usage of the E-Aushadhi platform for medicine inventory is 1.3 times higher in intervention AAMs. This indicates more effective adoption of digital tools for stock management, likely contributing to reduced medicine stockouts and improved supply chain efficiency in intervention facilities.

Theme	Key Indicator/ Parameter	Intervention AAMs	Non-Intervention AAMs	Key Difference & Interpretation
Quality Assurance & System Strengthening	Supervision visits received by facilities	94.60%	43.50%	Systematic Supportive Supervision: Intervention AAMs are 2.2 times more likely to receive regular supervision visits. This highlights the establishment of a robust supportive supervision system within the intervention, ensuring continuous monitoring, on-the-spot training, and adherence to quality standards.
	Quality accreditation of facilities	82.00%	0.00%	Significantly Higher Quality Accreditation: A remarkable 82% of intervention AAMs achieved quality accreditation, compared to 0% of non-intervention facilities. This striking disparity powerfully demonstrates the comprehensive impact of the intervention in elevating service quality to meet national standards, a testament to the project's focus on quality improvement.
Access to Healthcare Workers	Access to medical doctors	45.50%	37.00%	Improved, but Moderate, Increase in Doctor Access: While access to medical doctors is higher in intervention AAMs, the difference is more modest (8.5 percentage points). This suggests some improvement, potentially due to structured staff deployment and telemedicine support, but indicates that challenges in doctor availability persist and may require further attention within both intervention and non-intervention settings.

The findings demonstrate the positive transformation of primary healthcare delivery in intervention AAMs across Madhya Pradesh. The intervention's focus on advocacy for infrastructure enhancement, capacity building through the KMN, quality improvement mechanisms, and digital health integration has yielded significant and quantifiable improvements in service delivery, patient satisfaction, and adherence to quality standards. However, it is crucial to acknowledge that systemic challenges inherent in public health systems, such as governance structures, human resource constraints, and funding limitations, require ongoing attention to ensure lasting impact. Specifically, while training programs have demonstrably enhanced HCW skills, the sustainability of these improvements is linked to the ability to retain trained personnel within the system and ensure continuous professional development. Furthermore, while broadening the scope of these programs to encompass non-intervention regions is essential for achieving a uniform standard of primary care across Madhya Pradesh, the practicalities of large-scale implementation must be carefully considered. A phased approach, leveraging readily scalable resources such as Hindi-language training materials (in print and digital formats accessible on government-provided devices for CHOs and FLWs), could offer a realistic and cost-effective strategy for wider dissemination of the intervention's successful components. Ultimately, sustaining this positive trajectory will require continued commitment to addressing systemic bottlenecks, ensuring long-term resource allocation, and adapting implementation strategies to the evolving needs of the healthcare landscape in Madhya Pradesh.

5.1.1 Comprehensive Primary Health Care (CPHC) Delivery

Intervention facilities have shown a **significant enhancement in Comprehensive Primary Health Care (CPHC) delivery**. This is evidenced by a **24-percentage point higher awareness (100% vs 76.1%) of the 12 CPHC service packages among healthcare workers** in intervention AAMs. Crucially, intervention AAMs also demonstrated a **1.7 times greater capacity to actually deliver all 12 CPHC services (64.4% vs 37.1%).** This improved awareness and enhanced service delivery capacity in intervention facilities translates to a broader range of primary health services being accessible to the community, potentially reducing unnecessary referrals and improving population health outcomes. This improvement stems from extensive training programs and robust implementation strategies that have equipped healthcare workers (HCWs) with the necessary skills to address a wide range of health issues prevalent in their communities. The success in delivering these services reflects the HCWs' competency and underscores the effectiveness of the structured educational and support systems put in place. In addition to general healthcare delivery, specific health challenges such as maternal and child health, non-communicable diseases, and infectious diseases are now being managed more effectively through targeted interventions within the strengthened CPHC framework.

5.1.2 Access and Adoption of Standardized Protocols

Facilities in the intervention group have demonstrated **robust adoption of standardized protocols, significantly enhancing the consistency and quality of healthcare service delivery**. This is indirectly reflected in the **remarkable achievement of 82% of intervention AAMs achieving quality accreditation**, compared to **0% in non-intervention facilities**. This dramatic difference highlights a systemic shift towards adherence to quality standards and protocols in intervention facilities. Adherence to such protocols ensures that healthcare practices are up to national and international standards, minimizing the variability in patient care across different facilities. This standardization is crucial for ensuring that all patients receive the same quality of care, irrespective of their geographical or socio-economic status. The supportive supervision system, with intervention AAMs being **2.2 times more likely to receive regular supervision visits (94.6% vs 43.5%)**, has been a key enabler of this protocol adoption and quality enhancement.

5.1.3 Patient Satisfaction and Infrastructure Upgrades

The intervention has **significantly improved patient satisfaction, particularly through advocacy for infrastructure upgrades and enhanced service experience**. Patient satisfaction with facility infrastructure is **markedly higher in intervention AAMs, with a 18.3 percentage point difference (97.3% vs 79.0%).** Furthermore, patients in intervention AAMs were **2.3 times more likely to rate the behaviour of healthcare staff as excellent (51.3% vs 22.0%) and 2.8 times more likely to be very satisfied with the availability of medical supplies (51.3% vs 18.0%)**. These substantial improvements in infrastructure, staff behaviour, and supply availability have collectively enhanced the healthcare environment, making it more welcoming and confidence-inspiring for patients, directly contributing to increased patient visits and a more positive perception of the healthcare provided.

5.1.4 Supportive Handholding and Quality Circle

Supportive handholding and establishing quality cycles have been **pivotal in ensuring continuous improvement in healthcare service delivery and fostering a culture of quality**. The fact that intervention AAMs are **2.2 times more likely to receive regular supervision visits (94.6% vs 43.5%)** underscores the strength of the supportive supervision system. These regular visits by skilled professionals provide on-the-ground support to healthcare workers, helping identify and address immediate challenges. These interactions not only help directly resolve issues but also foster a culture of accountability and dedication among staff, which is critical for the long-term sustainability of health interventions. The significantly higher quality accreditation rate in intervention AAMs further validates the effectiveness of these quality-focused initiatives.

5.1.5 Knowledge Management Network

The Knowledge Management Network (KMN) has **significantly enhanced healthcare service delivery through continuous education and capacity building of healthcare workers**. The KMN's structured approach, leveraging both virtual platforms and in-person mentoring, has demonstrably improved healthcare worker knowledge and skills, which in turn is reflected in the enhanced CPHC delivery and quality improvements observed in intervention AAMs. By facilitating access to up-to-date medical information and training resources, the KMN ensures that healthcare providers are well-equipped to handle a variety of health scenarios, ranging from routine care to complex medical conditions. The network's focus on leveraging digital tools and collaborative learning platforms has allowed for widespread dissemination of best practices and innovative healthcare solutions, improving the quality of care provided and supporting the scalability of successful interventions across different regions.

5.1.6 Inventory Management Practices

Enhanced inventory management practices have been **crucial in improving the efficiency and effectiveness of healthcare delivery in intervention facilities**. Implementing systems like e-Aushadhi has revolutionized how inventories are managed, with **79.5% of intervention AAMs using e-Aushadhi**, compared to **60.9% of non-intervention facilities**. This higher adoption rate of e-Aushadhi indicates more effective digital stock management in intervention facilities, ensuring better medicine stock management and reducing stockouts. This reliability in supply chain management is fundamental for providing uninterrupted healthcare services and is essential to emergency preparedness and response.

5.1.7 IT Platforms and Record-Keeping Processes

Integrating IT platforms like e-Sanjeevani into healthcare operations has **transformed how services are delivered, particularly in remote areas, and significantly improved record-keeping. Universal availability of electronic health records (EHRs) in intervention AAMs (100% vs 69.6% in non-intervention)** demonstrates the successful adoption of digital record-keeping. These digital platforms facilitate teleconsultations, allowing patients to receive timely and expert care without travelling extensively. This saves time and resources and ensures patients receive continuous care, which is particularly important for chronic conditions. Moreover, adopting electronic health records has streamlined patient data management, improved the efficiency of healthcare processes and enhanced the quality of care by providing healthcare workers with readily accessible patient histories for better-informed decision-making and more personalized care.

5.2 Strategic Recommendations for Enhancing Project Outcomes

These recommendations are focused on practical, actionable steps that CInI can advocate for and support to directly improve the effectiveness and reach of the Madhya Pradesh Health Systems Strengthening Project and similar initiatives on the ground.

1. **Advocate for Prioritized Investment in Essential Infrastructure Upgrades:** CInI should advocate for the government to recognize and address critical infrastructure gaps in AAMs as a foundational priority. This includes advocating for:
    - **Ensuring Reliable Electricity Supply:** Advocating for the government to implement solutions for stable electricity access, such as grid improvements, solar power installations, and backup power systems (generators/inverters).
    - **Providing Safe Drinking Water and Sanitation:** Advocating for the government to guarantee access to clean and potable drinking water within all facilities and ensure functional and hygienic sanitation facilities are available and maintained.
    - **Dedicated Infrastructure Funding Mechanisms:** Advocating for the government to establish dedicated budget lines and funding mechanisms specifically for AAM infrastructure development and ongoing maintenance at district and state levels, exploring options for leveraging National Health Mission (NHM) funds and other relevant government schemes.
    - Community-Based Infrastructure Maintenance: Recommending and supporting the government to explore models for community involvement in the upkeep of basic infrastructure within AAMs, fostering local ownership and sustainability.

2. **Expand Coverage of Comprehensive Primary Healthcare Services (CPHC) and Strategic Service Diversification:** CInI should continue to advocate for the government to extend successful health intervention programs to non-intervention areas, aiming to unify care standards and broaden the reach of benefits across Madhya Pradesh. This expansion should be guided by the following principles:
    - **Prioritize CPHC and Chronic Disease Management Scale-up:** Advocate for the government to prioritize the scaling of proven initiatives in comprehensive primary health care and chronic disease management across all Ayushman Arogya Mandirs (AAMs), ensuring consistent access to essential services.
    - **Strategic and Phased Expansion of Diversified Services:** Recommend and support the government in developing a strategic and phased approach to introduce a broader range of services at AAMs. This should begin with thorough needs assessments at the local level to identify key gaps. Subsequently, a planned capacity-building phase should precede the introduction of non-essential yet crucial services such as Ophthalmology, Dentistry, Mental Health, and Palliative Care.
        - **Strengthening Specialised Care Integration:** Within this phased expansion, a strong emphasis should be placed on the robust **integration of specialized care services like mental health etc.** This shall include not only **establishing the infrastructure and availability of specialised care** like mental health care at AAMs but also **investing in specialised training for healthcare workers** to effectively deliver these services. Furthermore, initiatives to **raise community awareness, reduce associated stigma, and ensure seamless referral pathways to higher levels of care** when needed should be integral to this expansion. The goal shall be to move beyond basic awareness to providing accessible, quality support as a core component of comprehensive primary healthcare.
    - **Data-Driven Expansion:** Ensure that the phased introduction of diversified services is guided by data on disease burden, community needs, and the capacity of the healthcare system to absorb and effectively deliver these new services.
3. **Enhance Utilization of Government IT Systems and Digital Health Services & Address e-Sanjeevani Uptake Barriers: CInI should support the government to** maximize the capabilities of existing government IT systems with robust training and targeted solutions to address low e-Sanjeevani uptake.
    - Comprehensive HCW Training & Ongoing Support: Supporting the government to provide comprehensive training and ongoing support for healthcare workers in using government IT platforms, including detailed orientation for digital health services like teleconsultation and electronic health records management.

- Address e-Sanjeevani Uptake Barriers: Advocating for the government to investigate and address barriers to e-Sanjeevani uptake, including:
  - **Improving Internet Connectivity:** Advocating for the government to improve internet connectivity at AAMs, especially in remote areas.
  - E**nsuring Medical Officer Availability & Training:** Advocating for the government to address any shortages of Medical Officers and ensure adequate training for MOs and other staff on effectively utilizing e-Sanjeevani.
  - **Exploring Incentive Mechanisms:** Recommending the government to consider appropriate incentives for healthcare providers to actively utilize and promote e-Sanjeevani services.

4. **Robust Adoption and Monitoring of SOPs & Adaption to Local Context:** CInI should support the government to establish a robust framework for SOP adoption and regular review, ensuring accessibility and practical application.
   - **Framework for SOP Adoption and Review:** Supporting the government to establish a clear framework for adopting, regularly reviewing, and updating Standard Operating Procedures (SOPs) across all healthcare facilities, including mechanisms for tracking compliance and periodic reviews.
   - **Hindi Language SOPs & Digital Integration:** Recommending and assisting the government to ensure SOPs are translated into Hindi and readily available in both printed and digital formats, integrating them into mobile health applications and facility digital dashboards for point-of-care access.
   - **Contextualize SOPs and Training:** Supporting the government to adapt SOPs and training materials to the local context and language, ensuring cultural relevance and ease of understanding for healthcare workers in Madhya Pradesh.

5. **Targeted Professional Development for Sub Centre Staff & Mandatory SBA Training Adherence: CInI should collaborate with the government to** implement structured and ongoing professional development programs, emphasizing practical skills and strict adherence to SBA training protocols.
   - **Tailored Training Programs:** Collaborating with the government to develop and implement ongoing training programs tailored to the evolving needs of healthcare workers, focusing on primary care delivery, emergency response, digital health technologies, and other identified skill gaps. Emphasize practical, hands-on training and simulations.
   - **Strict Adherence to 21-day SBA Training:** Advocating for the government to ensure strict adherence to the mandatory 21-day Skilled Birth Attendant (SBA) training for relevant staff, recognizing its critical importance for reducing Infant and Maternal Mortality Rates. CInI can support the government to implement robust monitoring mechanisms to track SBA training completion and ensure competency.

6. **Refine and Strengthen Supportive Supervision Practices: CInI should support the government to** enhance the supportive supervision program for sustained quality improvement and cross-learning.
   - **Specified Frequency and Focus of Visits:** Supporting the government to enhance the supportive supervision program by specifying the frequency and focus of visits, establishing a regular schedule aligned with facility needs.
   - **Targeted Training, Feedback, and Actionable Plans:** Supporting the government to focus supervisory visits on targeted training, providing immediate feedback, and collaboratively developing actionable improvement plans during each visit.
   - **Data-Driven Supervision & Real-time Monitoring:** Recommending and assisting the government to integrate real-time data collection tools into supervision visits to monitor progress, identify challenges promptly, and track compliance with protocols.
   - **Foster Cross-Learning:** Facilitating efforts to promote a culture of cross-learning from supportive supervision, facilitating knowledge sharing and best practice dissemination within and across districts.

7. **Address Medicine Distribution Logistics: CInI should advocate for the government to** improve medicine distribution systems to ensure timely and reliable supply to AAMs.
   - **Implement Efficient Medicine Delivery Systems:** Advocating for the government to establish efficient medicine delivery systems to AAMs, moving beyond reliance on CHOs/ANMs collecting supplies from CHCs. Recommending the government to explore options like weekly or bi-weekly delivery systems to ensure consistent medicine availability and reduce workload on healthcare staff.

8. **Empower and Leverage Jan Aarogya Samitis (JAS) and Village Health, Sanitation and Nutrition Committees (VHSNCs): CInI should advocate for the government to** actively engage and empower JAS and VHSNCs to enhance community ownership and governance of AAMs. This includes advocating for:
   - **Clearly Defined Roles and Responsibilities:** The government to ensure JAS/VHSNCs have clearly defined roles in AAM planning, monitoring, and feedback mechanisms.
   - **Capacity Building for JAS/VHSNC Members:** The government to provide targeted training and capacity building to JAS/VHSNC members on their roles, health program monitoring, community mobilization, and utilizing data for local health planning. CInI can offer technical assistance to the government to develop and deliver these training programs.
   - **Regular JAS/VHSNC-AAM Coordination Meetings:** The government to establish regular platforms for meetings and dialogue between AAM staff and JAS/VHSNC members for joint planning and problem-solving.

- **Financial and Administrative Support:** The government to ensure JAS/VHSNCs have access to necessary resources to effectively function. CInI can advocate for the government to allocate specific budgets and streamline administrative processes for JAS/VHSNCs.
- **Utilize JAS/VHSNCs for Health Promotion:** The government to leverage JAS/VHSNCs as key channels for community-level health promotion. CInI can collaborate with the government to develop health promotion materials and strategies for JAS/VHSNCs to utilize.

9. **Community Engagement and Education: CInI should support the government to** increase community engagement efforts to enhance health literacy and service utilization.
    - E**xpand Outreach Programs:** Supporting the government to increase community outreach programs to educate the public on available health services at AAMs, promote preventive health practices, and emphasize the importance of regular health checks.
    - E**ngage Local Leaders and Health Workers:** Recommending and assisting the government to utilize local community leaders and health workers (ASHAs) to effectively disseminate information, build trust, and gather community feedback.
    - **Feedback Mechanisms & Community Tailoring:** Supporting the government to actively solicit and utilize community feedback to tailor AAM services to meet specific local needs and preferences.
    - **Third-Party Monitoring (Optional):** Suggesting the government to consider engaging a third-party monitoring agency to further strengthen the continuous monitoring system and ensure community perspectives are captured.
10. **Learning from National and International Models (ASHAs & Team-Based Care - Revised to Address HCW Mentoring): CInI can continue to highlight the value of** adapting successful models like Thailand's VHV and Brazil's FHS, with a specific focus on HCW mentoring and integration with project findings.
    - **Thailand VHV Model & ASHA Mentoring:** CInI can recommend the government to draw lessons from Thailand's VHV model to strengthen ASHA workers' capacity through advanced training, digital support systems, and structured mentoring programs. Emphasize the role of mentorship in enhancing ASHAs' skills in preventive healthcare, data collection, and digital tool utilization, aligning with the project's focus on HCW mentoring.
    - **Brazil FHS Model & Team-Based Care with Mentorship:** CInI can recommend the government to adapt Brazil's Family Health Strategy by implementing team-based care models in AAMs, with dedicated teams comprising CHOs, ANMs, and ASHAs/community health workers. Focus on integrating mentorship within these teams, where experienced staff can mentor and support newer team members, fostering continuous learning and improved team performance in service delivery.

5.3 Policy-Level Recommendations for Strengthening Health Systems

These recommendations are directed towards policymakers and system-level stakeholders, focusing on creating an enabling environment for sustained and widespread improvements in healthcare across Madhya Pradesh and potentially nationwide.

1. **Advocacy for Integrated Health Policies:** CInI can work to influence the development of comprehensive health policies that bridge primary care with specialized services, integrating mental health and chronic disease management. They should lobby for policies that address social determinants of health, pushing for a cross-sectoral approach that improves overall health outcomes.
2. **Facilitation of Public-Private Partnerships (PPPs):** CInI should advocate for and facilitate partnerships between public institutions and private sector innovators, focusing on technology integration into healthcare and infrastructure improvements. This would help expand healthcare access, especially in rural and underserved areas. CInI can facilitate convergence with other development partners in the state and leverage their strengths to improve health care quality.
3. **Enhance and Optimize Performance-Based Incentive Systems (Revised):** Collaborate with government agencies to enhance and optimize existing performance-based incentive mechanisms that reward improvements in service delivery, efficiency, and patient satisfaction. CInI can contribute by providing data and feedback from the ground, which helps shape effective and contextually relevant incentive frameworks. This includes regular review and data-driven refinement of incentive systems to maximize their impact and ensure equitable application across different cadres and regions.
4. **Expansion of Health Insurance Advocacy:** Advocate for policy reforms to expand health insurance coverage to include mental health services and long-term care, often underfunded. CInI can present data and case studies to policymakers to underscore the need for broader insurance coverage.
5. **Guidance on Digital Health Regulations:** CInI can assist the government in crafting legislation for digital health that protects patient privacy, ensures data security, and promotes ethical standards. It can also share insights from its projects involving e-Aushadhi and e-Sanjeevani to inform robust, practical digital health policies.

6. **Resource Allocation Advocacy:** Advocate for increased government health funding, focusing on underserved regions and preventive healthcare. CInI can use its on-the-ground insights to highlight areas where investment is critically needed and what impacts it may have. The CInI team can advocate with state health departments to improve infrastructure (electricity, boundary wall, water, or timely repair and maintenance) at the AAM, improving the quality parameters and ultimately leading to early certification/ accreditation.
7. **Promoting Community-based Health Planning:** Encourage the government to include community input in health planning. CInI can facilitate this by organizing forums and discussions between community leaders, health workers, and local government officials.
8. **Strengthening Health Data Systems:** Support the government in developing and implementing advanced health data systems. CInI can contribute by training local health workers on data management and offering technical support to ensure these systems are effectively used for disease surveillance and resource management. Since timely and accurate reporting plays a critical role in getting the correct picture at the AAM level, it is suggested that the CInI team carry out a dipstick study to review the existing reporting systems and procedures practiced. Based on the findings, the team can collaborate with the state government to bring uniformity in reporting and suggest the requirement of additional technical support to streamline the operations.
9. **Workforce Development Initiatives:** Partner with the government to develop strategies that make healthcare professions attractive and sustainable, particularly in rural areas. This includes advocating for better working conditions, competitive wages, and opportunities for professional growth.
10. **Support for Health Research and Innovation:** Encourage government funding for health research and innovation. CInI can facilitate partnerships between the government and academic institutions to foster research that translates into practical healthcare solutions, focusing on scalability and impact.

11. **Strengthen and Expand the Knowledge Management Network (KMN) for Sustainable Capacity Building:** Advocate for policies that institutionalize, strengthen, and expand the Knowledge Management Network (KMN) as a sustainable mechanism for continuous healthcare worker capacity building and quality improvement across Madhya Pradesh. This includes:
    - **Institutionalization and Formal Integration of KMN:** Advocate for the formal integration of the KMN framework within the state health system, ensuring its long-term sustainability beyond project lifecycles through dedicated government funding and administrative structures.
    - **Feedback Mechanisms on Training Modalities:** Implement systematic feedback mechanisms to regularly assess healthcare worker (especially field personnel) perspectives on the effectiveness of different KMN training modalities (online vs. offline, virtual mentoring, exposure visits). Utilize this feedback to optimize training approaches and content.
    - **Expand KMN Scope to MOs and Broader HCW Cadres:** Scale the KMN Learning Management System (LMS) to include Medical Officers (MOs) at PHCs and potentially other relevant healthcare worker cadres, broadening access to structured learning and continuous medical education.
    - **Sustainability Roadmap and Resource Mobilization for KMN:** Develop a comprehensive sustainability roadmap for the KMN, outlining long-term funding strategies, resource mobilization plans, and mechanisms for ongoing content updates and network maintenance, ensuring its continued relevance and impact.
    - **Document and Disseminate KMN Best Practices:** Systematically document the implementation processes, successes, challenges, and best practices of the KMN initiative. Disseminate these learnings widely to inform the design and implementation of similar capacity-building networks in other states and contexts, contributing to national knowledge sharing and health systems strengthening.
    - Besides online knowledge dissemination, the medical colleges and the CInI Team are developing a system for onsite capacity building at the block or cluster level. This will provide opportunities for CHOs to interact directly with the learnt faculty of medical colleges and for the medical college team to know and understand the ground situation, enabling them to customise the training module accordingly.

Annexure I: Evaluation Matrix

Health Systems Process Goals	Key Evaluation Questions	Indicators/ Areas of information	Source of data/ stakeholder	Data collection method
Ownership, participation and accountability	• How effectively are local priorities, cultural practices, and needs incorporated into health programme design, implementation, and adaptation? • How many programmes have been rolled out through AAMs/UPHCs to sensitise and generate community members' awareness of both communicable and non-communicable diseases? • How inclusive is the decision-making process within the health system? Do diverse stakeholder groups, including marginalised communities, have a voice? • To what extent do healthcare workers and other service providers participate in setting goals, identifying needs, and shaping interventions? • How are feedback loops established, and how effectively is community feedback integrated into the programme's improvements? • What structures and policies are in place to monitor and evaluate the performance of health system actors, including healthcare providers, administrators • How transparent is the health system in reporting outcomes, decisions, and financial information to beneficiaries and funders? • What grievance or redress mechanisms exist for patients and community members, and how accessible and effective are these in addressing concerns?	Communities' participation and awareness generation	Community members, IDIs with FLWs, BNO, DNO, Community Members	IDI, FGDs, Structured Interviews
Service Delivery	• To what extent are AAMs accessible to the target population, including underserved or rural communities? • How adequate is the geographical distribution of AAMs/UPHCs to ensure equitable coverage across the catchment area? • Are the operating hours and service delivery modalities (in-person, telehealth) convenient and responsive to the community's needs? • How consistent and reliable are the services provided at AAMs/UPHCs in meeting quality standards and clinical guidelines? • What mechanisms are in place for quality assurance, such as clinical audits, patient satisfaction surveys, or peer reviews? • Are healthcare workers at AAMs/UPHCs adequately trained, supervised, and supported to deliver high-quality care? • How efficiently are resources, including staff, medicines, and medical equipment, managed to minimise waiting times and optimise patient flow? • Are AAMs/UPHCs able to effectively manage and utilise digital health records and health information systems for better patient management and continuity of care?	Accessibility and Coverage Quality of Care Range of Services Provided Attitude of healthcare workers Adoption of SoP in service delivery Patient Satisfaction	Community Members, Patients at the AAM/ UPHC, FLW, CHO, Facility Checklist	IDI, FGDs and Facility Checklist
	• To what extent do healthcare workers exhibit a proactive approach to problem-solving and taking initiative in patient care? • How well do healthcare workers communicate with patients and their families to ensure compassionate and understandable care? • To what extent are healthcare workers responsive to patients' needs, preferences, and feedback? • How well do healthcare providers understand the standardised service delivery protocols? What training or resources have helped or hindered their understanding? • How consistently do you and your team follow standardised protocols in daily practice? What factors contribute to or limit this consistency? • How well-equipped is your AAM to support adopting standardised protocols (e.g., necessary medical supplies, equipment, infrastructure)? • How accessible are the standardised protocols for all staff members? Do you have access to up-to-date versions or training refreshers? • How would you describe this health centre's physical environment and overall comfort? Have you noticed any recent improvements, and how do they affect your experience? • Since the infrastructure upgrades, have you experienced any changes in how easy it is to access the services you need? Are services like consultations, testing, and follow-ups easier or quicker? • How satisfied are you with the equipment and facilities (e.g., examination rooms, diagnostic tools)? Do you feel the improved facilities contribute to better care than other centres? • How would you rate the quality of care you receive here, and to what extent do you believe the upgraded infrastructure contributes to this quality? • Are there any particular communication channels (e.g., posters, digital platforms) that help you access protocol guidelines effectively?			

Health Systems Process Goals	Key Evaluation Questions	Indicators/ Areas of information	Source of data/ stakeholder	Data collection method
	Capacity Building of CHOs and Support Received • What formal training or certifications have you received for your role as a CHO? • What training or support have you received to help you understand and implement these protocols? Was it sufficient? • Are you trained to use health management information systems (HMIS) or digital tools? • How often do you receive supervision or feedback from higher-level health professionals? • Do you have access to mentorship or technical support when needed? • How often do you receive updates or refresher training on new or revised protocols? • Can you describe how new staff are trained on standardised protocols and how effective this onboarding process is? • How often do the block or district coordinators contact you for handholding and progress? Frequency of meetings and interactions? • Do you find the guidance and support functional in applying it to your work and discharging your duties?			
Use of Resources	• Are AAMs/UPHCs adequately staffed with skilled personnel to provide comprehensive services (e.g., doctors, nurses, community health workers)? • How effectively are staff roles and responsibilities aligned with service demands to optimise productivity? • What is the staff training, motivation, and retention level, and how does it impact service delivery? • How well are the needs for continuous professional development and capacity-building met for AAMs/UPHCs staff? • How effectively are budgeted funds utilised, and are they spent in line with the planned activities and health priorities? • What measures are in place to ensure transparency and accountability in managing financial resources? • To what extent can AAMs secure additional funding sources, if necessary, to sustain or expand services? • Are AAMs/UPHCs adequately stocked with essential medicines, vaccines, and medical equipment required for the full range of services? • What strategies are in place to address supply chain challenges, and how responsive are they to local needs • How effectively are health information systems (e.g., digital patient records, data reporting systems) utilised to enhance service delivery and decision-making? • Are resources allocated to train staff to use digital tools and effectively maintain the IT infrastructure? • To what extent do digital health tools reduce administrative workload, streamline patient management, and improve data accuracy?	Human Resources Financial Resources Medical Supplies and Equipment Health Information Systems and Digital Resources Adoption of SoP	Programme Team (CInI), SNO, KMN (Medical College) DNO, BNO, CPHC Consultant	IDIs and Facility Checklist

Health Systems Process Goals	Key Evaluation Questions	Indicators/ Areas of information	Source of data/ stakeholder	Data collection method
Learning and Resilience	• What capacity-building and handholding exercises were provided to the staff of AAMs/UPHCs? • In what thematic domains were the support and training provided? • Does the CHO or MPW support inventory management and regular supply of medicines, vaccines, and consumables by linking them with DVDMS – Drugs and Vaccines Delivery Management Systems? • How prepared and supported are health workers to manage high-stress situations, such as pandemics or resource shortages? • What training and mental health resources are available to equip healthcare workers with the skills and resilience to handle challenging situations? • Are there pre-established coordination mechanisms with other agencies, community organisations, or sectors (e.g., disaster response teams) to ensure a swift and coordinated response?	Capacity building for staff through concurrent supportive handhold visits and mentoring support	Programme Team (CInI), SNO, KMN (Medical College) DNO, BNO, FLWs, CPHC Consultant	IDIs and Facility Checklist
National Quality Assurance Scheme (NQAS) Certification of AAMs/ UPHCs	To what extent do AAMs/UPHCs meet the NQAS standards for certification, and what are the primary areas of strength and areas needing improvement? What percentage of AAMs/UPHCs in the target area have achieved NQAS certification, and what are the common barriers to certification for those that have not? How has NQAS certification impacted the quality of care, patient safety, and overall service delivery at certified AAMs/ UPHCs? Are there measurable improvements in patient satisfaction, health outcomes, or service utilisation at NQAS-certified AAMs/UPHCs compared to non-certified centres? How effective is the NQAS process in building capacity and strengthening the skills of healthcare providers at AAMs/ UPHCs? What training and support are provided to AAMs/UPHCs staff to help them meet and maintain NQAS standards, and how sustainable are these efforts? Are there disparities in NQAS certification rates among AAMs in different regions, especially in underserved or rural areas?		DNO, BNO, FLWs, CPHC Consultant	IDIs and Facility Checklist

Health Systems Process Goals	Key Evaluation Questions	Indicators/ Areas of information	Source of data/ stakeholder	Data collection method
Electronic Health Records and Referral Mechanism	• Does the AAM/UPHC possess the knowledge and skills to use digital applications wherever applicable for reporting, inventory management, record maintenance and population-based analytics • How well does the EHR system support core functions, such as patient registration, clinical documentation, and reporting? • How user-friendly is the EHR system for healthcare providers, and what level of training and support is available to enhance usability? • Can health centre staff quickly access, update, and retrieve patient information within the EHR system? • To what extent does the EHR system capture accurate, comprehensive, and up-to-date patient information? • How reliable is the system in maintaining data integrity and security, including backup and recovery mechanisms? • What data validation or quality assurance processes are in place to ensure records' accuracy? • How effectively is the EHR system supporting a streamlined referral process, including tracking referrals and follow-up care? • To what extent does the EHR facilitate timely and appropriate referrals to higher levels of care or specialised services? • How well does the referral mechanism ensure continuity of care for patients moving between health centres or levels of care? • To what extent was the supportive supervision provided by the CInI team relevant to the needs of the AAM staff in adhering to the guidelines of NHM for AB-AAM?	Data and MIS reporting Inventory Management	, CHO, FLWs, CPHC Consultant	IDIs and Facility Checklist

Annexure II: List of Facilities Assessed

S. No.	District	Block	Facility Centre	Facility Type
1	Rajgarh	Jirapur	Padli New	Intervention
2	Rajgarh	Jirapur	SHC Rajahedi	Intervention
3	Rajgarh	Rajgarh	Hirankhedi	Intervention
4	Rajgarh	Rajgarh	Barkheda new	Intervention
5	Rajgarh	Rajgarh	Tandikala new	Intervention
6	Rajgarh	Biaora	Khajuriya	Intervention
7	Rajgarh	Biaora	SHC Amlyahat	Intervention
8	Rajgarh	Biaora	SHC Barkheda	Intervention
9	Anuppur	Jaithari	SHC Godhan	Intervention
10	Anuppur	Anuppur	SHC Paraswar	Intervention
11	Anuppur	Anuppur	SHC Piparia	Intervention
12	Anuppur	Kotma	SHC Pondi	Intervention
13	Anuppur	Kotma	SHC Sakola	Intervention
14	Anuppur	Anuppur	SHC Sonmohari	Intervention
15	Anuppur	Jaithari	SHC Amagawan	Intervention
16	Anuppur	Jaithari	SHC Chorbati	Intervention
17	Guna	Aron	SHC Barkhedahaat	Intervention
18	Guna	Aron	AAM Sagarbharkheda	Intervention
19	Guna	Bamori	SHC Hameerpur	Intervention
20	Guna	Bamori	SHC Kaloni	Intervention
21	Guna	Guna	UPHC Guna Cant	Intervention
22	Guna	Chachaura	Barkhedakhurd	Intervention
23	Guna	Chachaura	SHC Rani Khejra	Intervention
24	Guna	Chachaura	SHC Amaser	Intervention
25	Guna	Chachaura	SHC Sanai	Intervention
26	East Nimar (Khandwa)	Khandwa	SHC Ahamadpurkhaigaon	Intervention
27	East Nimar (Khandwa)	Khandwa	SHC Attar	Intervention

S. No.	District	Block	Facility Centre	Facility Type
28	East Nimar (Khandwa)	Pandhana	SHC Kumthi	Intervention
29	East Nimar (Khandwa)	Pandhana	Jaswadi	Intervention
30	East Nimar (Khandwa)	Khalwa	SHC Sirpur	Intervention
31	East Nimar (Khandwa)	Khandwa	Sawkheda	Intervention
32	East Nimar (Khandwa)	Khandwa	SHC Bamangaon Aakhai	Intervention
33	East Nimar (Khandwa)	Pandhana	SHC Jeervan	Intervention
34	East Nimar (Khandwa)	Khandwa	SHC Nahalda	Intervention
35	Barwani	Niwali	Dongargaon	Intervention
36	Barwani	Sandhwa	Lonsera	Intervention
37	Barwani	Silawad	Sajwani	Intervention
38	Barwani	Silawad	Rahgun	Intervention
39	Barwani	Silawad	Pichodi	Intervention
40	Barwani	Panamal	Kalaamba	Intervention
41	Barwani	Panamal	Ranikhud	Intervention
42	Barwani	Niwali	Segawi	Intervention
43	Ashoknagar	Chanderi	AAM Shinghpur tal	Intervention
44	Ashoknagar	Chanderi	Tarai	Intervention
45	Ashoknagar	Chanderi	AAM Gorakala	Intervention
46	Ashoknagar	Chanderi	AAM Pranpur	Intervention
47	Ashoknagar	Ishagarh	AAM Indoor	Intervention
48	Ashoknagar	Ishagarh	AAM Saraskhedi	Intervention
49	Ashoknagar	Ishagarh	AAM Derkha	Intervention
50	Ashoknagar	Shadora	AAM seji	Intervention
51	Ashoknagar	Shadora	AAM tumen	Intervention
52	Ashoknagar	Shadora	AAM mahu alampur	Intervention
53	Chhatarpur	Nawgang	AAM nuna	Intervention
54	Chhatarpur	Nawgang	AAM bilhari	Intervention

S. No.	District	Block	Facility Centre	Facility Type
55	Chhatarpur	nawgang	AAM ujara	Intervention
56	Chhatarpur	Chhatarpur	AAM maheba	Intervention
57	Chhatarpur	Chhatarpur	AAM dhamora	Intervention
58	Chhatarpur	Chhatarpur	AAM chauka	Intervention
59	Chhatarpur	bada malhara	AAM ghinochi	Intervention
60	Chhatarpur	bada malhara	AAM panwari	Intervention
61	Umaria	Pali	SHC GORIYA	Intervention
62	Umaria	Pali	SHC MALACHUA	Intervention
63	Umaria	Nowrozabad	SHC Kohka	Intervention
64	Umaria	Nowrozabad	AAM Lorha	Intervention
65	Umaria	Nowrozabad	AAM Mehroi	Intervention
66	Umaria	Manpur	SHC Goverde	Intervention
67	Umaria	Manpur	AAM Barbaspur	Intervention
68	Umaria	Manpur	AAM Balhor	Intervention
69	Mandla	Bichhiya	AAM Manikpur	Intervention
70	Mandla	Bichhiya	SHC Medha	Intervention
71	Mandla	Bichhiya	SHC Motinala	Intervention
72	Mandla	Nainpur	SHC Pandiwara	Intervention
73	Mandla	Nainpur	SHC Puttarra	Intervention
74	Mandla	Mandla	SHC Rajeev Colony	Intervention
75	Mandla	Mandla	SHC Semarkhapa	Intervention
76	Mandla	Mandla , Nainpur	AAM Indri	Intervention
77	Singrauli	Waidhan	AAM siddhi kala	Intervention
78	Singrauli	Waidhan	UPHC naw jeewan bihar	Intervention
79	Singrauli	Deosar	AAM daga	Intervention
80	Singrauli	Deosar	AAM pachuar	Intervention
81	Singrauli	Deosar	AAM godbahra	Intervention
82	Singrauli	Waidhan	AAM Tiyra	Intervention

S. No.	District	Block	Facility Centre	Facility Type
83	Singrauli	Waidhan	AAM karami	Intervention
84	Singrauli	Waidhan	AAM malgo	Intervention
85	Sagar	Khurai	Kumrol	Intervention
86	Sagar	Khurai	SHC Sarkhadi	Intervention
87	Sagar	Khurai	SHC Silodha	Intervention
88	Sagar	Shahpur	Chithoura	Intervention
89	Sagar	Shahpur	SHC Sironja New	Intervention
90	Sagar	Shahpur	SHC Badkuwan New	Intervention
91	Sagar	Malthon	SHC Pahar guwan	Intervention
92	Sagar	Malthon	SHC Sagoni	Intervention
93	Jhabua	Petlawad	Jhosar	Intervention
94	Jhabua	Petlawad	Kodali	Intervention
95	Jhabua	Petlawad	Mathmath	Intervention
96	Jhabua	Petlawad	Unnai	Intervention
97	Jhabua	Meghnagar	Hatyadelhi	Intervention
98	Jhabua	Kalyanpura	Balwan	Intervention
99	Jhabua	Meghnagar	Dadhnia	Intervention
100	Jhabua	Kalyanpura	Shivgarh	Intervention
101	Jhabua	Rama	Narela	Intervention
102	Bhopal	Phanda (Bhopal)	UPHC Govindpura	Intervention
103	Rajgarh	Biaora	Khanpura	Non-intervention
104	Rajgarh	Biaora	Bhura New	Non-intervention
105	Anuppur	Jaithari	SHC Pagna	Non-intervention
106	Anuppur	Anuppur	SHC Kholaiya	Non-intervention
107	Guna	Guna	UPHC Budhe Balaji Guna	Non-intervention
108	Guna	Bhadora	SHC Garha	Non-intervention
109	Guna	Bhadora	SHC Barkhedagird	Non-intervention
110	East Nimar (Khandwa)	Pandhana	Shahpura	Non-intervention
111	East Nimar (Khandwa)	Chhaigaon Makhan	Koladit	Non-intervention
112	Barwani	Silawad	Borley	Non-intervention
113	Barwani	Silawad	Sondul	Non-intervention
114	Ashoknagar	Chanderi	Gorokala	Non-intervention
115	Ashoknagar	Shadora	Mahu alampur	Non-intervention
116	Chhatarpur	Nawgang	Jhijhan	Non-intervention
117	Chhatarpur	Rajnagar	Garaha	Non-intervention
118	Umaria	Nowrozabad	AAM Barhi	Non-intervention
119	Umaria	Manpur	AAM Baderi	Non-intervention
120	Mandla	Bichhiya	AAM Padmi	Non-intervention
121	Mandla	Mandla	AAM Binjhiya	Non-intervention
122	Singrauli	Waidhan	padari Raja tola	Non-intervention
123	Singrauli	Chitrangi	podi 2	Non-intervention
124	Sagar	Shahpur	Girwar	Non-intervention
125	Sagar	Shahpur	Bhainswahi	Non-intervention
126	Jhabua	Kalyanpura	Barkheda	Non-intervention
127	Jhabua	Rama	Hatyadelhi	Non-intervention

Annexure III: Overall Project Achievements against Outcome Indicators

Outcomes	Indicators	Overall Project achievements
Healthcare Facility Strengthening	**Upgraded Model Centers:** • Number of AAMs upgraded as per guidelines • Number of UPHCs upgraded with functional EHR	• 629 AAMs (SHC & UPHCs) upgraded to model Ayushman Arogya Mandirs (AAMs) • 579 AMMs (SHC & UPHCs) upgraded with functional EHR
	Quality Assurance & Accreditation: • Number of healthcare facilities adopting standardized treatment protocols • Number of facilities achieving quality accreditation	• 521 Health facilities made eligible for Quality Accreditation • 159 AAMs & 07 UPHCs NQAS certified
	Infrastructure & Technology Enablement: • Number of functional EHR systems deployed	• National NCD portal functional as E.H.R. in 23 UPHCs
Capacity Building of Healthcare Workforce	**Training & Mentorship:** • Number of healthcare workers trained through systematic mentoring programs	• 6560 Healthcare workers mentored • 2078 Training sessions for HCWs
	Process Compliance & Supervision: • Number of supportive supervision visits conducted	• 7524 SHVs conducted so far
Service Delivery & Patient Outcomes	**Availability & Accessibility of Services:** • Number of HCWs trained in relevant IT applications • Healthcare facilities adopting IT-based service delivery (no. of facilities adopting e-Aushadhi system)	• 10186 HCWs trained on IT applications • Technical support for adoption of e-Aushadhi in 654 facilities ..
Knowledge Management Network	• Facilitation of training in collaboration with AIIMS and other Medical Colleges • Develop training modules for capacity building of HCWs	• 13 Medical Colleges on-boarded • 15 modules developed based on service packages • 32 sessions held by medical faculties for the CHOs • Immersive sessions “Prathmik Swasthya Sampark Karyakram – PSSK” initiated for better traction between the medical colleges and peripheral AAMs • 12 sessions organized so far
Supply Chain	• Analyse the causes for stock out of essential drugs (RMNCHA as well as NCD) and minimize the occurrence of Stock-outs at the district level.	• Technical support for adoption of e-Aushadhi in 654 facilities; Monthly Indent & operational Issues being tracked for intervention facilities.
Sustainability	• Capacity building of the district PMU staff for conducting supportive supervision visits will be done as an exit strategy so that continuity is maintained.	• 13 SOPs on implementation of CPHC guidelines developed • Initiated inclusion of CPHC services in the agenda of DHS and other district-level meetings.

Conclusion

The Madhya Pradesh Health Systems Strengthening Project is a prime example of how focused and well-implemented interventions can bring about significant positive change in healthcare. By tackling key challenges, empowering healthcare workers with enhanced skills, and effectively using the capabilities of medical colleges, **the project has demonstrably improved healthcare delivery in the intervention areas**. Continuous investments in training, infrastructure, and community engagement are key to sustaining and expanding these achievements. With ongoing strategic support from policymakers and all stakeholders, the MPHSSP can serve as a valuable **blueprint for nationwide healthcare reforms**, ultimately making equitable and high-quality healthcare a reality for everyone nationwide.