

Dissertation Training

at

UNICEF, Bihar

Quality in Rural Healthcare: A Scoping Review of NQAS Implementation in Bihar

by

Kausik Halder

PG/23/048

Under the guidance of

Dr. Nidhi Yadav

PGDM (Hospital & Health Management)

2023-25



International Institute of Health Management Research New Delhi

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**International Institute of Health Management Research
New Delhi**

The certificate is awarded to

Kausik Halder

in recognition of having successfully completed
his dissertation in the department of
Public Health and has successfully
completed his Project on

**Quality in Rural Healthcare: A Scoping Review of NQAS Implementation in
Bihar**

Date 01st April to 30th June

at UNICEF, Bihar, Purnea district

He comes across as a committed, sincere & diligent person who
has a strong drive & zeal for learning.

We wish him all the best for future endeavors.

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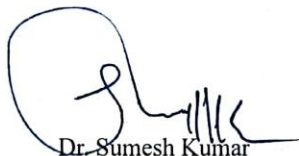
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The Candidate has successfully carried out the study designated to him during internship training and his/her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements.

I wish him all success in all his/her future endeavours.



Dr. Sumesh Kumar
Associate Dean, Academic and Student Affairs
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Mentor

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Certificate of Approval

The following dissertation titled **Quality in Rural Healthcare: A Scoping Review of NQAS Implementation in Bihar** at UNICEF Bihar is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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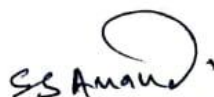
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This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.



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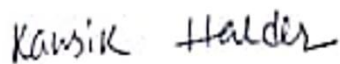


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This is to certify that the dissertation titled **Quality in Rural Healthcare: A Scoping Review of NQAS Implementation in Bihar** and submitted by Kausik Halder Enrollment No. PG/23/048 under the supervision of Dr. Nidhi Yadav for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from 01st April to 30th June, 2025 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.



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It is my radiant sentiment to place on record my best regards, and deepest sense of gratitude to **Dr. Sutapa Bandyopadhyay Neogi, (Director, IIHMR Delhi)** for her careful and precious guidance which was extremely valuable for my study both theoretically and practically.

I perceive this opportunity as a big milestone in my career development. I will strive to use the gained skills and knowledge in the best possible way and continue to work on their improvement to attain desired career objectives. Hope to continue cooperation with all of you in the future.

Sincerely,

Kausik Halder

PG/23/048

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ACRONYMS

SL NO	Acronyms	Full form
1	NQAS	National Quality Assurance Standards
2	PRISMA-ScR	Preferred Reporting Items for Systematic reviews and Meta Analysis and Scoping Reviews
3	NHM	National Health Mission
4	SHSB	State Health Society Bihar
5	IPC	Infection Prevention and Control
6	IPHS	Indian Public Health Standards
7	NABH	National Accreditation Board for Hospitals & Healthcare providers
8	MoHFW	Ministry of Health and Family Welfare
9	PHC	Primary Health Centre
10	CHC	Community Health Centre
11	DH	District Hospital
12	RMNCH+N	Reproductive, Maternal, Newborn, Child Health and Nutrition
13	LaQshya	Labour room Quality improvement Initiative
14	GoB	Government of Bihar
15	FHW	Frontline Health Workers
16	NCD	Non-Communicable Diseases
17	SC	Sub centre
18	SNCU	Specialized New born Care Unit
19	ANM	Auxiliary Nurse Midwife
20	ASHA	Accredited Social Health Activist
21	NNMS	National Noncommunicable Disease Monitoring Survey
22	HWC	Health & Wellness Centers

ORGANIZATION PROFILE

UNICEF works to promote and protect the rights of children across India. We have spent 74 years in India working to improve the lives of children and their families.

UNICEF India is committed in its continued support to the Government in this extraordinary journey of development to reach every child everywhere in India. Our goal is to enable every child born in India to have the best start in life, to thrive and to develop to her or his full potential. To achieve this we use our technical expertise together with partners to tackle the root of several, deeply entrenched structural challenges.

We have been present in India for 74 years. UNICEF's key strength lies in our evidence-based technical expertise that informs policy action and implementation, while at the same time building the capacity of partners. With some 450 staff members working in 17 states that together cover 90 per cent of India's child population - largest field presence among UN agencies – we are well positioned to reach the country's most vulnerable children.

UNICEF believes, All children have a right to survive, thrive and fulfill their potential – to the benefit of a better world.

ABSTRACT:

Background: Introduced by the Ministry of Health and Family Welfare (MoHFW), the National Quality Assurance Standards (NQAS) are meant to institutionalize quality in government health facilities in India. The state of Bihar is rural and underserved, and quite a few steps have been undertaken to realize NQAS in its primary health infrastructure. There is a large disparity, however, in the scope, priority areas and success of this implementation between districts. The scoping review was undertaken to bring together the available evidence on implementation of NQAS in rural Bihar and derive important themes, gaps, and lessons to be learnt by policy and practice.

Methods: The PRISMA-ScR guidelines were embraced to adopt a scoping review methodology. The search was conducted in the literature published in 2010-2024 in PubMed, Google Scholar, and official resources (NHM and SHSB reports). Inclusion criteria were centred on the studies that evaluated the domains related to NQAS in the rural health facilities of Bihar. Altogether, 35 records were found, and 12 studies were included after the removal of duplicates, title and abstract screening, and full-text eligibility evaluation. The important variables were mapped in Excel, and thematic synthesis approach applied to findings.

Results: The majority of the studies evaluated NQAS components including infrastructure, infection prevention and control (IPC), human resources, and clinical service delivery. Thematic analysis depicted common impediments that included staffing, inadequate documentation, ineffective supervision and a paucity of patient involvement. Facilitating factors were well-organized mentorship (e.g. AMANAT), leadership, and favourable policies such as Kayakalp and LaQshya. Nevertheless, the most important gaps are still present in the area of post-certification monitoring, adolescent and mental health services, and patient feedback system.

Conclusion: The story of NQAS implementation in rural Bihar has delivered encouraging results in some districts, but it is yet to deliver a consistent performance because of systematic issues. Framework policies and training models have helped in making gains but more gains would require improved infrastructure, better human resource, local leadership, and community participation.

INTRODUCTION:

Healthcare quality means considering many aspects of treatment, all with the goal of seeing better health results. It covers evaluating the needs of patients, involving them in their own care and easing obstacles to better provider performance by drawing on technology and science. It has been difficult to measure quality in Indian public health facilities using global standards. The purpose of introducing the Indian Public Health Standards (IPHS) was to ensure that all infrastructure and services were standardized. Besides, some issues were overlooked which caused states to create different certification and accreditation systems including NABH, ISO 9001:2008 and Family Friendly Hospital Initiatives between 2008 and 2012(1).

Ensuring that healthcare is of high quality is one of the main aims of public health systems globally. After the National Health Mission (NHM) was formed in 2005 in India, seeking to reach underserved and remote areas in the country became more important. Understanding that quality is necessary in addition to health services, the Ministry of Health and Family Welfare (MoHFW) launched the National Quality Assurance Standards (NQAS) in 2013. They provide a complete system for evaluating and boosting the quality of care offered at public health facilities such as Primary Health Centres (PHCs), Community Health Centres (CHCs) and District Hospitals (DHs)(2).

The crucial areas included in the NQAS framework are service provision, patient rights, inputs (infrastructure and human resources), support services, clinical care, infection control, quality management and outcomes. Use of standardized checklists allows facilities to be certified if their compliance score is 70% or higher. The standards follow global standards and are meant to introduce routine evaluations, active supervision and putting patients at the center of everything done(3).

Maternal and newborn deaths have decreased in India throughout the last three decades. From 1990 to 2015, the number of women dying during childbirth dropped from 556 to 174 out of every 100 000 and neonatal mortality dropped from 54 to 29 for every 1 000 live births. However, much more work is needed to reach the Sustainable Development Goal targets of just 70 deaths per 100 000 births for mothers and just 12 for every 1 000 babies. For Bihar, the state with the third largest population (about 104 million), reaching these goals will be quite tough. Many people in Bihar are below the poverty line (34%) and their health is poor, as reflected by a neonatal mortality rate of 27 per 1000 live births and a maternal mortality rate of 208 per 100 000 births(4).

Around the world, Primary Health Care has always been essential to health systems ever since the Alma Ata Declaration of 1978 highlighted Health for All. Over the years, this concept has been understood in India. Back in 1946, the Bhore Committee believed the Primary Health Centre (PHC) should take the lead in offering both preventive and curative medical care to communities nearby. Bihar accounts for slightly over 8% of India's population, continues to struggle with serious public health problems. There are the highest rates of maternal deaths, deaths of newborns, fertility, and general death recorded in the state. In addition, about a third of Bihar's rural people are poor, which creates more difficulties in accessing and using healthcare. In this circumstance, the study checks the conditions of

healthcare facilities and services at micro health units and outreach Sub Centres in Bihar, in comparison to the standards outlined by IPHS, set by the Ministry of Health and Family Welfare(5).

Since Bihar is a populous state with a weak economy, its healthcare supply includes particular challenges and access to care. Since most people, 88% of them, live in rural areas that deal with challenges in getting modern infrastructure, it is hard for them to obtain quality health services. People living in the Bihar are also affected by serious health inequities due to its per capita income being much lower than the nation's average. Also, the educational literacy for women is only 63.82%, preventing most women from being aware of prevention measures against diseases. Progress in healthcare has been attained in Bihar despite its challenges. For example, the National Health Mission is introducing extra manpower and coaching programmes in PHCs, while in Bihar the absence of necessary tools and professional health staff in PHC leads to many problems. Such problems can only be dealt with by using sustainable and innovative solutions that fit well with Bihar's population and economy(6).

In 2013, the Government of India started the RMNCHN + adolescent health strategy that included guidelines for all health systems and also launched National Quality Assurance guidelines for health facilities at the same time; and, in 2017, the LaQshya guidelines were introduced to reinforce how quality should be applied during delivery care. Due to the RMNCHN+A strategy's aim for thing beyond the status quo, the attention of the GoB and others enabled efforts to increase the development of public health care and improve services. Manav Vikas Mission (Human Development Mission) is a separate initiative from GoB meant to give birth to ambitious health plans like reduction in the mortality rates of mothers and newborns(7)

METHODOLOGY:

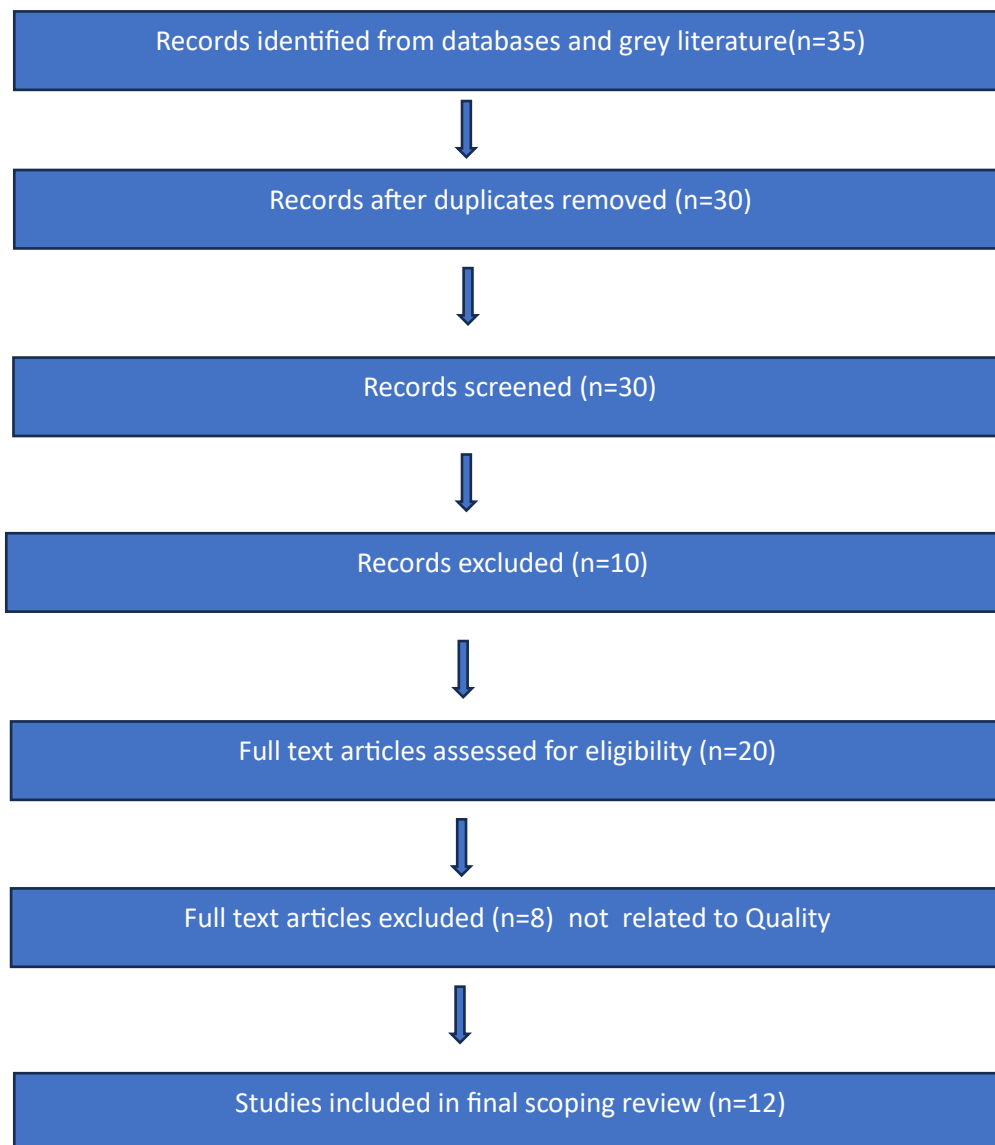
- **STUDY DESIGN-** This scoping review was conducted using the methodological framework by Arksey and O'Malley (2005) and aligned with the PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews) guidelines.
- **RESEARCH QUESTIONS-**
 - I. What is the extent and nature of evidence available on the implementation of National Quality Assurance Standards (NQAS) in rural health facilities of Bihar?
 - II. What are the key barriers and facilitators to effective NQAS implementation identified across studies?
- **INCLUSION CRITERIA-**
 - I. Studies or reports on NQAS implementation in Bihar.
 - II. Articles published between 2014-2025.
 - III. Focus on public healthcare facilities(PHC,HWC,CHC).
- **EXCLUSION CRITERIA-**
 - I. Studies from other states.
 - II. Articles not related to quality assurance in healthcare.
 - III. Articles solely addressing private healthcare facilities.
- **DATA SOURCES-**
 - I. Search scientific databases: Pubmed, Google scholar, Scopus.
 - II. Include grey literature- NHM Bihar reports, MoHFW documents, conference papers.
- **SEARCH STRATEGY-**
 - I. Use keywords like "NQAS", "Bihar", "Rural health", "Quality assurance"
 - II. Apply Boolean operators ("NQAS" AND "Bihar" AND "Rural").
- **STUDY SELECTION-**
 - I. Screen titles and abstracts using inclusion and exclusion criteria.
 - II. Conduct full text review for final selection.
- **DATA EXTRACTION AND CHARTING-**
 - I. Use Excel/Google sheets to chart key fields like Author name, District, Facility type, NQAS components, Findings.
 - II. Systemically collect and organize data from included sources.

RESULT:

- **STUDY SELECTION PROCESS:**

The selection process of the studies was in line with the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews). Database and grey literature searches identified a total of 35 records. Following the exclusion of 5 duplicates, 30 records were filtered on the basis of titles and abstracts; 20 full-text articles were read to determine eligibility, of which 8 were excluded due to various reasons like non-alignment with NQAS or lack of Bihar-specific data. In the end, the scoping review encompassed 12 studies.

PRISMA-ScR flow diagram study selection



DATA CHARTING AND STUDY CHARACTERISTICS:

In order to systemize the evidence, an Excel-based data charting tool was designed. It retrieved the following variables per study:

- Author and Year

- District covered
- Facility type
- NQAS component assessed
- Key findings

TABLE 1: KEY CHARACTERISTICS OF INCLUDED STUDIES

SL no.	Author & Year	Location	Facility type	NQAS components assessed	Key findings
1	Kaur J. & 2019	Bihar	DH & PHC	Infrastructure, Human resources, Infection prevention & control, clinical services and Equipment availability	Major preparedness disparities in infrastructure, human workforce, infection precaution and clinical procedures. Very few PHCs had 24×7 service standards. There were poor record-keeping and availability of essential drugs.
2	Madhav G. & 2010	Bihar (Saran & Banka district)	PHCs , APHCs & SCs	Infrastructure, staffing, service availability, Equipment, access	A large number of PHCs and SCs remained shut during working hours. Among the key shortages were power and water shortage, shortage of clinical staff and shortage of essential drugs. There were practically no referral systems or emergency services. There was poor

					overall facility readiness.
3	Agarwal N. & 2023	Bihar	PHCs	Human resources, Service delivery, Training , Equipment readiness	There was a gap in knowledge and skills of cardiovascular disease screening among the frontline health workers. After training they performed much better. The obstacles faced were the absence of equipment, Erratic supervision, and inadequate referral connections.
4	Kumar I.B. & 2024	Bihar	PHCs, CHCs	Governance, Human resources , Infrastructure, Referral services	This review found that ongoing problems were observed in the areas of workforce shortage, inconsistent supervision at the facility level, and the absence of referral connections. Such innovations as leadership training, decentralized procurement, and the use of digital tools were mentioned as the factors that

					make better quality assurance possible.
5	Creanga A. & 2020	Bihar	SCs, PHCs, CHCs and DHs	Clinical care , Infection prevention & control, Quality monitoring	Mentorship-based quality improvement resulted in the following facility readiness, documentation, and clinical service delivery improvements. Performance of staff was increased where supervision and training were done continuously. But there was influence by the local leadership and availability of resources.
6	Dandona R. & 2019	Bihar	PHCs, CHCs, DHs	Clinical services, Infrastructure, ANC protocols, Record maintainance	Identified lapses in the regular antenatal care such as blood pressure and hemoglobin tests. Bihar had received low marks in important ANC quality indicators. The usual constraints were absence of equipment, trained personnel and

					counselling of patients.
7	Karvande S. & 2016	Bihar & Jharkhand	PHCs, CHCs and DHs	Perception of quality, Patient rights, Clinical service expectations	Providers at Bihar linked quality care with the simple infrastructure, supply availability, and respectful treatment of the patients. These problems were overworking, inappropriate referral mechanisms, and absence of patient feedback mechanism. NQAS was regarded as not internalized and external.
8	Neogi S.B. & 2014	Bihar	SNCUs, PHCs, CHCs	Newborn care standards, clinical protocols, Infrastructure, HR, monitoring	The research applied a quality assurance model designed in newborn care within diverse levels of facilities. There were gains with regard to compliance with clinical procedures and cleanliness, but the achievement relied closely on mentoring, favourable supervision

					and leadership at the facility level.
9	Sharma J. & 2016	Bihar(Gaya and Purnea)	DHs and PHCs (Labor room)	Labor room protocols, Clinical care, documentation, staff training	Targeted quality assurance interventions enhanced delivery preparedness, infection prevention, and control, as well as the compliance to labour room protocols. The measurable improvements in measurements were documented in the mentorship and real-time feedback in documentation and newborn care practices.
10	Morgan M.C. & 2018	Bihar	PHCs and CHCs (labor & delivery units)	Emergency obstetric and newborn care, Mentorship, Training , Infrastructure	Determined structural and behavioural receivers of effective emergency care. Insufficient space, equipment as well as referral mechanisms were deterrent to care delivery. Mentorship through simulation was well-liked but

					had to be adjusted and followed up within the context. With continual support staff confidence increased.
11	Ghosh R. & 2022	Bihar	PHCs and CHCs (Labor room)	Clinical protocol adherence, Emergency management, Capacity building	The use of simulation-based mentoring showed a significant increase in the skills of nurses in the diagnosis and management of postpartum haemorrhage and intrapartum asphyxia. There was however variation in retention of skills amongst districts. The important factors in long-term changes were frequent exposure to simulation and positive supervision.
12	Agarwal A. & 2019	India	DH	Cleanliness, Infection control, Patient Safety	The Kayakalp program helped in enhancement of better standards of cleanliness and infection control in district hospitals.

					Kayakalp award facilities were better prepared to face NQAS assessment and scored better in external assessments.
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TABLE 2: THEMATIC ANALYSIS

NQAS component	No of studies	Coverage
Infrastructure & facility readiness	11/12	92%
Infection prevention & control	10/12	83%
Human resources & Staffing	9/12	75%
Clinical care & service delivery	9/12	75%
Documentation & record	7/12	58%

TABLE 3: EXCLUDED STUDIES FOR SCOPING REVIEW

SL NO	TITLE	SEARCH ENGINE	REASON FOR EXCLUSION
1	What enabled the successful implementation of a quality certification initiative in Bhavnagar, Gujarat? A policy analysis case study	pubmed	Geographical mismatch
2	Of primary health care reforms and pandemic responses: understanding perspectives of health system actors in Kerala before and during COVID-19	pubmed	Geographical mismatch
3	Preparedness of primary and secondary health facilities in India to address major noncommunicable diseases: results of a National Noncommunicable Disease Monitoring Survey (NNMS)	Pubmed	Not bihar specific
4	Strategies for Ensuring Quality Health Care in India: Experiences From the Field	pubmed	Not bihar specific

5	Implementing Quality Process in Public Sector Hospitals in India: The Journey Begins	pubmed	Hospital specific not PHC
6	Public Health System in India and the Contemporary Challenges	Google scholar	Not NQAS specific
7	Determinants of quality of life of geriatric population in rural block of Haryana	pubmed	Not bihar specific
8	A qualitative study on community perceptions on quality of healthcare services they received in the Malaria Elimination Demonstration Project in district Mandla, India	BMC	Not bihar specific
9	Respectful Maternity Care Practices During Normal Delivery at the Public Health Facilities in Tamil Nadu, Southern India: A Descriptive Study	pubmed	Not bihar specific
10	Impact of a Multi-Strategy Community Intervention to Reduce Maternal and Child Health Inequalities in India: A Qualitative Study in Haryana	pubmed	Not bihar specific
11	Effect of National Accreditation Board for Hospital-Recommended Trainings on Patient Care Standards: A Comparative Study Based on the National Quality Assurance Standards Guidelines in a Tertiary Health-care Institute	pubmed	Not NQAS related
12	Innovations and Challenges in Reducing Maternal Mortality in Tamil Nadu, India	pubmed	General service delivery context
13	Effect of restrictions imposed due to COVID-19 pandemic on the antenatal care and pregnancy outcomes: a prospective observational study from rural North India	pubmed	Not NQAS related
14	Improving primary health care delivery in Bihar, India: Learning from piloting and statewide scale-up of <i>Ananya</i>	Google scholar	Not NQAS related
15	Field safety and effectiveness of new visceral leishmaniasis treatment regimens within public health facilities in Bihar, India	Google scholar	Not NQAS related

16	Self-assessment of Public Healthcare Facility in Conformity with Accreditation Guidelines for Quality Services	Google scholar	Not Bihar specific
17	Steps Taken by the Government of India to Improve Quality of Care	Google scholar	Not NQAS specific
18	Quality improvement collaborative to increase access to caesarean sections: lessons from Bihar, India	Google scholar	Not NQAS specific
19	Quality Of Health Care In India: Challenges, Priorities, And The Road Ahead	Google scholar	Not Bihar specific
20	Progress of health care in rural India: a critical review of National Rural Health Mission	Google scholar	Policy level analysis not NQAS
21	Evaluation of a large-scale reproductive, maternal, newborn and child health and nutrition program in Bihar, India, through an equity lens	pubmed	Not NQAS specific
22	Health infrastructure in rural India	Google scholar	Not NQAS specific
23	Benefit incidence analysis in public health facilities in India: utilization and benefits at the national and state levels	Google scholar	Not NQAS and Bihar specific

BARRIERS TO EFFECTIVE NQAS IMPLEMENTATION:

1. Shortage of skilled workforce- A large number of PHCs and CHCs experience perennial shortage of trained health care personnel. Scarcity of doctors, staff nurses and laboratory technicians means that routine service delivery is interrupted and important quality assurance activities are either not done or not done well. Stressed out workers tend to focus more on the number of patients rather than the paperwork, infection prevention, or quality assurance of the services. This grossly impedes compliance with NQAS in structural and process standards.(8) (5)
2. Inadequate infrastructure- The basic facilities which are usually missing in the facilities include constant power supply, clean water, working toilets and biomedical equipment. In the absence of such inputs, achieving even the minimum standards under NQAS, including equipment maintenance, prevention of infections and patient privacy becomes virtually impossible. This shortage is more acute in far-flung blocks, logistical issues tend to further slow repairs and upgrades.(4,9)
3. Poor documentation - Partographs, case sheets, stock registers, referral records and other services should be accurately and timely documented as part of quality standards. The records contained in many facilities are on paper and are of poor quality; they are illegible or incomplete. Consequently, audit trails are poor and facilities perform poorly in terms of NQAS benchmark in data utilization, reporting

and patient tracing. This is not only on quality scores but also continuity of the services and accountability..

4. Weak referral systems- Lack of a coordinated referral mechanism is one of the greatest operational problems. Emergency or higher level care patients usually experience delays in treatment because of unavailability of ambulances or inadequately connected communication among PHCs, CHCs and district hospitals. It results in the fragmentation of services, higher out-of-pocket expenses to the patient, and it does not allow the timely escalation of care-all of which impact health outcomes and quality ratings.(10)
5. Limited awareness of NQAS- A large number of ANMs, ASHAs, and facility-level workers have not received proper orientation on NQAS domains and assessment procedures as well as standard operating procedures (SOPs). Otherwise, day-to-day operations will mostly be informal or ad-hoc, rather than based on quality standards. This undermines internal audit, peer review and preparation to external certification audits. (11)

ENABLERS OF QUALITY IMPROVEMENT:

1. Simulation based mentoring: Simulation-based training Programs such as Amatriva AMANAT Model (A Apatkalin Matritva evam Navjat Tatparta) brought a structured hands-on simulation training to improve clinical skills in labour room management. It has not only enhanced the confidence of the providers but also assisted in developing muscle memory in protocol-based care. These programs were also highly associated with higher scores of quality of maternal and newborn care during external evaluation.(8) (12).
2. Checklists and SOPs: The facilities which implemented standardized checklists in delivery preparation, infection control, waste disposal and response to emergencies demonstrated higher compliance to clinical protocols. These devices also acted as visual aids to staff minimizing mistakes and making procedures consistent. The SOPs facilitated peer educations and the induction of new employees, reinforcing institutional memory.(13)
3. Leadership Engagement : Those facilities that had proactive Medical Officers In-Charge (MOICs) or block-level supervisors were more likely to be prepared in terms of the NQAS. There was involved leadership that led to prompt auditing, corrective measures, in-house examinations as well as accountability of staff members. Effective local governance also implied that there was improved follow-up on the infrastructure shortcomings and HR matters that resulted into long term improvement.(6)
4. State-led Initiative: The existence of parallel quality programs such as Kayakalp (emphasized cleanliness and infection control), and LaQshya (emphasized labor room care) established the culture of quality in government facilities. The better the facilities had done in these initiatives, the more they were ready to face NQAS certification. Kayakalp infrastructural changes including the provision of better toilets, signages, and segregation of waste contributed directly to NQAS compliances across several areas.(14)

DISCUSSION:

The scoping review is a compilation of evidence of 12 studies done in evaluating the launch of the National Quality Assurance Standards (NQAS) in rural healthcare facilities in the state of Bihar. The review identifies such critical themes as infrastructure preparedness, workforce issues, clinical quality improvement efforts, and gaps in community-based care that are emerging. Although a number of interventions have elevated the standards of service delivery, there are still formidable obstacles that limit the optimal achievement of NQAS goals at the lower level.

- **Infrastructure and Infection Control: The Domains That Are Most Addressed** The most common areas of assessment across the studies were infrastructure and infection prevention and control (IPC). According to Kaur et al. (2019), the majority of Primary Health Centres (PHCs) and District Hospitals (DHs) in Bihar did not meet the minimum standards of 24-hours maternal and newborn care. On the same note, Madhav (2010) reported a general lack of infrastructural facilities and unfunctional ones in Saran and Banka districts. These results are comparable to those reported by Sharma et al. (2016), who achieved positive changes in labour room preparedness following targeted quality improvements but noted that their assistance was necessary to be long-term.
- **Capacity Building Gaps and Needs of Human Resources:** The lack of human resources is also still a bane to the implementation of quality. The articles of Kumar & Birendri (2024) and Madhav (2010) emphasized mass vacancies, in particular, of medical officers and nurses. However, training interventions indicated positive results. As an illustration, Agarwal et al. (2023) demonstrated that knowledge and performance of frontline health workers (FHWs) in the screening of non-communicable diseases (NCDs) improved considerably following a systematic capacity building. Morgan et al. (2020) and Ghosh et al. (2021) agree with this when they reported that provider confidence and emergency response skills were enhanced by simulation-enhanced mentoring.
- **Program Innovations- Mentoring, SOPs and Leadership:** Some of them pointed out that facilities that enrolled in well-organized quality improvement initiatives appeared to be better-performing in NQAS domains. Neogi et al. (2015) reported that a facility-based quality model of newborn care led to compliance with protocols and infrastructure norms. On the same note, in a large-scale implementation study, Creanga et al. (2020) documented that continuous mentorship ameliorated documentation, IPC practices, and staff motivation. Kumar & Birendri (2024) prioritized the issue of leadership and governance as the crucial facilitator to surpass systemic inefficiencies.
- **Underrepresented aspects of Quality measurements:** Currently, there are signs of improvement in the areas of core service delivery; nonetheless, there are vital areas that are under-assessed. Patient rights, community participation, or provider beliefs concerning the quality of care were considered in only a couple of studies (e.g.,

Karvande et al., 2020). Cultural detachment between the normal quality expectations and provider attitude was an issue as well. Equally, none of the reviewed studies evaluated adolescent health and mental health services, which are important to achieve comprehensive primary care.

- Impact of National initiatives: Agarwal et al. (2022) used to evaluate how the Kayakalp initiative impacted the outcomes of NQAS certification and identified that facilities that received Kayakalp awards had a better compliance rate with cleanliness and hygiene indicators. The study however also pointed out that hygiene improvement is not a guarantee of clinical quality in the absence of systemic HR support and continuous supervision.

LIMITATIONS:

The review has limitations as it relies on a small number of Bihar specific studies, and the studies are heterogeneous in terms of their designs and the outcomes, thus, it cannot be generalized. Besides, the majority of the studies described process indicators without the long-term patient outcome assessment.

CONCLUSION:

This scoping review is a thorough literature synthesis of the evidence available on the introduction of the National Quality Assurance Standards (NQAS) in rural public health facilities of Bihar. The findings, based on 12 studies carried out during the last decade, demonstrate the strengths and remaining gaps in the institutionalization of quality care in the primary health system of the state. The most important NQAS domains, including infrastructure, infection prevention, staffing, and clinical service delivery, have been addressed extensively, and such interventions as simulation-based mentoring, standard operating procedures (SOPs), and quality audits have had a quantifiable impact on certain facilities. Nonetheless, long-standing challenges such as inadequate human resources, poor referral connections, irregular oversight, and absence of patient-focused models remain to curtail the efficiency and sustainability of such standards. The review also established the gaps in the literature- especially the unrepresentation of the patient view, the adolescent and mental health services, and long-term outcomes of quality certification. The gaps indicate the necessity to broaden the areas of NQAS beyond infrastructure and hygiene to holistic and community-sensitive indicators. To speed up the process of improvement of healthcare standards in Bihar, any further initiative should focus on the capacity building, the enhancement of district-level leadership, and the NQAS embeddedness in the larger context of health system reforms. Quality assurance must become equitable, efficient, and people-centered care in rural Bihar, and to do so, strengthening of governance, incentivizing compliance, and the integration of real-time monitoring will be essential.

REFERENCES:

1. Agrawal A, Srivastava J, Priyadarshi M. Impact of implementation of “Kayakalp” initiative on quality certification of district hospitals to National quality assurance standards. *Indian J Community Med.* 2019;44(3):228.
2. Operational-Guidelines-for-Improving_Quality_Public_Health_Facilities_2021.
3. National Quality Assurance Standards 2020.
4. Kaur J, Franzen SRP, Newton-Lewis T, Murphy G. Readiness of public health facilities to provide quality maternal and newborn care across the state of Bihar, India: a cross-sectional study of district hospitals and primary health centres. *BMJ Open.* 2019 Jul;9(7):e028370.
5. ResearchGate [Internet]. [cited 2025 May 25]. (PDF) Primary Health Care in Rural Bihar : Gaps in Infrastructure and Service Delivery. Available from: https://www.researchgate.net/publication/314153705_Primary_Health_Care_in_Rural_Bihar_Gaps_in_Infrastructure_and_Service_Delivery
6. Kumar IB, Birendri D. Challenges And Innovations In The Primary Healthcare System Of Bihar: A Comprehensive Review.
7. Creanga AA, Srikantiah S, Mahapatra T, Das A, Sonthalia S, Moharana PR, et al. Statewide implementation of a quality improvement initiative for reproductive, maternal, newborn and child health and nutrition in Bihar, India. *J Glob Health.* 2020 Dec;10(2):021008.
8. Ghosh R, Cohen S, Spindler H, Vincent D, Sterling M, Das A, et al. Simulation and nurse-mentoring in a statewide nurse mentoring program in Bihar, India: diagnosis of postpartum hemorrhage and intrapartum asphyxia. *Gates Open Res.* 2022 Jun 13;6:70.
9. Sharma J, Neogi S, Negandhi P, Chauhan M, Reddy S, Sethy G. Rollout of quality assurance interventions in labor room in two districts of Bihar, India. *Indian J Public Health.* 2016;60(4):323.
10. Karvande S, Sonawane D, Chavan S, Mistry N. What does quality of care mean for maternal health providers from two vulnerable states of India? Case study of Bihar and Jharkhand. *Journal of Health, Population and Nutrition.* 2016 Feb 20;35(1):6.
11. Agarwal N, Singh C, Naik BN, Mishra A, Ahmad S, Lohani P, et al. Capacity building among frontline health workers (FHWs) in screening for cardiovascular diseases (CVDs): Findings of an implementation study from Bihar, India. *AIMSPH.* 2023;10(1):219–34.
12. Morgan MC, Dyer J, Abril A, Christmas A, Mahapatra T, Das A, et al. Barriers and facilitators to the provision of optimal obstetric and neonatal emergency care and to the implementation of simulation-enhanced mentorship in primary care facilities in Bihar, India: a qualitative study. *BMC Pregnancy Childbirth.* 2018 Dec;18(1):420.
13. Neogi SB, Shetty G, Ray S, Sadhukhan P, Reddy SS. Setting up a Quality Assurance model for newborn care to strengthen health system in Bihar, India. *Indian Pediatr.* 2014 Feb;51(2):136–8.

14. Agrawal A, Srivastava JN, Priyadarshi M. Impact of Implementation of “Kayakalp” Initiative on Quality Certification of District Hospitals to National Quality Assurance Standards. Indian J Community Med. 2019;44(3):228–32.

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