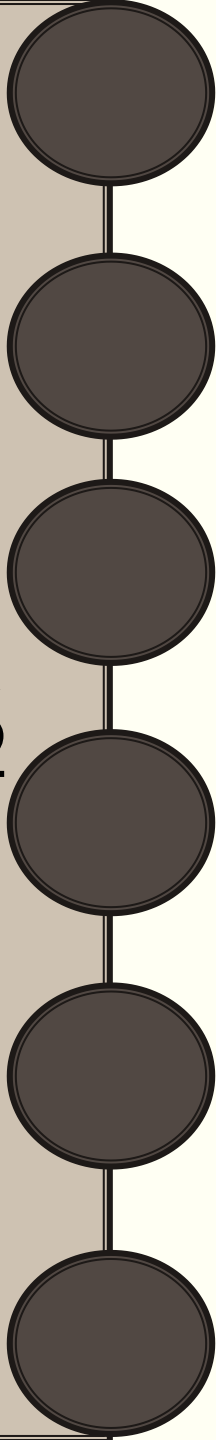


**CHALLENGES IN IMPLEMENTATION OF QUALITY
MANAGEMENT SYSTEM AND KEY PERFORMANCE
INDICATORS AT AYUSHMAN AROGYA SUBCENTER
UNDER NATIONAL QUALITY ASSURANCE
STANDARDS.**

**Submitted by Soumya Prasad
MBA Hospital & Health Management
1852**



TABLE OF CONTENTS



INTRODUCTION

REVIEW OF LITERATURE

METHODOLOGY

RESULTS

DISCUSSION

CONCLUSION

INTRODUCTION

INTRODUCTION



The most basic and peripheral components of India's public healthcare system are Sub-Centres (SCs), which operate as the initial point of contact for people living in rural and isolated areas. They are essential in providing preventive and promotional healthcare services, including family planning, nutrition, immunization, maternity and child health, and health education.

Despite national-level quality initiatives, many Sub-Centers struggle with infrastructural limitations, workforce shortages, weak monitoring mechanisms, and inconsistent service quality. This study investigates these problems by analyzing the structural, process, and outcome-related issues that affect quality healthcare delivery at Sub-Centers.

This research will help strengthen facility-level quality management systems, guide resource allocation and training needs, and enhance the responsiveness and efficiency of primary healthcare services.

REVIEW OF LITERATURE

REVIEW OF LITERATURE

‘Are our subcenters equipped enough to provide primary health care to the community: A study to explore the gaps in workforce and infrastructure in the subcenters from North India(Bashar et al., 2017)

- Gaps in IPHS compliance (only 11% compliant in tribal areas)
- Staff shortages, poor infrastructure, lack of utilities
- Lack of competent staff
- Reinforces the need for structural improvements

A Study of status of facilities available at Sub Centres and Right to Health(Choudhary, 2019)

- Issues of poor infrastructure and lack of community trust
- Emphasizes community engagement and health education
- Lack of competent culturally sensitive human resource

Are the subcenters adequately equipped to deliver primary healthcare? A study of public health manpower and infrastructure in the health district in Andhra Pradesh, India(Sriram, 2019)

- Only 8% of SCs meet IPHS norms, 14.6% have labor rooms
- Major shortages in male health workers, unavailable drugs and diagnostics
- Leads to over-referral, weakened frontline service delivery

REVIEW OF LITERATURE (CONTINUED...)

Study on the Availability of Physical Infrastructure and Manpower Facilities in Sub-centers of Chittoor District of Andhra Pradesh(Reddy et al., 2012)

- Massive vacancy in MPHW and ANM roles, lack of diagnostic tools
- Emphasizes need for staff housing, water, electricity
- Recommends regular supervision and infrastructure investment

What enabled the successful implementation of a quality certification initiative in Bhavnagar, Gujarat? A policy analysis case study(Lekha et al., 2025)

- NQAS success driven by trained mid-level teams and peer mentoring
- Supportive policy framing and adaptive checklists
- Demonstrates how Donabedian/NQAS can be used effectively

Baseline Assessment of Primary Healthcare Delivery Through Subcenters of Northern India(Goel et al., 2019)

- Sub-centers had average infrastructure, only 52% in good condition
- Inconsistent documentation of antenatal and child care services
- Clinical skills like BP and Hb testing below standards
- Calls for better supervision, improved documentation, and training

METHODOLOGY

METHODOLOGY

Research Questions:-

- What is the current compliance status of sub-centers with respect to the structure, process, and outcome domains of QMS as defined by NQAS?
- To what extent are key performance indicators being monitored and documented at the sub-center level?
- Which specific components of QMS (structure or process) show the most significant gaps in implementation across sub-centers?
- Is there a correlation between structure and outcome scores, and between process and outcome scores in the selected sub-centers?
- What are the perceived challenges and barriers faced by frontline healthcare workers in implementing QMS and maintaining KPIs?
- What support mechanisms or systemic changes do healthcare workers recommend for strengthening QMS practices at the sub-center level?

Study Duration:-

The data collection and analysis were conducted over a period of one month, while the entire dissertation took 3 months.

Study Design:-

Descriptive Cross sectional

METHODOLOGY (CONTINUED)...

Data Collection Procedure:-

- Virtual interviews
- Direct observation
- Review of facility records.

Sampling Technique: Purposive

Sample Size: Seven Subcenters

Study Setting: Jaipur 1 (Urban & Rural),
Rajasthan

Study Population:-

- Auxillary Nurse Midwives (ANMs)
- Community Health Officers (CHOs)
- Accredited Social Health Activists (ASHAs)

Ethical Consideration:-

- Written Informed Consent
- Voluntary Participation
- Confidentiality

Data Collection & Study Instrument (Questionnaire):-

- General Information
- Functional Services
- Structure, Process & Outcome based Questions
- Challenges & Support needs

AIM & OBJECTIVES

Aim: To assess and analyze the quality of service delivery in Sub-Centers under the National Health Mission using the NQAS checklist and Donabedian's model.

Objectives:

- To assess the current level of compliance with Quality Management System (QMS) standards in Ayushman Arogya Subcenters under Jaipur 1 block.
- To evaluate the adherence to Key Performance Indicators (KPIs) and outcome tracking at the subcenter level.
- To identify domain-wise (Structure, Process, Outcome) performance gaps in QMS implementation.
- To examine the relationship between QMS domain scores (Structure and Process) and outcome performance (KPI indicators).
- To explore challenges faced by healthcare workers in implementing QMS and monitoring KPIs.
- To suggest actionable recommendations to improve QMS and KPI implementation in Ayushman Arogya Subcenters

RESULTS

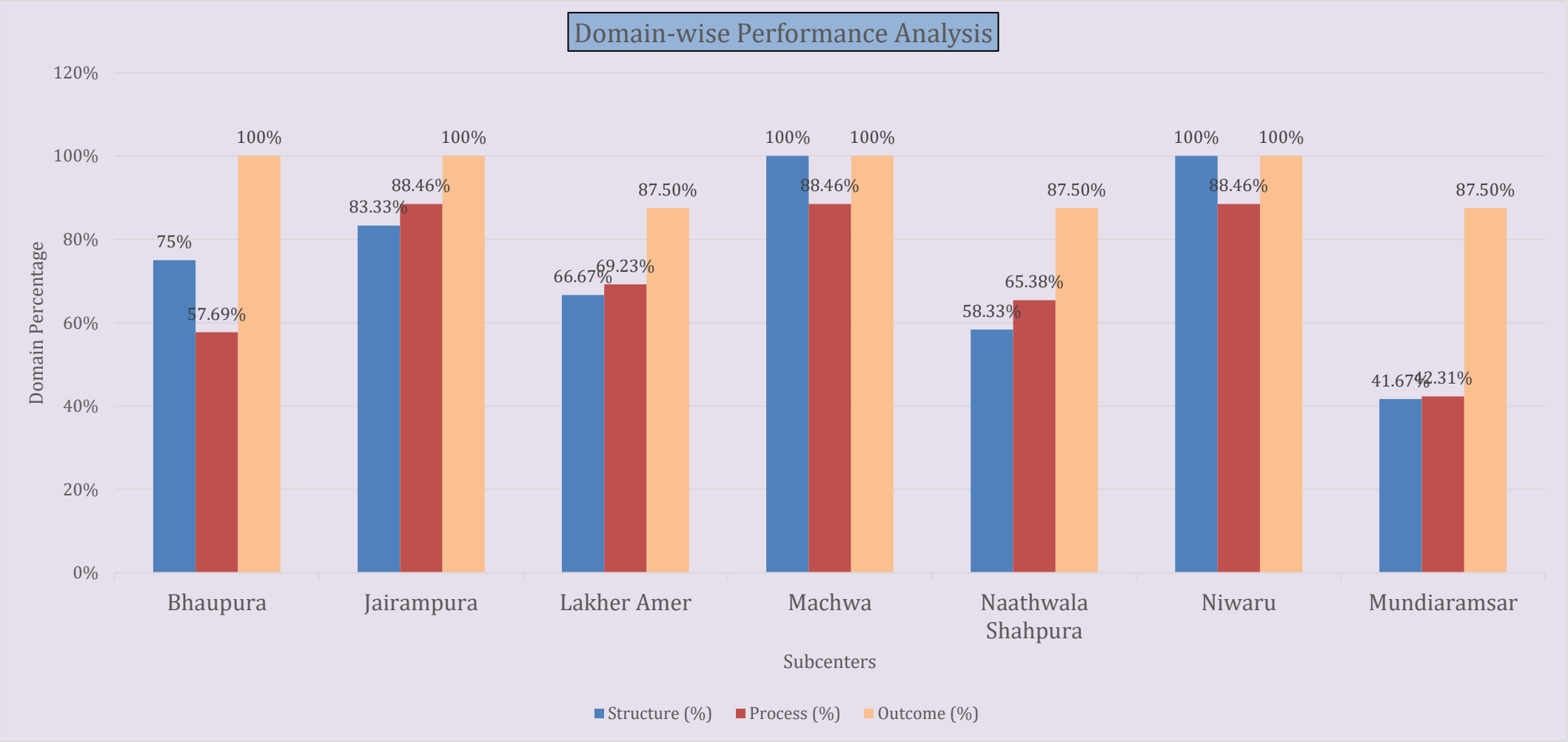
SECTION WISE AVERAGE COMPLIANCE

Section	Average Compliance (%)
Structure	75%
Process	71.43%
Outcome	94.64%

DOMAIN WISE PERFORMANCE ANALYSIS

Subcenter	Structure (%)	Process (%)	Outcome (%)
Bhaupura	75%	57.69%	100%
Jairampura	83.33%	88.46%	100%
Lakher Amer	66.67%	69.23%	87.5%
Machwa	100%	88.46%	100%
Naathwala Shahpura	58.33%	65.38%	87.5%
Niwaru	100%	88.46%	100%
Mundiaramsar	41.67%	42.31%	87.5%

DOMAIN WISE PERFORMANCE ANALYSIS



RANKING OF THE SUB-CENTERS BASED ON QMS SCORES

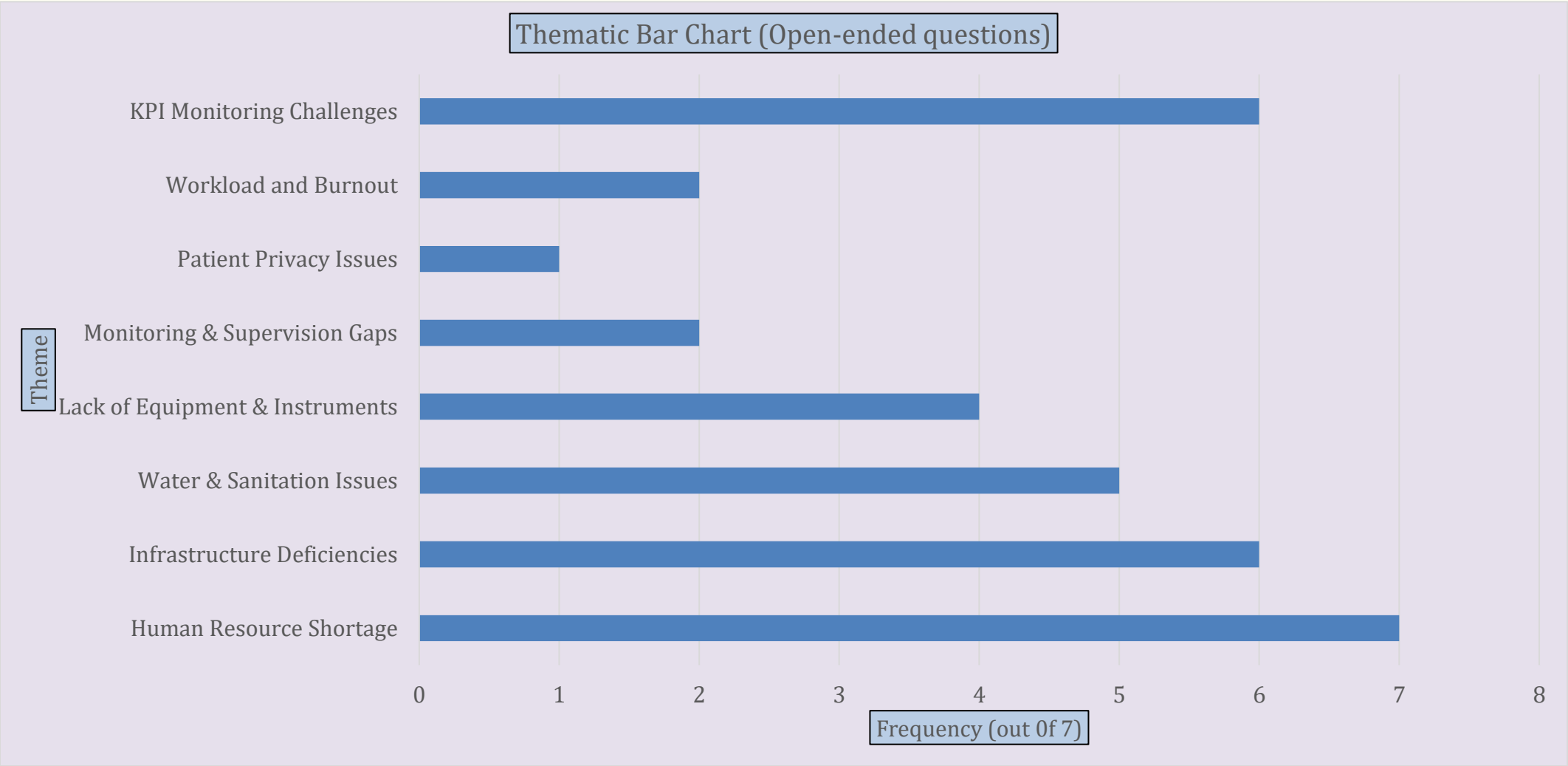
Rank	Subcenter	Composite QMS Score (%)
1	Machwa	96.15
1	Niwaru	96.15
2	Jairampura	90.60
3	Bhaupura	77.56
4	Lakher Amer	74.47
5	Naathwala Shahpura	70.40
6	Mundiaramsar	57.16

CORRELATION ANALYSIS

Pair of variables	Pearson correlation coefficient
Structure vs. Outcome	0.84 (p value= 0.01659784)
Process vs. Outcome	0.65 (p value= 0.11660919)

The analysis showed a **strong and statistically significant correlation** between structure and outcome scores (**$r = 0.84$** , **$p = 0.016$**), indicating that better infrastructure and resources lead to improved outcomes. A **moderate correlation** was found between process and outcome scores (**$r = 0.65$**), but it was **not statistically significant** (**$p = 0.117$**), suggesting a weaker and less certain link between service delivery practices and outcome performance.

THEMATIC ANALYSIS



DISCUSSION

KEY FINDINGS AND COMPARISON WITH LITERATURE

Structural Domain: Service Availability

The average compliance rate of 75% showed moderate compliance with facility and staffing. While CHO, ANM and ASHAs were posted to all sub-centres, there were a number of gaps with respect to missing MPHWs, lack of basic utilities (water/electricity), and infrastructure (lack of toilets, consultation rooms, etc.).

These findings echoed studies in **Haryana and Andhra Pradesh (Bashar & Goel, 2017; Sriram, 2019)** with similar challenges in infrastructure.

Outcome Domain: Service Performance

Relative Outcome indicators scored the highest of them all at 94.64%. The service performance sub-centres showed documentation and KPI tracking and completion as well as success in responding to community feedback. This mirrors findings from **Chittoor & Nellore (Sriram S, 2019)**, where outcomes remained strong despite structural issues—credit to **staff commitment** and **HMIS systems**.

Process Domain: Quality Operationalization

With 71.43% compliance, strong performance was observed in routine care, communication, and patient rights. However, issues were found in infection control, eHealth tools usage (ANMOL, eSanjeevani), and QI teams.

Findings resonate with **Bharatpur district's (Choudhary, 2019)** assessments—routine care is well delivered, but procedural gaps persist. Regular supervision and peer review are suggested.

Broader Context & Integration

Study reinforces national findings: while infrastructure growth has progressed, quality still remains a hurdle. The Donabedian Model also provided a systematic, measurable lens through Structure-Process-Outcome. This supports the **national and regional reports on NQAS** as a tool for monitoring, patient satisfaction, and adherence to protocols, particularly in Ayushman Bharat settings.

STRENGTHS AND LIMITATIONS OF THE STUDY

STRENGTHS:-

- NQAS checklist is used, meeting indicators of national benchmarks for quality.
- The use of the Donabedian model provided a domain-specific diagnosis of performance problems .
- The mixed-methods used included a quantitative measure and a qualitative insight.
- A variety of sub-centers provided important contextual details in the findings.
- The ethical rigor in maintaining confidentiality and informed consent.

LIMITATIONS:-

- The research sample included only seven sub-centers. This may limit the generalizability of the findings.
- The cross-sectional design captures performance at a single point in time; thus seasonal or staff variations were not accounted for.
- The study did not include temporal variables, including supply chain disruptions and workforce turnover.

CONCLUSION

CONCLUSION

STRUCTURAL GAPS:-

- Lack of infrastructure like separate washrooms
- Lack of equipments
- Lack of essential utilities like electricity back
- Lack of human resource such as MPHWS

PROCESS GAPS:-

- Inconsistent documentation
- Lack of adherence to protocol
- Poor utilization of digital tools like eSanjeevani, ANMOL

OUTCOME:-

- Efficient documentation of KPIs
- High outcome score reflects strong staff efforts despite system gaps.

The qualitative findings (thematic findings) revealed key challenges like staff shortages, irregular training, documentation burden, and lack of supportive supervision. Respondents stressed that trainings, better digital tools, and regular mentorship could boost morale and performance. The study also highlighted the value of community involvement in sustaining quality care. These findings reinforce the Donabedian model, emphasizing that strengthening structural and process elements is essential for achieving sustained improvements in health outcomes.

RECOMMENDATION

Strengthening Human Resource & Infrastructure

- Encourage recruitment & retention of key staff such as MPHWS.
- Ensure timely maintenance & upgrade of essential infrastructure such as electricity, water supply, sanitation facilities, and consultation rooms.

Enhancing Procedural Implementation

- Capacity-building workshops focused on infection control, digital tools (e.g., eSanjeevani, ANMOL)
- Formation or reactivation of Quality Improvement (QI) teams

Data Management and Technology Integration

- Continued support and refresher training in **Health Management Information Systems (HMIS)**
- **Feedback loops based on community inputs** can be systematically integrated into service delivery plans, promoting responsive and people-centered care.

RECOMMENDATION(CONTINUED)...

Supportive Supervision and Monitoring

- Encouraging periodic supervisory visits by block-level or district-level officers can provide valuable feedback and on-the-spot mentoring to sub-center staff.
- Adoption of a non-punitive, learning-oriented supervision model may further motivate staff, especially in rural and remote locations.

Community Engagement and Outreach

- Promote **greater community involvement** through Village Health, Sanitation, and Nutrition Committees (VHSNCs) and local governance bodies.
- Incorporate **community-based feedback** as a formal input in quality assessments, as seen in successful models in other districts.

Policy-Level Support and Resource Alignment

- Targeted policy support in staffing norms, supply chain logistics, and digital health infrastructure.
- Scaling good practices across other sub-centers in the region — including **documentation practices and grievance redressal systems** — can contribute to more uniform service quality.

THANK YOU