

ORIGINAL ARTICLE

Stakeholder Perceptions of National Quality Assurance Standards (NQAS) Implementation in Urban Primary Health Centres of Berhampur, Odisha: A Qualitative Study.

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Abstract

Background : To standardise quality improvement in health care, Ministry of Health and Family Welfare, Govt. of India Introduced **NQAS** in 2011. **Objectives:** To explore stakeholder perceptions and experiences regarding NQAS implementation in UPHCs of Berhampur, Odisha; identify key facilitators and barriers; and propose strategies to strengthen quality improvement initiatives.

Materials and Methods: A qualitative study was conducted between April and September 2023 in selected UPHCs of Berhampur, Odisha. Purposive sampling was used to recruit stakeholders with direct experience of NQAS implementation and service utilization. A total of 38 participants were included, comprising healthcare providers (medical officers, nurses, pharmacists and laboratory technicians), quality assessors and programme managers, a state consultant/UNICEF representative, and patients attending various health services. Data were collected through in-depth interviews and focus group discussions using semi-structured guides. Thematic analysis was performed through open, axial and selective coding. Data collection continued until thematic saturation was achieved and reported in narrative style. **Results:** Six major themes emerged: (1) Infrastructure and Resources, (2) Staff Training and Development, (3) Patient-Centred Care, (4) Stakeholder Awareness, (5) Leadership and Management, and (6) Continuous Quality Improvement. Facilitators included leadership commitment, availability of training opportunities, supportive supervision, and recognition of the importance of quality improvement. Major barriers included inadequate infrastructure, overcrowding, staff shortages, irregular training, limited stakeholder awareness, weak patient engagement, and challenges in documentation and monitoring. Participants emphasized the need for strengthened human resources, continuous capacity building, effective leadership, improved communication, and greater community involvement to sustain quality initiatives. **Conclusion:** Implementation of NQAS in urban primary healthcare facilities is influenced by a complex interplay of organizational, resource-related, and behavioural factors. Strengthening infrastructure, workforce capacity, stakeholder awareness, patient engagement, and continuous quality improvement mechanisms may enhance sustainable implementation of NQAS and contribute to improved quality of care in urban primary health settings.

Keywords: Quality Improvement, Stakeholder Participation, Community Participation, Primary Health Care, Qualitative Research, Patient-Centered Care

Introduction

Quality in healthcare means how likely it is that health services for individuals and communities lead to the best possible health results, based on what is known in the field [1]. This includes not just the skills and knowledge of healthcare professionals, but also making sure patients are safe, services

are easy to access, responsive to needs, and that care is continuous [1]. To help standardize quality improvement, the Ministry of Health and Family Welfare (MoHFW) in India introduced the National Quality Assurance Standards (NQAS) in 2011. These standards, approved by the International Society for Quality in Health Care (ISQua), offer a detailed way to

assess and enhance care in public health facilities such as district hospitals, community health centres (CHCs), primary health centres (PHCs), and urban primary health centres (UPHCs) [2]. The NQAS cover eight main areas: service delivery, patient rights, resources, support systems, clinical care, infection control, quality management, and outcomes [3]. The goal is to turn healthcare processes into clear, measurable results so that care is safe, timely, fair, effective, and focused on the patient.

Despite having clear standards, the use and effectiveness of NQAS vary greatly across different states and districts. This variation is due to differences in local resources, leadership, and how well people are involved. International studies have found that quality assurance efforts in healthcare often face difficulties because of local conditions. For example, in Ghana, poor resources, weak leadership, and lack of staff training made it hard to implement the standards. In Nepal, issues like staff shortages, poor infrastructure, and low community involvement also hindered progress. Others reported problems such as lack of money, weak ways of checking performance, and not enough training for healthcare workers [4-7].

In India, several studies have looked at how well NQAS is being followed in different areas. In Northern India, researchers discovered that not enough money, low awareness among staff, and weak ways of checking progress slowed improvements. In Gujarat, problems included poor building conditions, lack of trained workers, and not enough supervision. In Maharashtra, gaps in training, logistical issues, and not enough support for workers limited progress in rural health centres [8-10]. These findings show that even though NQAS provides a good framework, its success depends on having enough resources, good training, and strong management. Also, how people view and participate in these efforts plays a key role in their success. Studies by Dixon-Woods et al [11] found that limited resources and lack of training are common issues in many places. Community involvement has also been stressed as a key part of quality improvement. Durrance-Bagale et al [12] pointed out that involving patients and the community helps make quality improvements last longer. Feldman et al [13] showed how using technology can improve record-keeping, monitoring, and communication. Turner et al [14] argued that good policies are necessary to make quality improvements a regular part of healthcare.

Though studies have been done in areas like Delhi, Gujarat, and Maharashtra, there is not much research on the eastern states like Odisha. Most studies have focused on hospitals and rural areas, with less attention on UPHCs, which serve as the

main providers of primary care in urban areas. These facilities face unique challenges such as high patient numbers, poor physical conditions, and diverse health needs. Also, not many studies have looked at the views of multiple stakeholders, including those who work directly in healthcare, administrators, those who evaluate quality, government officials, and patients. Patient perspectives on awareness, interaction, and involvement in care remain under-researched, even though these are central to the NQAS framework. The UPHCs in Berhampur, Ganjam district, are vital for healthcare in urban Odisha, offering services like outpatient care, antenatal care, adolescent health, and care for the elderly. However, both anecdotal reports and initial assessments suggest issues with infrastructure, staff training, and understanding of NQAS among stakeholders. Since there is not enough evidence specific to this region, it is important to explore stakeholder views through a qualitative study. This method is especially useful because it allows for a deep understanding of experiences, local issues, and unexpected effects that surveys may miss [15]. By including a wide range of people such as medical officers, nurses, pharmacists, lab technicians, patients, quality assurance officers, internal and external assessors, and UNICEF representatives, this study aims to get a comprehensive view of NQAS implementation. These insights can lead to better strategies for training, managing, involving the community, and allocating resources to improve quality assurance.

The main goal of this study is to look at how stakeholders perceive and experience the implementation of NQAS in UPHCs in Berhampur, Odisha. Specifically, the study aims to: (1) understand the attitudes and views of healthcare workers on NQAS and quality improvement; (2) find what helps and what hinders the implementation of NQAS in urban health facilities; (3) examine the experiences of patients and families regarding how NQAS affects the care they receive; and (4) suggest strategies tailored to this context to improve the implementation and results of NQAS.

Material & Methods

This study used a qualitative approach to explore the views, experiences, and attitudes of stakeholders regarding the implementation of the National Quality Assurance Standards (NQAS) in urban primary healthcare facilities. A qualitative method was chosen because it allows for a deep understanding of local conditions, personal experiences, and challenges that quantitative approaches might miss.

The study was conducted in selected Urban Primary Health Centres (UPHCs) located in Berhampur city, Ganjam district,

Odisha. Berhampur is one of the major urban centres in southern Odisha, serving a diverse population characterized by rapid urbanization, population growth, and increasing healthcare demands. The city includes a mix of densely populated residential areas, urban slums, peri-urban settlements, and economically disadvantaged communities that rely substantially on public healthcare services. The participating UPHCs function as the first point of contact for primary healthcare and provide a comprehensive package of services under the National Health Mission. These services include outpatient consultations, maternal and child health services, antenatal and postnatal care, immunization, family planning, adolescent health services, geriatric care, management of common communicable and non-communicable diseases, health promotion activities, and referral services. In addition, the centres are responsible for implementing various national health programmes and quality assurance initiatives, including the National Quality Assurance Standards (NQAS). The selected UPHCs experience high outpatient attendance and cater to heterogeneous populations with varying healthcare needs. The facilities differ in terms of infrastructure, staffing patterns, patient load, and level of NQAS implementation, thereby providing a suitable context for exploring diverse stakeholder experiences. Challenges commonly encountered include overcrowding during peak service hours, limitations in physical infrastructure, workforce constraints, and increasing expectations for quality and patient-centred care. These contextual characteristics make the UPHCs of Berhampur an appropriate setting for examining facilitators and barriers to NQAS implementation in urban primary healthcare facilities.

The study lasted six months, from April 2023 to September 2023, covering stages like preparation, ethical approval, pilot testing, data collection, transcription, and analysis. The participants included various stakeholders such as healthcare providers (medical officers, staff nurses, pharmacists, laboratory technicians), administrators, district quality assurance officers, block programme managers, internal and external assessors, UNICEF representatives, and patients using services like outpatient consultations, antenatal care, adolescent clinics, and geriatric services.

Sampling and Data Saturation

Purposive sampling was employed to ensure representation of key stakeholder groups involved in NQAS implementation and service utilization. Inclusion criteria comprised healthcare providers and administrators with at least one year of service in UPHCs, patients above 18 years attending selected services, and stakeholders directly involved in quality assurance or

assessment. Exclusion criteria included providers with less than three months of service, critically ill patients, and individuals unwilling to consent. Participants were selected based on their experience, role in quality assurance activities, and willingness to participate. The final sample comprised 38 participants, including 13 healthcare providers, 10 internal and external quality assessors and programme managers, 1 state consultant/UNICEF representative, and 14 patients utilizing various services. No eligible participant who was approached declined participation. No non-participants were present during interviews or focus group discussions. Data collection continued concurrently with data analysis. Thematic saturation was assessed independently by three members of the research team through regular review of transcripts and coding outputs. Saturation was considered achieved after the 35th participant, when no new codes, categories, or themes emerged from subsequent interviews. Three additional interviews were conducted to confirm thematic redundancy and strengthen the credibility of findings.

Data Collection

Data were collected through 38 in-depth interviews (IDIs). In addition, two focus group discussions (FGDs) were conducted with selected participants to further explore collective perceptions regarding NQAS implementation. Semi-structured interview guides were developed following literature review and expert consultation. Interviews explored awareness of NQAS, implementation experiences, barriers, facilitators, leadership support, patient-centred care, and recommendations for improvement. Repeat interviews were not conducted.

Reflexivity

The research team consisted of public health professionals trained in qualitative research methods. Data collection was conducted by both male and female members of the research team. Researchers maintained reflexive field notes throughout data collection and analysis to identify and minimize the influence of personal assumptions and professional experiences on interpretation. Regular peer debriefing sessions were conducted to enhance analytical rigour.

Confidentiality During FGDs

Prior to each FGD, participants were informed about the importance of maintaining confidentiality and respecting the privacy of fellow participants. No personally identifiable information was recorded in transcripts. Participants were assigned unique identification codes, and all recordings were stored in password-protected files accessible only to the research team.

The study procedure involved securing administrative permissions and ethical clearance prior to data collection. Participants were approached in their respective facilities, and written informed consent was obtained. Data were collected using semi-structured interviews for providers, administrators, assessors, and consultants, and focus group discussions for patients. Interviews were conducted in Odia, Hindi, or English according to participant preference. Interviews typically lasted 30-45 minutes. Sessions were audio-recorded with consent and supplemented with field notes. A semi-structured interview guide, prepared after literature review and expert consultation, guided the discussions. The guide focused on domains such as awareness of NQAS, perceptions of quality improvement, facilitators and barriers to implementation, training and capacity-building, governance, patient-centeredness, and strategies for improvement. The tool was pretested in a non-study facility and refined accordingly. In addition to interviews and discussions, the study employed a Participatory Learning and Action (PLA) technique, specifically Force Field Analysis, to facilitate collective identification of enabling and constraining factors in NQAS implementation. This method encouraged active engagement of stakeholders in mapping perceived facilitators (driving forces) and barriers (restraining forces) to achieving quality assurance standards. Responses were generated through facilitated group discussions and recorded on charts visible to all participants. Following identification of factors, participants collectively discussed the relative influence of each facilitator and barrier on NQAS implementation. Similar responses were grouped into broader categories through consensus. Facilitators such as adequate funding, availability of medicines and logistics, supportive leadership, staff motivation, and training opportunities were classified as driving forces. Barriers including staff shortages, overcrowding, inadequate infrastructure, irregular training, limited awareness, poor supervision, and documentation challenges were categorized as restraining forces. The completed force field diagrams were photographed and documented as part of the study data. Findings from the PLA exercise were subsequently triangulated with interview and focus group discussion data during thematic analysis. The force field analysis served as a complementary method to validate and enrich emerging themes by providing a collective stakeholder perspective on factors influencing NQAS implementation.

Data collection was carried out by trained qualitative researchers from diverse backgrounds. Interviews were

transcribed verbatim within 48 hours and translated into English where necessary, with cross-checking for accuracy. Confidentiality was maintained through anonymization of transcripts. The primary outcome of the study was the identification of key themes and subthemes reflecting facilitators and barriers to NQAS implementation. Secondary outcomes included insights into the effectiveness of training, governance structures, patient engagement, and resource allocation. The analysis was conducted independently by three researchers using a shared coding framework, followed by consensus discussions to resolve discrepancies. Manual coding was supported by NVivo software, beginning with open coding to identify significant units of data, followed by axial coding to develop categories, and finally selective coding to generate overarching themes. Triangulation of perspectives across stakeholder groups enhanced credibility. Quality assurance of the research process was maintained through several measures. Credibility was achieved via prolonged engagement with participants, member checking of transcripts, and peer debriefing among the research team. Participants were offered the opportunity to clarify statements during member-checking discussions; however, full transcripts were not returned for review. Dependability was ensured by keeping an audit trail of methodological decisions, while confirmability was achieved by reflexive documentation of researcher bias. Transferability was supported through a detailed contextual description of the study setting. Ethical approval was obtained from the Institutional Ethics Committee of MKCG Medical College and Hospital, Berhampur vide no. 1244. Informed consent was obtained from all participants, who were assured of confidentiality and voluntary participation, with the right to withdraw at any stage. Audio recordings were destroyed after transcription, and data were stored securely in password-protected files. Findings were reported in narrative style and will be disseminated to local health authorities to strengthen ongoing quality improvement initiatives.

Results

A total of 38 stakeholders participated in the study, including healthcare providers (medical officers, nurses, laboratory technicians, and pharmacists), internal and external quality assessors, representatives from UNICEF, and patients from different service areas. Data analysis yielded multiple themes and subthemes reflecting facilitators and barriers to NQAS implementation.

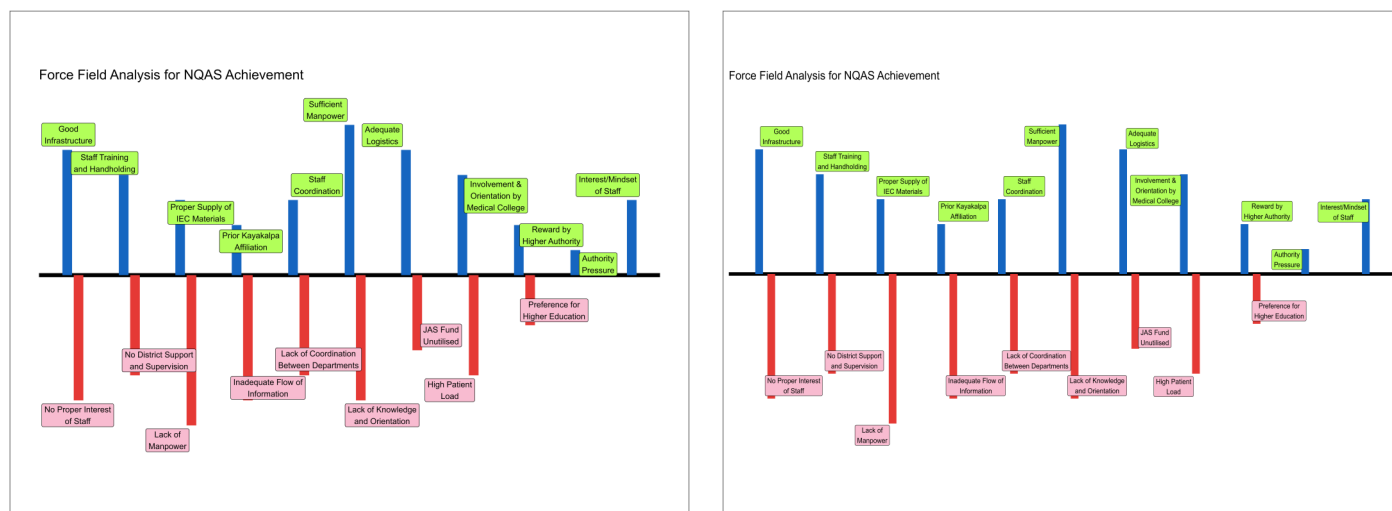


Figure 1a and 1b: Force Field Analysis of Facilitators and Barriers to NQAS Achievement in Urban Primary Health Centres, Berhampur, Odisha

The figure illustrates the results of a participatory force field analysis conducted with stakeholders to identify driving and restraining forces influencing the achievement of National Quality Assurance Standards (NQAS).

Blue/Green labels (left side): Represent the facilitators or driving forces that support NQAS implementation, such as adequate funding, sufficient manpower, proper training, and availability of logistics and medicines.

Red/Pink labels (right side): Represent the barriers or restraining forces that hinder NQAS implementation, including inadequate staff, high patient load, poor supervision, irregular training, lack of awareness, and insufficient infrastructure.

Black central line: Represents the balance point of NQAS achievement, where facilitators and barriers interact

dynamically.

The Force Field Analysis (Figure 1a and 1b) identified key facilitators and barriers influencing NQAS implementation. Major driving forces included adequate funding, availability of medicines and logistics, staff motivation, leadership support, and training opportunities. Major restraining forces comprised staff shortages, overcrowding, inadequate infrastructure, irregular training, limited awareness, weak supervision, and documentation challenges. These findings complemented and validated themes emerging from interviews and focus group discussions, highlighting the dynamic interaction between enabling and constraining factors affecting quality improvement.

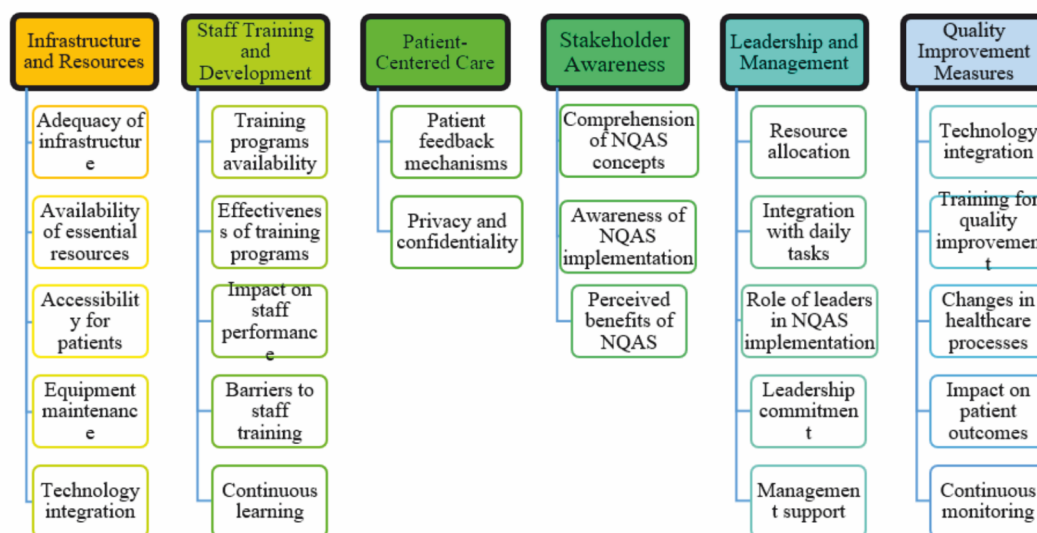


Figure 2: Thematic Framework of Stakeholder Perceptions on NQAS Implementation in Urban Primary Health Centres, Berhampur, Odisha

Figure 2 presents the six major themes and associated subthemes that emerged from the thematic analysis of stakeholder interviews and focus group discussions on National Quality Assurance Standards (NQAS) implementation.

When stakeholders in Berhampur's UPHCs came together to share their experiences with NQAS, their stories painted a vivid picture of both progress and persistent challenges. The findings can be understood through six interwoven themes, each revealing how quality assurance is lived out in practice (Figure 2).

1. Infrastructure and Resources: The Strain of Space and Scarcity

Providers often began their stories with the everyday realities of crowded facilities and limited equipment. For many, infrastructure was not just about walls and beds, but about the dignity of care. One provider admitted, "Lack of updated medical equipment ... the facility is overcrowded, affecting our ability to adhere to National Quality Assurance Standards." [Healthcare provider 3] Patients echoed this frustration, describing long waits and discomfort. "Waiting areas are crowded ... difficult to get timely attention. There isn't enough room for everything and everyone," said a patient [Patient 16]. These voices remind us that without adequate infrastructure and essential resources, even the most well-intentioned standards struggle to translate into real improvements.

2. Staff Training and Development: The Missing Link of Confidence

For providers, NQAS often felt like a demanding checklist-one they were expected to follow without always being equipped to do so. Training, when available, was often irregular or superficial. "There is a definite need for more comprehensive staff training on National Quality Assurance Standards ... training hasn't been thorough or regular," explained one healthcare provider [Healthcare provider 10]. Administrators recognized this too, acknowledging, "From an administrative perspective ... there are gaps in staff knowledge about NQAS. A well-trained team is key to effective implementation." [Administrator 1]. Without consistent and practical training, staff struggled to internalize standards, leaving them less confident in applying quality practices day to day.

3. Patient-Centered Care: A Promise Yet to Be Fulfilled

Patients came forward with stories that revealed a tension between policy aspirations and lived realities. Providers themselves confessed to being torn between targets and patient needs. "Patient-centered care should be the core of our services, but with the current focus on meeting quotas and managing the crowd, it's challenging," said one provider

[Healthcare provider 2]. Patients, in turn, spoke of being left out of decisions. "There's often a lack of communication, and decisions seem to be made without considering our perspectives," noted a patient [Patient 6]. These stories highlight how patient-centeredness, though central to NQAS, often gets sidelined by pressures of volume and system constraints.

4. Stakeholder Awareness: Standards Few Knew By Name

Awareness of NQAS varied sharply. While administrators and assessors could articulate the standards, many frontline providers-and nearly all patients-had only a vague sense of what NQAS meant. One patient confessed candidly, "Honestly, I wasn't aware of what National Quality Assurance Standards meant until recently." [Patient 7]. Even among staff, knowledge was patchy. "Many staff members aren't fully informed about the standards ... this affects their ability to meet them," admitted a healthcare provider [Healthcare provider 7]. Without collective understanding, NQAS risks being seen as an external imposition rather than a shared goal.

5. Leadership and Management: The Weight of Direction from the Top

In many accounts, the presence-or absence-of leadership support made all the difference. When leaders took an active role, providers felt empowered; when they didn't, efforts faltered. "Clear directives and support from the top are essential ... management should take a more active role," urged an administrator [Administrator 1]. A provider added, "Without strong management support, it's challenging for frontline staff to prioritize quality initiatives." [Healthcare provider 15]. These voices underline that leadership is not a backdrop but a decisive force-its commitment, resource allocation, and everyday presence shape how NQAS is embraced at the ground level.

6. Quality Improvement Measures: Beyond Compliance, Towards Culture

Stakeholders also spoke about the difference between "checking the boxes" and truly improving care. Internal assessors described how quality initiatives often stopped at compliance. "There is room for improvement ... it's not just about meeting standards but finding ways to enhance care," reflected one assessor [Internal assessor 3]. A UNICEF consultant added, "We need more robust strategies ... encouraging a continuous quality improvement mindset with regular feedback loops." [State consultant, UNICEF India]. These perspectives show that sustainable change comes when NQAS is embraced as a culture of continuous learning, not just an audit requirement.

These stories reveal a dynamic interplay between facilitators

and barriers. Adequate funding, leadership support, and existing training structures act as enabling forces, while staff shortages, overcrowding, low awareness, and fragmented communication restrain progress. The thematic map, enriched by the lived experiences of patients and providers, underscores that achieving NQAS is not merely a technical exercise—it is a human journey shaped by infrastructure, knowledge, leadership, and, above all, the voices of those within the system.

The word cloud (Figure 3) is a snapshot of the lived realities of providers, patients, and administrators. It tells us that quality is valued, but it is entangled in documentation, constrained by scarce resources, and sustained only when feedback, training, and monitoring become continuous.

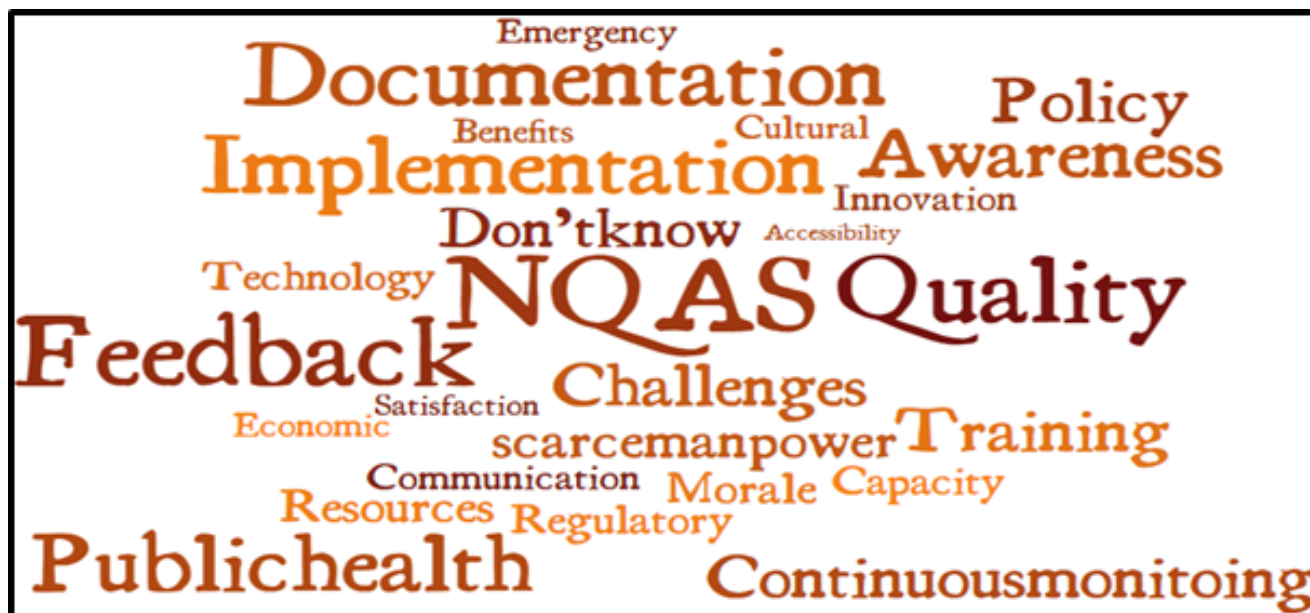


Figure 3: Stakeholder Perceptions of NQAS Implementation: A Word Cloud Representation

Figure 3 presents the frequency of terms appearing in interview and focus group transcripts. Larger words indicate more frequently occurring terms. The word cloud is intended as a descriptive visualization and was not used as a primary analytical tool; interpretation of findings was based on thematic analysis.

When we asked stakeholders about their perceptions of NQAS, their words began to cluster around certain recurring ideas, creating a shared vocabulary of quality, challenges, and aspirations. The word cloud captures this collective voice. At the center of their stories was the term "Quality" - not surprisingly, since NQAS is fundamentally about raising standards of care. Yet quality was not described as an abstract policy term. For providers, it meant having enough resources to work effectively. For patients, it meant receiving respectful, timely, and reliable care. Closely linked to quality was "NQAS" itself, but the surrounding words revealed mixed levels of familiarity. Some participants spoke confidently about standards, documentation, and policy. Others confessed, "Don't know," reflecting gaps in awareness. This contrast

highlights a key barrier: while some stakeholders can navigate the technicalities of NQAS, others are still left outside the conversation. The theme of "Implementation" emerged strongly. For administrators, it was about aligning facilities with policy requirements; for staff, it was about the day-to-day struggle to keep up with documentation and compliance tasks. The repeated mention of "Documentation" shows how paperwork, while critical for accountability, often overshadows the lived experience of delivering care. "Feedback" and "Public health" stood out as reminders of who NQAS is meant to serve. Patients voiced their need for communication and mechanisms to express satisfaction or complaints. Providers, meanwhile, recognized that without a strong feedback loop, standards risk becoming top-down exercises with little grounding in community realities. Several words reflected systemic barriers: "scarce manpower," "challenges," "resources," and "morale." These spoke to the frustrations of overstretched staff who, despite best intentions, felt under-supported. One nurse remarked during the discussions, "We know what quality should look like, but with

so few staff and so many patients, how can we manage?" Finally, the presence of words like "Continuous monitoring," "Training," and "Awareness" shows that stakeholders do not see NQAS as a one-time achievement but as an ongoing process. Many expressed a desire for regular learning, stronger monitoring systems, and leadership support to make quality a culture rather than just a certificate.

Discussion

This study highlights the multifaceted nature of NQAS implementation in urban primary healthcare settings, demonstrating that quality assurance is shaped by the interaction of organizational, behavioural, and system-level factors rather than by resource availability alone. The findings suggest that successful implementation requires the integration of quality improvement principles into routine service delivery, supported by adequate infrastructure, trained personnel, effective leadership, and active stakeholder engagement. Many of the challenges identified in the present study are consistent with previous reports from India and other low- and middle-income countries, where infrastructural limitations, workforce shortages, inadequate training, and governance-related constraints have been recognized as major barriers to quality improvement initiatives [2,3,7,10]. Although NQAS provides a structured framework for enhancing service quality, the ability of facilities to achieve and sustain these standards depends on their operational capacity and the availability of enabling resources. Similar observations have been reported from Ghana, Nepal, and other settings where health facilities faced difficulties in translating quality policies into practice because of systemic resource constraints [4,5,7]. A key observation from this study is the central role of human factors in determining implementation success. Consistent with earlier studies, capacity building, staff motivation, leadership commitment, and stakeholder ownership emerged as critical determinants of sustained quality improvement [6,8,9,11]. Evidence from successful quality certification initiatives suggests that training is most effective when delivered as a continuous process supported by mentorship, supportive supervision, and institutional commitment rather than as isolated orientation programmes [9,11]. Similarly, leadership influences not only resource allocation but also organizational culture, staff engagement, and accountability, all of which are essential for embedding quality improvement into routine practice [8,9,11].

The findings also underscore the importance of patient-centred approaches within quality assurance systems. Previous research has shown that limited patient participation can weaken accountability mechanisms and reduce responsiveness to community needs [5,12]. Strengthening communication channels, feedback systems, and opportunities for patient involvement may therefore contribute to both improved service experiences and greater public trust in healthcare institutions [1]. Likewise, enhancing awareness of NQAS among providers, administrators, and service users may promote a shared understanding of quality goals and encourage broader participation in improvement efforts [4,6,8]. Compared with studies conducted in better-resourced settings, stakeholders in Odisha placed greater emphasis on overcrowding, high patient demand, workforce constraints, and limited awareness of quality standards. These differences may reflect the realities of rapidly urbanizing primary healthcare systems in eastern India, where growing service utilization places additional pressure on already constrained facilities. Such contextual variations highlight the need for flexible implementation strategies that account for local health system conditions rather than adopting uniform approaches across diverse settings. The findings further suggest that quality assurance initiatives are more likely to be sustainable when supported by continuous monitoring, routine feedback mechanisms, and data-driven decision-making processes [13,14]. Embedding these practices within everyday facility operations may help transform NQAS from a periodic assessment exercise into a culture of continuous quality improvement. The evidence indicates that strengthening infrastructure, investing in workforce development, promoting leadership engagement, fostering patient participation, and institutionalizing continuous quality improvement processes are essential for achieving sustainable gains in service quality and advancing primary healthcare strengthening efforts in India [2,3].

Policy and Practice Implications

Based on the findings of this qualitative study, a conceptual recommendation model termed Plan-Act-Check-Evolve (PACE) is proposed. The model is intended as a practical framework for guiding quality improvement activities and has not been empirically validated. Future implementation research is required to assess its feasibility, effectiveness, and generalizability (Figure 4).

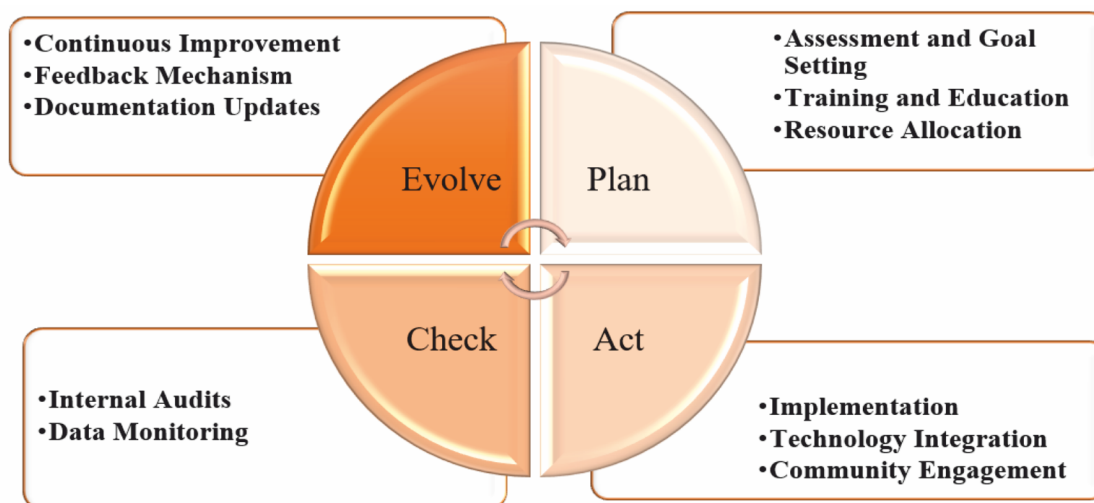


Figure 4: Plan-Act-Check-Evolve (PACE) Model for Strengthening NQAS Implementation in Urban Primary Health Centres

Figure 4 illustrates a cyclical recommendation model adapted from the Plan-Do-Check-Act (PDCA) framework, designed to guide sustainable implementation of National Quality Assurance Standards (NQAS).

The proposed recommendation model builds on the well-established principles of continuous quality improvement, framed as a four-phase cycle: Plan, Act, Check, and Evolve. This cyclical approach ensures that NQAS is not treated as a one-time certification process but rather as an ongoing journey of improvement.

1. Plan: Setting the Foundation

The first phase, Plan, involves systematically assessing existing gaps, setting realistic goals, and aligning resources. It emphasizes three core strategies: assessment and goal setting, training and education, and resource allocation. In this stage, facility managers and teams work collaboratively to identify priority areas for improvement and develop a roadmap that integrates NQAS benchmarks into daily operations. By investing in structured training and careful distribution of resources, facilities create a strong foundation for implementation.

2. Act: Turning Plans into Practice

The Act phase focuses on translating strategies into action. Here, NQAS guidelines are implemented through concrete steps such as strengthening service delivery processes, adopting technology solutions for record-keeping and monitoring, and engaging the community. This stage underscores that implementation is not merely about compliance, but about integrating standards into the lived experience of providers and patients. Technology integration, such as electronic dashboards or automated reporting tools, and community involvement ensure that quality initiatives are both evidence-based and socially responsive.

3. Check: Monitoring Progress

Once interventions are in place, the Check phase ensures

accountability. This involves conducting internal audits and rigorous data monitoring to track whether NQAS standards are being met consistently. By analysing data on service delivery, patient outcomes, and staff performance, facilities can identify what is working and where gaps remain. Regular monitoring also creates opportunities for mid-course corrections, preventing quality lapses from becoming systemic.

4. Evolve: Sustaining Improvement

The final phase, Evolve, moves beyond corrective action to institutionalise learning. Continuous improvement is fostered through structured feedback mechanisms, periodic documentation updates, and the integration of lessons learned into policy and practice. This phase reinforces the idea that quality assurance is a living process that adapts over time. Facilities that embrace the evolve phase are better equipped to sustain accreditation, build staff morale, and improve patient trust.

The Plan-Act-Check-Evolve model provides a dynamic and iterative framework for NQAS implementation. By emphasising planning, participatory action, rigorous monitoring, and adaptive learning, the model addresses both technical and human dimensions of quality assurance. Its cyclical nature ensures that UPHCs do not view NQAS as an endpoint, but as an evolving journey towards better infrastructure, empowered staff, engaged patients, and stronger leadership.

One of the major strengths of this study lies in its qualitative design, which allowed for a deep exploration of stakeholder perceptions regarding NQAS implementation. Unlike quantitative assessments that focus only on scores or indicators, this study captured the lived realities of providers, administrators, and patients. The use of participatory approaches such as force field analysis and word cloud mapping added richness to the findings, enabling the identification of both driving and restraining forces in a visually meaningful way. Another strength is the inclusion of diverse

stakeholders, ensuring that the voices of patients, frontline staff, and administrators were represented. This triangulation of perspectives enhances the validity and contextual relevance of the findings. Finally, the study contributes to limited literature from Eastern India on NQAS, offering context-specific insights that can inform policy and practice in similar urban primary health settings. At the same time, the study has certain limitations. Being a single-site study in Berhampur, Odisha, the findings may not be generalisable to all regions or healthcare settings. The reliance on purposive sampling may have introduced selection bias, as participants who were more aware or motivated might have been overrepresented. In addition, as with all qualitative research, the interpretation of themes could be influenced by researcher subjectivity, although efforts were made to ensure rigor through triangulation and peer validation. Finally, the study did not quantitatively assess outcomes such as patient satisfaction scores or facility performance ratings, which could have complemented the qualitative findings.

Conclusion

This study identified six interconnected factors influencing NQAS implementation in UPHCs: infrastructure and resources, staff training, patient-centred care, stakeholder awareness, leadership and management, and continuous quality improvement. Staff shortages, overcrowding, inadequate infrastructure, and limited awareness emerged as major

barriers, whereas leadership support, training opportunities, and commitment to quality improvement acted as facilitators. Policymakers should focus on strengthening infrastructure, workforce capacity, stakeholder engagement, supportive supervision, and routine quality monitoring. The proposed PACE conceptual model may serve as a practical guide for future quality improvement initiatives in urban primary healthcare settings.

Ethics approval and consent to participate

The study was approved by the Institutional Ethics Committee of MKCG Medical College, Berhampur, Odisha (Approval No: 1244). Written informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity were strictly maintained throughout the research process, and participation was voluntary.

Availability of data and materials

The datasets generated and/or analysed during the current study are not publicly available due to participant confidentiality but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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References

1. Institute of Medicine. Crossing the quality chasm: a new health system for the 21st century. Washington (DC): National Academies Press; 2001.
2. Ministry of Health and Family Welfare. Operational guidelines for quality assurance in public health facilities. New Delhi: Government of India; 2013.
3. Ministry of Health and Family Welfare. National quality assurance standards for public health facilities. New Delhi: Government of India; 2016.
4. Agyepong IA, Kodua A, Adjei S, Adam T. When solutions of yesterday become problems of today: crisis-ridden decision making in a complex adaptive system-the additional duty hours allowance in Ghana. *Health Policy Plan.* 2012;27 Suppl 4:iv20-31.
5. Gurung G, Derrett S, Gauld R, et al. Why service users do not complain or have 'voice': a mixed-methods study from Nepal's rural primary health care system. *BMC Health Serv Res.* 2017;17:81.
6. Chin B, Montana L, Basagaña X. Reliability and validity of a survey to measure implementation of quality assurance standards in Cambodian primary health care facilities. *Int J Qual Health Care.* 2016;28(1):104-10.
7. Moyegbone JE, Nwose EU, Nwanjei SD, Agege EA, Odoko JO, Igumbor EO. Integration of eye care into primary healthcare tier in Nigeria health system: a case for Delta State. *Clin Med Rev Rep.* 2020;2(6):1-6.

8. Scott K, George AS, Harvey SA, Mondal S, Patel G, Ved R, et al. Beyond form and functioning: understanding how contextual factors influence village health committees in northern India. *PLoS One.* 2017;12(8):e0182982.
9. Lekha KS, Ramani S, Joshi H, Verma P, Malhotra S, Puwar T, et al. What enabled the successful implementation of a quality certification initiative in Bhavnagar, Gujarat? A policy analysis case study. *PLoS Glob Public Health.* 2025;5(1):e0004180.
10. Patil SS, Gaikwad RA, Deshpande TN, Patil SR, Durgawale PM. Gaps in facilities available at community health centres/rural hospitals as per Indian Public Health Standards: a study from Western Maharashtra. *J Family Med Prim Care.* 2020;9(9):4869-74.
11. Dixon-Woods M, McNicol S, Martin G. Ten challenges in improving quality in healthcare: lessons from the Health Foundation's programme evaluations and relevant literature. *BMJ Qual Saf.* 2012;21(10):876-84.
12. Durrance-Bagale A, Marzouk M, Tung LS, Agarwal S, Aribou ZM, Ibrahim NBM, et al. Community engagement in health systems interventions and research in conflict-affected countries: a scoping review of approaches. *Glob Health Action.* 2022;15(1):2074131.
13. Feldman SS, Buchalter S, Hayes LW. Health information technology in healthcare quality and patient safety: literature review. *JMIR Med Inform.* 2018;6(2):e10264.
14. Turner M, Carr T, John R, Ramaswamy R. A scoping review of the use of quality improvement methods by community organizations in the United States, Australia, New Zealand, and Canada to improve health and well-being in community settings. *IJQHC Commun.* 2022;2(1):lyab019.
15. Creswell JW, Poth CN. Qualitative inquiry and research design: choosing among five approaches. 4th ed. Thousand Oaks (CA): Sage Publications; 2017.