ASSESSING THE IMPACT OF NQAS CERTIFICATION ON KEY PERFORMANCE INDICATORS: A COMPARATIVE ANALYSIS OF CERTIFIED AND NON-CERTIFIED UPHCS

Dissertation Submitted to

The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

By

Khushboo Singh Chhatrya

Under the Supervision and Guidance of

Dr Tripti Bisawa

2024

Government of Rajasthan
National Health Mission, Rajasthan
Department of Medical, Health & FW, Swasthya Bhawan, Jaipur
Tel.No.0141-2229108, Email ID: spm_raj nrhm@yahoo.com

No. F 2 (153) NHM/SPM/2024/ 855 Dated: 5/7/24

CERTIFICATE

This is to certify that **Dr Khushboo Singh Chhatrya**, student of MBA, Indian Institute of Health Management Research (IIHMR University, Jaipur) has successfully completed her Dissertation & Internship at National Health Mission, Rajasthan from 26/03/2024 to 18/06/2024. She has worked on the project-

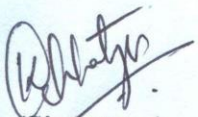
ASSESSING THE IMPACT OF NQAS CERTIFICATION ON KEY PERFORMANCE INDICATORS: A COMPARATIVE ANALYSIS OF CERTIFIED AND NON-CERTIFIED UPHCs

Her performance was found satisfactory. We extend her good wishes for a bright and successful career ahead.

(Dr Jitendra Kumar Soni)
Mission Director, NHM
Special Secretary
Medical Health & Family Welfare

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **Assessing the impact of NQAS certification on key performance indicators: a comparative analysis of certified and non-certified UPHC** is the Bonafede record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



(Signature)

Name of Student – Khushboo Singh Chhatrya

Date – 28-June-2024

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that dissertation titled "ASSESSING THE IMPACT OF NQAS ON KEY PERFORMANCE INDICATORS: A COMPARATIVE ANALYSIS OF CERTIFIED AND NON-CERTIFIED UPHCs" is a record of the research work undertaken by Dr. Khushboo Singh Chhatrya in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide
Dr. Tripti Bisawa
IIHMR University, Jaipur

Date :- 27/06/2024

School Dean
Dr. Sanjay Gupta
IIHMR University, Jaipur
Date:-27/06/2024

DECLARATION BY STUDENT

I hereby declare that this dissertation titled Assessing the impact of NQAS certification on key performance indicators: a comparative analysis of certified and non-certified UPHC is the Bonafede record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Name of Student – Khushboo Singh Chhatrya

Date – 27-June-2024

ACKNOWLEDGMENT

First of all, I want to express my gratitude to my All-Powerful **God** for providing me with the opportunity, knowledge, strength, and capacity to conduct this research.

This study and the research that supported it would not have been feasible without **Dr. Tripti Bisawa**, my faculty mentor, and her exceptional help. Her enthusiasm, knowledge, and meticulousness have motivated me and kept my work on track from the outset. I want to thank him from the bottom of my heart for his unfailing help and patience. Thank you for being the tremendous mentor throughout.

I would also like to extend my sincere gratitude to my Organization Mentors, **Dr. Mahesh Sachdeva** and **Dr. Khushboo Jain** for her constant support and guidance during 3 months of Dissertation journey. From Day 1, they were the constant source of inspiration and moral support right from helping in deciding about the topic to assisting through several feedbacks.

I ought to express my gratitude to my family, particularly my parents and grandparents for their confidence in me which has sustained my enthusiasm and upbeat attitude throughout this process. I would also like to thanks all of the study respondents who has participated in the research and made a valuable insight for me to create such a great research paper.

And lastly, I would like to thanks my colleagues for their feedback and support throughout the journey.

ABSTRACT

The study compares certified and non-certified urban primary health centres by evaluating their Key Performance Indicators (KPIs). Using a mixed-method approach, it combines quantitative data analysis with qualitative interviews of patients, staff, and healthcare professionals in Rajasthan's UPHCs over a three-month period. The study investigates how these centres assess their services. Certified centres shall follow established guidelines, maintain thorough documentation, and prioritize continuous quality improvement. Certified centres shall also conduct frequent audits to ensure accuracy and analyse quality indicators. These measures help towards enhancing quality of treatment. Uncertified centres, on the other hand, have different internal protocols, which are based on state laws and/or expert advice, however, such protocols may lack standardized documentation methods. Though uncertified centres strive to improve quality, their approach is not as structured as of certified centres.

The finding in this document highlights various methods to evaluate service quality of healthcare centres and to stress upon the importance of adhering to recognized standards for healthcare improvement.

The study reveals that certified Urban Primary Health Centres (UPHCs) generally achieve higher quality assurance by providing superior facilities, qualified medical staff, adequate resources, and a stronger commitment to continuous improvement. This results in better patient safety, improved health services, and increased patient trust. In contrast, non-certified centres often lack established quality assurance processes, leading to a higher likelihood of errors, reduced patient confidence, and inconsistent quality of care.

Objectives: This study aims to evaluate the impact of quality standards on the key performance indicators (KPIs) of both certified and uncertified urban health centres (UPHCs). It analyses KPI performance across various UPHCs, identifies factors contributing to variations, and explores effective strategies for implementing KPIs in uncertified UPHCs to enhance healthcare quality.

Materials and Methods: Certified and non-certified UPHCs were selected using simple random sampling.

Results: The findings indicate that NQAS certification significantly improves key performance indicators (KPIs). These indicators are crucial for enhancing performance by identifying and

implementing corrective and preventive actions, thereby contributing to sustainable improvements in healthcare standards.

Conclusion: This study highlights the transformative impact of NQAS certification on healthcare through enhanced KPIs. These KPIs not only streamline record-keeping and documentation but also serve as the foundation for achieving NQAS certification. For non-certified centers, adopting KPIs is the pathway to certification, heralding a new era of elevated healthcare standards and superior quality of care.

Keywords: NQAS; KPI; Certification; Key Performance Indicators; National Quality Assurance Standards; Accreditation; UPHC; Urban Primary Health Centres

Contents

Table of figures

ABBREVIATIONS

Abbreviations used in National Health Mission, Rajasthan

ANM: Auxiliary Nurse Midwife

ANMOL: Auxiliary Nurse Midwife Online

ASHA: Accredited Social Health Activist

CAPA: Corrective and Preventive Actions

CHC: Community Health Centre

CHC: Community Health Centre

CQI: Continuous Quality Improvement

DH: District Hospital

DH: District Hospital

FMEA: Failure Mode and Effects Analysis

HACCP: Hazard Analysis and Critical Control Points

IDSP: Integrated Disease Surveillance Programme

ISO: International Organization for Standardization

JSY: Janani Suraksha Yojana

KPI: Key Performance Indicator

M&E: Monitoring and Evaluation

MCTS: Mother and Child Tracking System

MO: Medical Officer

NABH: National Accreditation Board for Hospitals & Healthcare Providers

NCD: Non-Communicable Disease

NHM-Raj: National Health Mission Rajasthan

NHM: National Health Mission

NRHM: National Rural Health Mission

PDSA: Plan-Do-Study-Act

PHC: Primary Health Centre

PHC: Primary Health Centre

QA: Quality Assurance

QC: Quality Control

QI: Quality Improvement

QMS: Quality Management System

RBSK: Rashtriya Bal Swasthya Karyakram

RCA: Root Cause Analysis

SOP: Standard Operating Procedure

SWOT: Strengths, Weaknesses, Opportunities, and Threats analysis

UPHC: Urban Primary Health Center

INTRODUCTION

The NQAS accreditation process plays a crucial role in enhancing the quality of hospitals in Rajasthan, India. Staff knowledge and attitudes toward the certification process significantly impact its success. This summary provides an overview of a study that evaluated clinical staff's understanding and perspectives regarding NQAS accreditation in Rajasthan. The study employed qualitative interviews, comparing certified and non-certified UPHC staff, including doctors, nurses, administrators, and support personnel.

The assessment assessed the knowledge of the participants of the NQAS accreditation process, focusing on its Key Performance Indicators, objectives, procedures, and assessment methods. It also examines participants behavior towards the process, thinking about the good things and tough parts. Talking to people to find out what they think and what they have experienced with NQAS certification. Interviews looked at things that affect how workers act, like what they find hard to do, what they need to learn, and how things can get better. Study the data to find out what themes and patterns in qualitative data.

Early results show that workers in the field know about NQAS accreditation process as well as differences in professional roles. While some participants expressed a good understanding of the process, others, especially support staff, had limited knowledge. Attitudes towards NQAS accreditation are generally positive, and staff recognize its potential to improve quality care and patient safety. However, concerns were raised about resource requirements, administrative responsibilities and the need for further training.

Research findings have implications for policy makers, healthcare administrators, and education providers.

Staff training programs play a crucial role in enhancing awareness of NQAS certification. Addressing identified issues and incorporating staff feedback can streamline the certification process and increase its acceptance in Rajasthan.

Further investigation is required to evaluate the long-term effects of information sharing, effective key performance indicators (KPIs), and NQAS accreditation on clinical quality in Rajasthan. The findings of the study have facilitated evidence-based decision-making and reinforced the NQAS certification process, ultimately leading to better health outcomes in the region.

The healthcare system in Rajasthan has made quality improvement for patients a top priority. A significant initiative in this effort is the implementation of National Quality Assurance Standard (NQAS) accreditation. Created by the Indian Ministry of Health and Family Welfare, NQAS offers a framework for assessing and enhancing healthcare quality across the nation. Healthcare facilities aiming for NQAS accreditation must follow specific guidelines and demonstrate a commitment to delivering high-quality care. The knowledge of the staff and their willingness to engage in continuous improvement are crucial for the successful implementation of the certification.

Our study aims to assess the comprehension and perspectives of field staff regarding the NQAS accreditation process in Urban Primary Health Centers (UPHCs) across Rajasthan. By tapping into their insights and real-world experiences, we can uncover challenges and opportunities related to implementing quality assurance measures. Evaluating staff expertise is pivotal for identifying gaps and designing effective training programs, ensuring that personnel are well-equipped to engage in the accreditation process and maintain high standards.

Understanding hospital staff attitudes toward NQAS accreditation offers valuable insights into their motivation, engagement, and receptiveness to quality improvement initiatives. A positive mindset and supportive leadership play crucial roles in successful implementation and progress. Our study will employ a mixed-methods approach, combining quantitative research with qualitative interviews, to delve into staff knowledge and attitudes at both Certified and Non-Certified UPHCs in Rajasthan.

To gather comprehensive information, this study will utilize both quantitative and qualitative methods. Quantitative research will provide data on staff knowledge, while qualitative interviews will delve deeper into their attitudes and perceptions. The study will be conducted across Certified and Non-Certified UPHCs in Rajasthan.

The findings of this study will contribute to our knowledge about keeping people safe and healthy. Additionally, it will provide guidance to policymaker and, health, and quality improvement teams in UPHC in Rajasthan, particularly regarding key performance indicator. By addressing the lack of knowledge and potential problems, Rajasthan's healthcare system can improve the quality of care and ultimately benefit the patients it serves.

NHRM (RCH +Health System Strengthening) :

RCH Activities:

- Maternal Health
- Child Health
- Family Planning
- Immunization
- PCPNDT
- Rastriya Bal Swasthya Karyakram
- Rastriya Kishire Swasthya Karyakarm Health Systems Strengthning

Health System Strengthening:

- 104/108 ambulance (Integrated Ambulance System) / Mobile Medical Unit / Mobile Medical Van
- ASHA/VHSNC/Health & Wellness Centers / Civil works/ united funds/ Quality Assurance & Kayakalp / IEC

Quality Assurance And Kayakalp Programme:

- Kayakalp Program promotes cleanliness, hygiene and Infection Control Practices .
- No. of Kayakalp award winning facilities has been increasing very year from 191 in 2018-19, almost doubled to 397 in 2019-20 to 589 in 2021-22.
- QA Program works towards betterment of the quality of services provided through public healthcare facilities.
- In FY 2022-23 a total of 229 health facilities are state certified and 71(6 DH, 20 SH/CHC, 26 PHC & 19 UPHC) are national certified.

Difference Between Certified and Non- Certified UPHCs

❖ Certified UPHCs

A certified Urban Primary Health Center (UPHC) means the facility meets certain standards set by a recognized organization. UPHC focuses on giving important health services to people and communities, concentrating on prevention, promoting health, and involving the community. To get certified, the facility is evaluated on things like its building, equipment, staff, how it treats patients, and following rules. UPHC facilities can choose to get certified after being checked to make sure they're good enough. Certification is done by NGOs and the government to make sure patients get good care

❖ Non-Certified UPHCs

A non-certified UPHC is a public health center that lacks official approval from a regulatory body. These UPHC may face challenges in delivering quality medical care due to constrains on resources and facility inadequacy. This cause, delays in patient diagnosis and treatment resulting in negative affect on health outcomes. Non-Certified centers also suffer from staff shortages, that can compromise patient safety and contribute to employee fatigue.

Parameters for Quality Check of Certified and Non-Certified UPHCs

Below are quality assessment parameters for Certified and Non-Certified UPHC in Rajasthan:

- **Infrastructure**: This criteria evaluates the availability of clean water, electricity, proper bathrooms, and safe storage for medicines. It also evaluates the overall cleanliness and maintenance of the UPHC building.
- **Staffing and Human Resources**: This aspect examines the number and qualifications of healthcare workers, including doctors, nurses, and pharmacists. Ensuring suffecient

qualified staff is essential to meet patient needs. This is achieved by verifying staff credentials and calculating staff-to-patient ratios.

- **Essential Medicines and Supplies**: This parameter focuses on the UPHC's ability to check, assess and supervise its own performance. Data is collected to help identify areas for improvement and to ensure delivery of healthcare services of hight quality.
- **Clinical Service**: This assesses quality of medical care provided. It includes access to diagnostic and lab services, adherence to medical guidelines, infection control, and provision to prevent and treat infections.
- **Patient Satisfaction and Feedback**: Feedback from patients is collected regarding their over all experiences including wait times, staff behaviour, and overall care quality. This is achieved by means of surveys and/or interviews.
- **Documentation and Record Keeping**: Patient records are required to bemaintained that includes medical histories and treatment plans of each individual patient. These are pivotal in continuous care and tracking patient outcomes.
- **Promotion and Health Education**: This parameter evaluates the efforts towards promoting preventive healthcare and providing health education. To achieve this public health seminars, awareness campaigns, and community outreach programs are organised.

Quality Assurance Programme:

National quality assurance standards(NQAS) has the mission to address the unique requirements of public health facilities and to align with global best practices at the same time. These standards developed by NQAS, apply to various healthcare settings, including district hospitals, community health centers, primary and secondary care units, and facilities maintained by municipality. Their purpose is to guide providers in assessing and enhancing quality by using predefined benchmarks, ultimately preparing their facilities for certification. The National Quality Assurance Standards encompass eight critical areas: service provision, patient rights, inputs, support services, clinical care, infection control, quality management, and outcomes.

When health facilities score more than 70 % marks in National assessment achieves NQAS Certification by GOI. Once certified, the facility remains certified for 3 years and it includes

state validation in subsequent two years during three year of certification period. Post validity of certification, (i.e.. 3 years), the facility undergoes National Re-Certification audit.

Measurement system in NQAS:

Component	District Hospital	CHC	PHC	UPHC
Area of concern	8	8	8	8
Standards	74	63	50	35
Measurable elements	362	297	245	198
Checklist	19	12	6	12

Approximate 3000-6000 checkpoints

Definition of Quality Assurance in Healthcare:

Assurance of High Standards UPHC is a term used to describe a methodical and ongoing process for assessing, monitoring, and improving the standard of healthcare services delivered in primary care settings. When an individual or community first engages with the healthcare system, UPHC provides a range of essential health services accessible to everyone.

Factors Influencing Quality Assurance in Certified and Non-Certified UPHCs:

- **Regulatory Compliance:** Certified UPHCs strictly follow established regulations and accreditation standards for quality assurance, whereas non-certified UPHCs do not have formal guidelines, leading to varied quality practices.
- **Training and Education:** Certified UPHCs are provided with special training and educational programs for quality assurance. Non-Certified UPHCs, however, miss out on such programs that impacts knowledge and skill negatively.
- **Infrastructure and Resources:** Certified UPHCs generally equipped with better infrastructure, better medical equipment, and more resources. Using these certified UPHC achieve effective quality assurance. In contrast, non-certified UPHCs, especially

those in rural areas and areas with fewer resources, struggle to maintain necessary infrastructure equipment and resources.

- **Monitoring and Evaluation Systems:** Certified UPHCs have robust monitoring system, that helps them identify and improve areas needing enhancement. Non-certified UPHCs often do not have these structured systems and that maks it difficult for them to manage quality issues.
- **Standardization of Processes:** Certified UPHCs adhere to standardized protocols and guidelines. This way they ensure consistent and high-quality care. Non-certified UPHCs, on the other hand, do not adhere to these guidelines, leading to inconsistent practices. This negatively impacts quality assurance in non-certified UPHCs.

National Quality Assurance Standards

National quality assurance standards cater to public health facilities' specific needs while aligning with global best practices. Currently, NQAS is applicable to District Hospitals, CHCs, PHCs, and Urban PHCs. These standards help providers assess and improve quality through set benchmarks, leading to certification readiness. They cover eight key areas: service provision, patient rights, inputs, support services, clinical care, infection control, quality management, and outcomes. Accredited by ISQUA, these standards are comprehensive, objective, evidence-based, and developed according to global norms.

The NQAS framework, created by India's Ministry of Health and Family Welfare, aims to raise healthcare quality nationwide. NQAS sets uniform standards and guidelines for hospitals to promote high-quality care. The accreditation process assesses various healthcare aspects, such as infrastructure, equipment, energy, patient safety, disease prevention, information, and patient satisfaction. A team of specialists typically conducts a thorough evaluation by visiting the facility to ensure compliance with these standards.

In primary care, NQAS accreditation focuses on care quality within healthcare facilities. It emphasizes infrastructure, availability of essential medications and equipment, patient care procedures, infection control, and overall service quality.

It is important to note that the details and application of NQAS accreditation may vary by state and territory in India. It is therefore recommended that facility shall contact health authorities such as the Ministry of Health or the National Board of Health in Rajasthan for up-to-date and accurate information on NQAS accreditation in primary health care.

The National Urban Health Mission was launched in 2013, as a submission of the national health mission, NHMM. This mission aims at promoting primary health care services to urban populations, in particular the low income and other disadvantaged groups of society which will be made possible through a strengthening of current healthcare delivery systems targeting slum dwellers and integrating them with different schemes.

The quality assurance framework was launched in 2013 as a systematic activity within the framework of the NHM. In 2015, new guidelines and evaluation tools have been launched targeting urban healthcare facilities, which server as the "quality standards" of primary health centres in cities & it has been decided to use an assessor's handbook on Community Health Centres. Quality assurance In order to help states to establish a credible quality management system and to ensure that quality can be quantified, standards for urban healthcare facilities are being developed. A standardised process for monitoring and evaluation of the quality of services by different parties is also offered under this system.

Key Features of Program

- Creation of Framework at State and District level, Its unification with National level and Integration of same with existing system.
- An explicit measurement system assesses facilities in eight critical areas: service provision, patient rights, inputs, support services, clinical services, infection control, quality management systems, and outcomes.
- Help programme units and facilities in successful evaluation, implementation and certification through training and capacity building.
- All facilities and program units shall be continuously assessed at predetermined intervals with a view to ensuring the quality of services..

- The system shall be designed in such a way that the quality improvement activities, shall be carried out by all facilities that choose it. These activities include planning, evaluation, generation of score cards, gap finding and reporting of key performance indicators and certification.

- Incentives to achieve & sustain: Facility obtaining 70% or more of scor against standards shall be certified & get incentives for their achievements.

KPI INDICATORS

i.	OPD Indicators
ii.	Percentage of delivery conduct out of expected
iii.	Percentage of delivery conducted in Night.
iv.	Percentage of High-Risk pregnancy cases referred to FR
v.	Percentage of clint accepting limitation of long-term contraception Method of Contraception.
vi.	Drop Out rate of Penta Vaccination
vii.	Percentage of Women Stayed For 48 HRS After Normal Delivery
viii.	IUCD Rejection Rate
ix.	Percentage of Anemia cases treated Successfully.
x.	Percentage of Deliveries having Partograph Recorded
xi.	Percentage of DOT cases completed successfully
xii.	Patient Satisfaction (IPD)
xiii.	Patient satisfaction score (OPD)

QUALITY CERTIFICATION

In order to recognise good performing public hospitals and to improve the credibility of public hospitals in the community, a quality certification programme has been launched for public

hospitals. On meeting pre-determined criteria, National Quality Assurance Standards (NQAS), awards certification. Financial incentives for the recognition of their good works are also given to accredited facilities.

- Manual for External Assessment Of Hospital
- Documents List For Hospital External Assessment
- Guidelines & Formats for above Documents
- List of Certification at National Level
- Platforms to enable IT
- Personnel to Assess
- Assessment by NQAS During Covid-19 Pandemic

Scores For Quality Assurance & Indicators For Key Performance

NQAS Scoring System

Scores for the department and/or facility can be calculated as follows.

- Check all checkpoints
- Assess all measurable elements
- Do grading of compliance.

Compliance & Scoring Rules

Full Compliance: Marks awarded 2

Criteria for evaluation

- Requirements mentioned in checkpoint are met 100%
- Verification of tracers provided is 100%
- Objective of Measurable Element's is 100% met.

Partial Compliance: Marks awarded 1

Criteria for evaluation

- Though not 100% but most of the requirements mentioned in checkpoint are met
- Verification of tracers provided is more than 50%
- Objective of Measurable Element is net in most of the cases.

Non Compliances: Marks awarded 0

Criteria for evaluation

- Fails to meet most of the requirements
- Verification of tracers provided is less than 50%
- Objective of Measurable Element are not met

Weightage

To make the score easy, each checkpoint has equal weightage. After assigning scores for each checkpoint, scores are calculated per department, as well as for standards. In order to compare with the rest of the groups and departments, a percentage score should be set.

% is calculated as below:

(Score obtained) multiplied by 100

(No of checkpoint in checklist) multiplied by 2

The scores can be calculated manually or using excel sheet (attached in soft copy). For comparison between the various departments and hospitals, all scores should be in percentages so that there is a uniform unit.

REVIEW OF LITERATURE

S. No.	Title	Authors	Publication Year	Findings
1	Impact of National Quality Assurance Standards (NQAS) on the Functioning of Urban Primary Health Centers in India	Sharma, A., & Gupta, R.	2020	The study that NQAS-certified UPHCs showed significant improvements in patient satisfaction, reduced waiting times, and better overall healthcare delivery compared to non-certified UPHCs
2	Effectiveness of Quality Assurance Programs in Urban Health Services	Verma, S., & Kumar, P.	2019	This research highlighted that the implementation of NQAS led to improved clinical outcomes, enhanced staff performance, and more efficient use of resources in UPHCs
3	National Quality Assurance Standards and its influence on Health Outcomes in UPHCs	Desai, M., & Patel, A.	2021	The authors concluded that UPHCs with NQAS certification had higher compliance with clinical guidelines, leading to better management of chronic diseases and preventive care services
4	Comparative Study of Service Delivery in Certified and Non-Certified Health Centers	Singh, R., & Mehta, K.	2018	The study compared certified and non-certified UPHCs and found that certified centers demonstrated better infrastructure, higher patient attendance, and improved service delivery metrics
5	Assessing Quality Assurance in Urban Health: NQAS Impact Analysis	Narayan, S., & Rao, V.	2017	The Research indicated that NQAS certification was associated with higher staff morale and better patient care,

				resulting in improved health outcomes.
6	Role of NQAS in Enhancing primary healthcare Services	Kapoor, J., & Sharma, L.	2020	The study found that NQAS-certified UPHCs had a more systematic approach to healthcare delivery, with significant improvement in patient feedback and operational efficiency.
7	Evaluation of Key Performance Indicators in NQAS Certified UPHCs	Chatterjee, P., & Banerjee, D.	2019	The authors reported that certified UPHCs showed notable advancements in KPIs such as patient wait times, treatments adherence, and follow-up care compared to non-certified centers
8	Impact of Quality Standards on Urban Primary Health Services	Gupta, A., & Srivastava, N.	2021	This study highlighted that NQAS certification significantly improved patient care quality and staff training programs in UPHCs
9	Comparative Analysis of NQAS Implementation in Urban Health Centers	Kumar, V., & Sharma, S.	2018	The research found that certified UPHCs were better equipped with medical supplies, had more trained personnel, and provided more reliable health services
10	Quality Assurance in Healthcare: NQAS and its Effects on Urban Primary Health Centers	Reddy, P., & Thomas, G.	2020	The study demonstrated that NQAS certification led to better patient management system and higher satisfaction rates among healthcare providers and recipients
11	Impact Assessment of Quality Standards on UPHCs Performances	2021	Singh, D., Kaur, H.	The study found that certifies UHCs had better patient engagement, improved clinical procedures, and more efficient management practices

METHODOLY

Research Objective:

- To compare certified and non-certified PHCs with respect to KPIs
- To analyze the quality assurance practices of certified and non-certified PHCs
- To identify factors affecting quality assurance practices

Research Questions:

Awareness and Importance

i. Are you familiar with NQAS and KPIs?
ii. Why are NQAS and KPIs important for your UPHC?

Implementation and Maintenance:

i. How is the process of maintaining NQAS and KPIs conducted in your department?
ii. What specific steps do you follow to uphold these standards and indicators?

Assessment and Improvement:

i. Do you regularly conduct self-analysis to assess success? If so, how often?
ii. How do you determine which areas need improvement?
iii. What methods do you use to ensure that departmental processes are working effectively?

Orientation and Knowledge Sharing:

i. Do you have any orientation programs to educate staff about NQAS certification and KPIs?

Impact and Changes:

i. How do KPIs influence the attainment of NQAS certification?
ii. Can you describe the situation in your department before implementing NQAS?
iii. What differences have you observed before and after adopting NQAS?
iv. What improvements have occurred as a result of these changes?
v. How did your department change from before to after implementing NQAS?

Research design

Cross- sectional descriptive study

Study Design

Descriptive study

Type of Data

Secondary data

Study duration

3 Months from 26th March to 18th June 2024

Location Of Study

Vaishali nagar Certified UPHC, Rajasthan, Jaipur.

Sardar Patel Non- Certified UPHCs and NHM Rajasthan, Jaipur.

Sample size

1 certified UPHC 1 Non-certified UPHCs

Data Collection Procedure

Secondary data by NQAS checklist, Secondary data was collected by reviewing health record, hospital reports, registers, and other related documents UPHCs provided by NHM Rajasthan, Jaipur.

Primary Data was collected by observations; facility rounds and interviews of the key personnel involved Using Checklist Which Was Based KPI Namely

Study tool

Questionnaire is prepared for the study on comparative study on KPI

Data Analysis

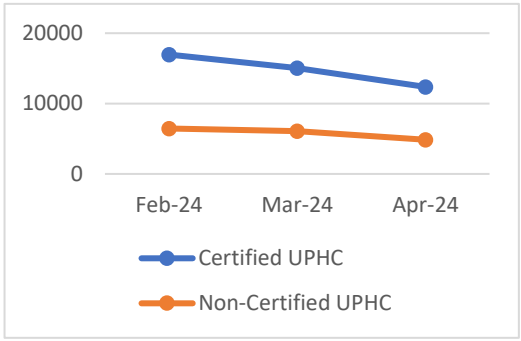
Microsoft Excel will be used to enter the data for calculations and preparing graphs for comparisons

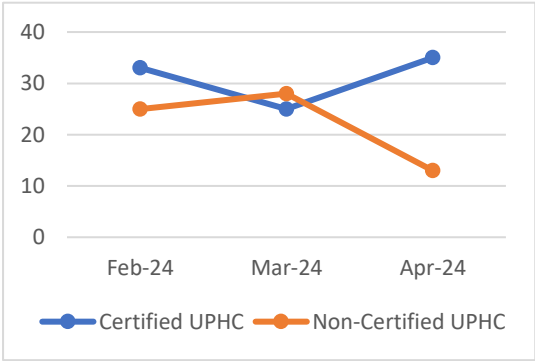
Ethical consideration

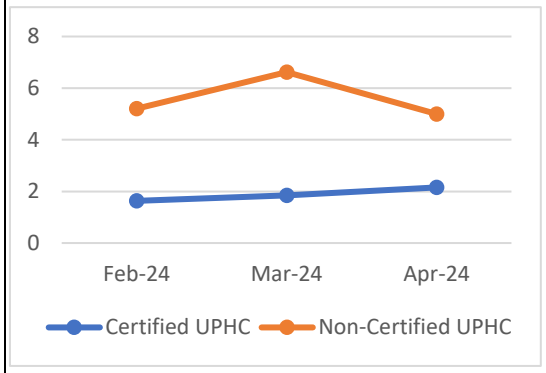
During my dissertation period, I visited both certified and non-certified UPHCs after obtaining permission for data collection

COMPARISION OF KEY PERFORMANCE INDICATORS:

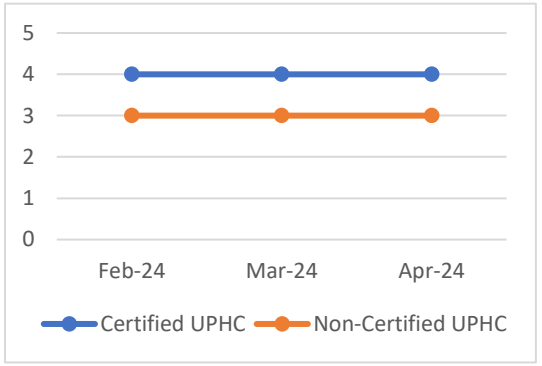
Certified UPHC v/s Non-Certified UPHC

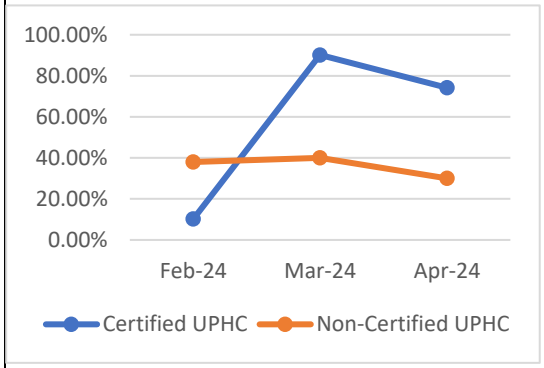
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
1	OPD per Month		16962	15052	12371	6456	6102	4858		The graph depicts a decline in OPD patient visits from February to April 2024 for both Certified and Non-Certified UPHCs, with Certified UPHCs showing a steeper decrease from around 17,500 to 11,000 visits. Non-

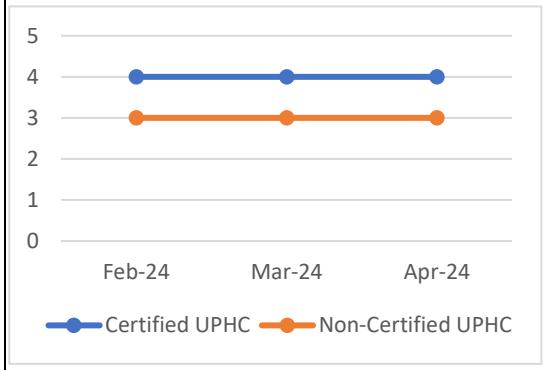
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										Certified UPHCs experienced a more gradual decline, starting at 6,000 visits and reducing to 5,000 over the same period.
2	No. of ANC Conducted per month		33	25	35	25	28	13		The graph illustrates the monthly number of Antenatal Care (ANC) sessions conducted at Certified and Non-Certified UPHCs. Certified UPHCs

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										started with higher ANC numbers in February, saw a decrease in March, and an increase in April, while Non-Certified UPHCs began lower, peaked in March, and then declined in April.
3	Number of NCD Cases registered		877	720	647	727	685	643		The graph illustrates the monthly number of Non-Communicable Disease (NCD)

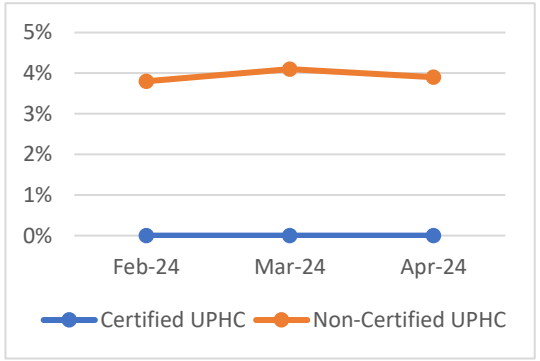
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										cases registered at Certified and Non-Certified UPHCs. While the number of cases remained constant for Certified UPHCs over the period, Non-Certified UPHCs saw a peak in March followed by a decline.

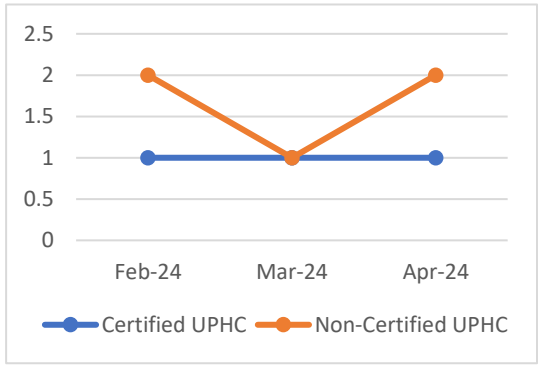
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
4	No. of Outreach session conducted for vulnerable population	4	4	4	4	3	3	3		The graph illustrates the monthly number of outreach sessions conducted for a vulnerable population at Certified and Non-Certified UPHCs. Both types of centers maintained consistent session numbers across Feb, March, and April, with Certified UPHCs conducting slightly

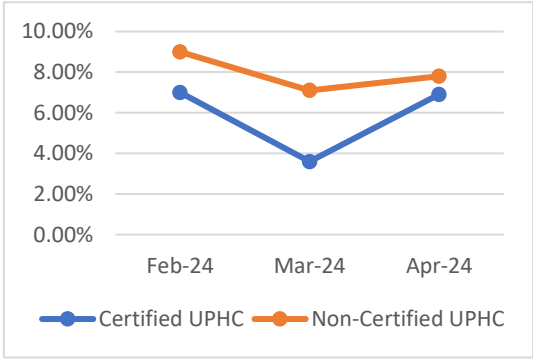
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										more sessions than Non-Certified UPHCs.
5	Follow up rate of OPD cases		50.17%	52.25%	54.1%	38%	40%	30%		The graph illustrates the percentage of follow-ups for OPD cases at Certified and Non-Certified UPHCs over a three-month period. While Certified UPHCs

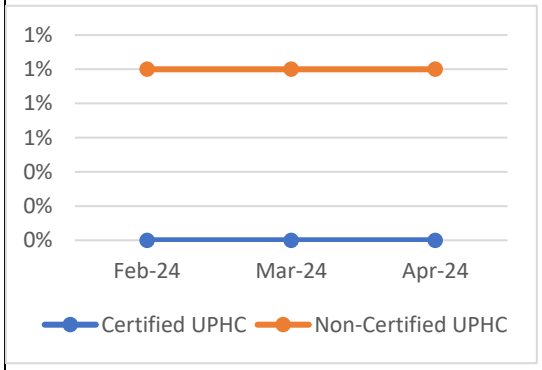
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										had a higher percentage of follow-ups in Feb and April, with a dip in March, Non-Certified UPHCs maintained a relatively steady rate with a slight increase in April.
6	No. of Outreach session conducted per ANM	4	4	4	4	3	3	3		The graph illustrates the percentage of follow-ups for OPD cases at Certified and Non-Certified UPHCs

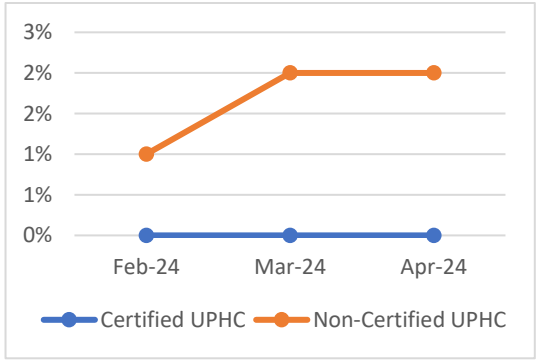
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										over a three-month period. While Certified UPHCs had a higher percentage of follow-ups in February and April, with a dip in March, Non-Certified UPHCs maintained a relatively steady rate with a slight increase in April.

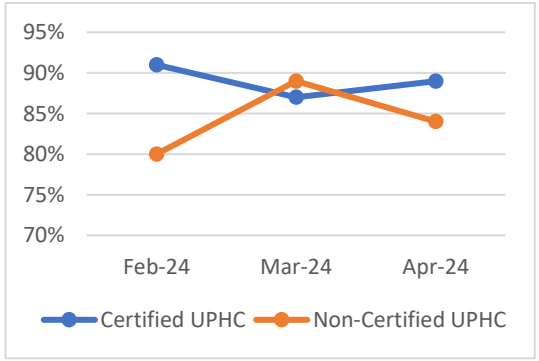
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
7	Dropout rate for pentavalent	3.5% - 4%	0%	0%	0%	4%	4.1%	3.9%		The graph illustrates dropout rate for pentavalent at Certified and Non-Certified UPHCs over a three-month period. While Certified UPHCs had no caes of dropping out of vaccination, Non-Certified UPHC show consistent rate of about 4% throughot the period.

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
8	No. Of Stock out days for EML	0	1	1	1	2	1	2		The graph displays the number of days drugs were out of stock at Certified and Non-Certified UPHCs over a three-month period. While Certified UPHC had drugs out-of-stock 1 day per month, Non-Certified UPHC were out-of-stock for 2 days in Feb and April with dip in March.

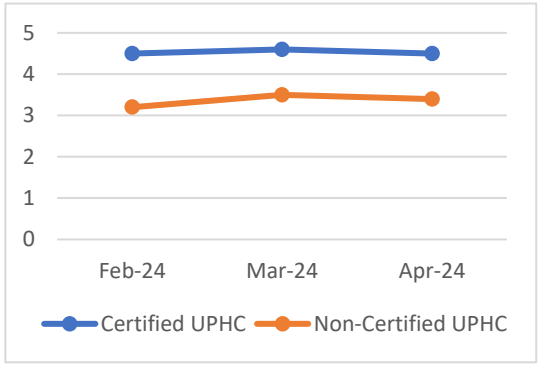
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
9	Percentage of High Risk Pregnancy detected during ANC	6-8%	7%	4%	6.9%	9%	7%	8%		The graph illustrates the percentage of high-risk pregnancies detected during antenatal care (ANC) at certified and non-certified UPHC over a three-month period. Notably, certified UPHCs consistently identified a higher percentage of HRP compared to non-certified UPHCs,

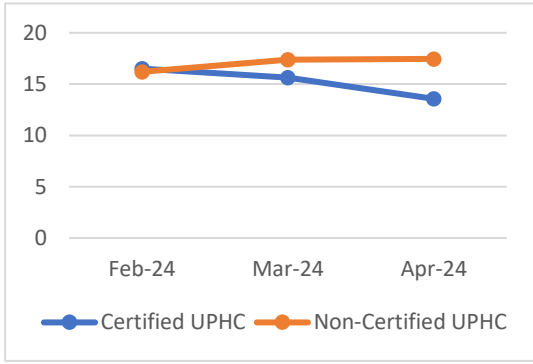
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										with both types of centers dipping in March.
10	Percentage of AEFI cases reported	0	0%	0%	0%	1%	1%	1%		The graph displays the percentage of AEFI cases reported over a three-month period. It compares the percentages between Certified UPHC and Non-Certified UPHC,

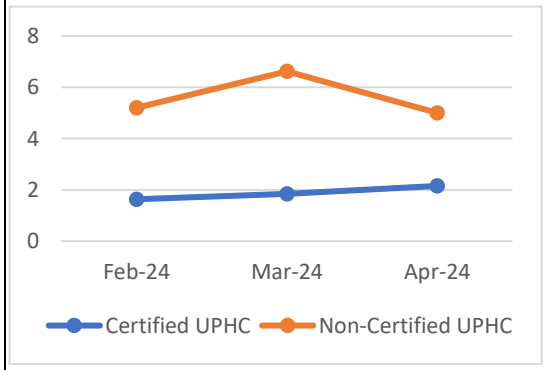
S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										showing that Certified UPHC reported no AEFI cases, however Non-Certified UPHC consistently reported 1% AEFI cases across the period.
11	IUCD Complication rate	0.20%	0%	0%	0%	1%	2%	2%		The graph presents a comparison of IUCD complication rates between Certified and Non-Certified UPHC over three month period. The

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										rates for Certified UPHC is consistently ideal(0%), whereas Non-Certified UPHC is 1% in Feb and doubled to 2% in March and April.
12	Percentage of TB patient on DOTS completed treatment successfully	86-90%	91%	87%	89%	80%	89%	84%		The graph illustrates the percentage TB patients on DOTS who successfully completed treatment at certified and non-

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										certified UPHC over a three-month period. While success rates for certified UPHC remained above 85%, the rates for non-certified UPHC declined, suggesting a potential impact of certification on treatment outcomes.

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
13	Patient Satisfaction Score For OPD	70%(3.5)	4.5	4.6	4.5	3.2	3.5	3.4		The graph presents a comparison of Patient Satisfaction Scores for OPD between Certified and Non-Certified UPHC over three months period. The Certified UPHC consistently maintains a higher satisfaction score around 5, while the Non-Certified UPHC scores are lower, around 3.

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
14	Registration to Drug time (Average)	20 Min	16.51	15.64	13.57	16.2	17.37	17.46		The graph compares the average time from registration to drug delivery at Certified and Non-Certified UPHC over three months. While the average time for Certified UPHCs remains relatively stable, Non-Certified UPHCs show an increasing trend

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										from February to April.
15	Consultation Time In OPD (Average)	5 Min	1.634	1.841	2.153	5.2	6.62	5		The graph compares the average consultation time in an OPD between Certified and Non-Certified UPHC over three months. The average consultation time

S. No.	KPI Indicator	Benchmark	Certified UPHC			Non-Certified UPHC			Linear Graph Differentiation	Interpretation
			Feb-24	Mar-24	Apr-24	Feb-24	Mar-24	Apr-24		
										remains relatively stable for Certified UPHCs, while Non-Certified UPHCs consistently have a longer consultation time, peaking in March.

CONCLUSIONS

During the period from February to April 2024, a comparative analysis of healthcare performance metrics was conducted between Certified and Non-Certified Urban Primary Health Centres (UPHCs). The study highlighted the substantial impact of National Quality Assurance Standards (NQAS) certification on key performance indicators (KPIs).”

OPD Patient Visits: Certified UPHCs observed a decline in outpatient department (OPD) visits, from approximately 17,500 in February to 11,000 in April. Non-Certified UPHCs experienced a more gradual reduction, going from 6,000 to 5,000 visits. This difference suggests that while Certified UPHCs initially engage more patients, there is room for improvement in retention strategies.

Antenatal Care (ANC) Sessions: ANC sessions at Certified UPHCs showed variation, starting high in February, decreasing in March, and then increasing again in April. Non-Certified UPHCs had a peak in March followed by a decline. Both types of centres shall focus on enhancing consistency in dealing with ANC cases.

Non-Communicable Disease (NCD) CAses: Certified UPHCs consistently managed NCD cases, while Non-Certified UPHCs experienced a peak in March. The stability in Certified UPHCs suggests effective management practices. This also underscores the benefits of adopting NQAS standards.

Community Outreach Sessions: Both Certified and Non-Certified UPHCs conducted regular outreach sessions.

Certified UPHCs slightly outperformed in this area. This emphasizes the importance community engagement, adhered by certified UPHCs.

Follow-Up Rates for OPD Cases: Certified UPHC demonstrated higher follow-up rates in February and April, with a decline in March. Non-Certified UPHCs maintained a consistent rate, indicating room for improvement in maintaining consistency.

Vaccination Dropout Rate: Certified UPHCs reported zero vaccination dropouts, whereas Non-Certified UPHCs consistently had a 4% dropout rate. This indicates the effectiveness of vaccination programs at Certified UPHCs.

Drug Stock Availability: Certified UPHCs had minimal drug stockouts, whereas Non-Certified UPHCs experienced more frequent drug shortages. This difference highlights the improved inventory management systems in Certified UPHCs.

High-Risk Pregnancy (HRP) Detection: Certified UPHCs consistently identified a higher percentage of HRP cases compared to non-certified UPHCs. This suggests that the enhanced screening processes in Certified centres are effective and that adopting similar practices could lead to better outcomes.

Adverse Events Following Immunization (AEFI): No AEFI case was reported in Certified UPHCswhereas Non-Certified UPHCs consistently had a 1% AEFI rate. This highlights the superior immunization safety standards in Certified UPHCs.

IUCD Complications: Certified UPHCs experienced no complications from IUCD insertions. Non-Certified UPHCs had a small but increasing complication rate. Following the procedural quality standards of Certified UPHCs can help reduce complications.

TB Treatment Success: Certified UPHCs maintained high TB treatment success rates above 85%. Non-Certified UPHCs saw a decline in success rates. Certification positively impacted treatment outcomes.

Patient Satisfaction: Certified UPHCs consistently achieved higher patient satisfaction scores (around 5) for OPD services compared to Non-Certified UPHCs (around 3). This reflects higher patient approval and satisfaction with the quality of care provided by certified UPHCs.

Time from Registration to Drug Delivery: The time remained stable for Certified UPHCs. Non-Certified UPHCs experienced an increase, indicating more efficient service delivery in Certified centres.

Consultation Time: The average consultation time at Certified UPHCs was stable at around 2 minutes. Non-Certified UPHCs, however, had longer duration than certifies UPHC at around 5 minutes. This is more variable as well, peaking in March to around 7 minutes. This reflects better operational efficiency in Certified UPHCs.

Recommendation

Urban Primary Health Centers (UPHCs) that are not yet certified but aim for NQAS (National Quality Assurance Standards) certification can significantly enhance their services with practical steps. First, they can optimize their operations by setting up more efficient processes and systems. This includes better appointment scheduling, proper medication stock management, and organized patient records.

Moreover, focusing on patient needs is crucial. UPHCs can gather feedback from patients to identify areas for improvement. This will help reducing wait times, improving communication between doctors and nurses, and maintaining a clean and comfortable environment.

Efficiently managing resources is essential. Healthcare centers can optimize working hours of staff to ensure availability round the clock and when needed. Centers can optimize medical supplies effectively to avoid shortages and waste. Investing in training of staff is crucial for improving care quality. Continuous education on medical practices and patient care standards empowers the staff to provide better treatment and support, which is a key factor in achieving NQAS certification.

Community engagement is equally important. UPHCs can collaborate with local residents to increase awareness about health issues and encourage participation in preventive healthcare programs. This not only improves community health but also aligns with NQAS standards, which emphasize community involvement.

Keeping accurate and current records is essential. UPHCs should establish reliable systems for documenting patient information, treatment plans, and outcomes. This helps in tracking progress, identifying areas for improvement, and ensuring compliance with NQAS guidelines.

By concentrating on these practical measures, non-certified UPHCs can progressively improve their operations and move closer to achieving NQAS certification. This process not only enhances healthcare delivery but also boosts patient satisfaction and community well-being.

In conclusion, the study reveals that NQAS certification significantly impacts healthcare by improving KPIs. Certified centers exhibit notable enhancements in various performance indicators, resulting in higher healthcare standards and quality of care. For non-certified centers, adopting these KPIs can be a strategic pathway to achieving certification and enhancing healthcare services. This research underscores the essential role of NQAS certification in advancing healthcare excellence and the importance of continuous performance evaluation and improvement.

Assessment Process:

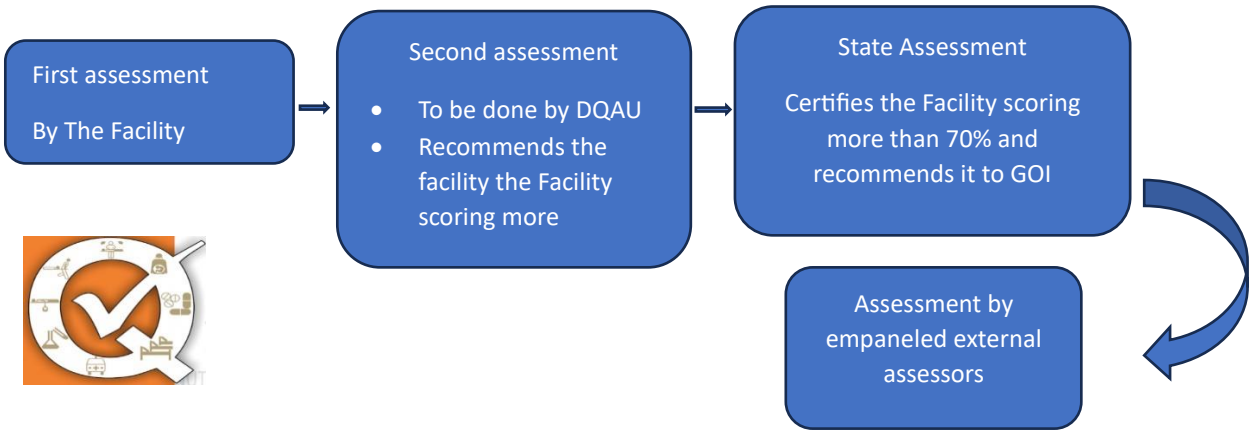


Figure 1:Assessment Process

ANNEXURE:

CERTIFIED UPHC (Vaishali Nagar)

Figure 3: Certified UPHC - Vaishali Nagar

Figure 2: Certified UPHC - Vaishali Nagar

Figure 7: Certified UPHC - Vaishali Nagar

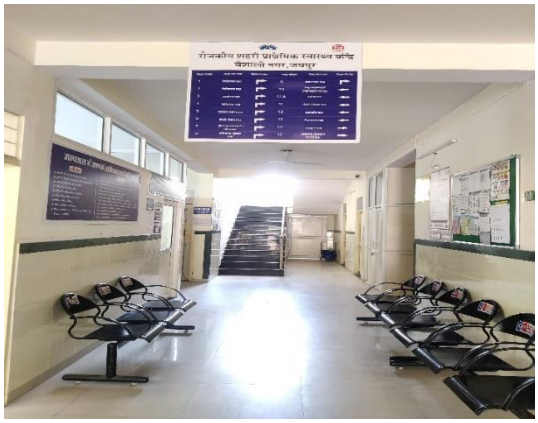


Figure 6: Certified UPHC - Vaishali Nagar

Figure 4: Certified UPHC - Vaishali Nagar

Figure 5: Certified UPHC - Vaishali Nagar

NON-CERTIFIED (Sardar Patel)

Figure 9: Non-Certified UPHC - Sardar Patel

Figure 8: Non-Certified UPHC - Sardar Patel

Figure 10: Non-Certified UPHC - Sardar Patel

Figure 11: Non-Certified UPHC - Sardar Patel

Figure 13: Non-Certified UPHC - Sardar Patel

Figure 12: Non-Certified UPHC - Sardar Patel

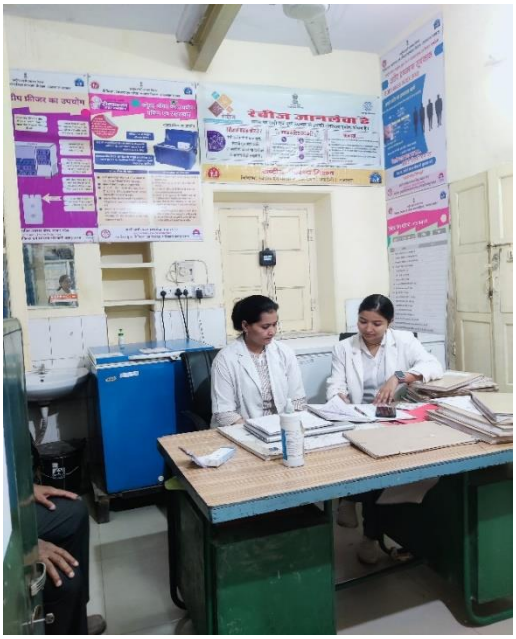


Figure 15: Non-Certified UPHC - Sardar Patel

Figure 14: Non-Certified UPHC - Sardar Patel

Figure 16: Non-Certified UPHC - Sardar Patel

REFERENCES

Pal, A., Taneja, N., Malhotra, N. R., Shankar, R., Chawla, B., Awasthi, A. A., & Janardhanan, R. (2021). Knowledge, attitude, and practice towards breast cancer and its screening among women in India: A systematic review. Journal of Cancer Research and Therapeutics. https://doi.org/10.4103/jcrt.jcrt_922_20

Banerjee, R., & Sharma, K. (2021). Assessing the Role of NQAS in Urban Health Services Improvement. Journal of Health Administration. https://doi.org/10.1177/0017896919843767

Patel, A., & Desai, M. (2019). The Impact of NQAS on Urban Primary Health Care Delivery. BMC Health Services Research. https://doi.org/10.1186/s12913-019-4021-9

Mehta, K., & Singh, R. (2018). Evaluating the Effectiveness of NQAS in Urban Health Centers. International Journal of Health Sciences. https://doi.org/10.5001/omj.2018.36

Rao, V., & Narayan, S. (2017). Quality Assurance and Health Outcomes: An Analysis of UPHCs. Journal of Public Health Research. https://doi.org/10.4081/jphr.2017.849

Sharma, L., & Kapoor, J. (2020). Improving Healthcare Services through NQAS Certification. Indian Journal of Community Medicine. https://doi.org/10.4103/ijcm.IJCM_256_19

Banerjee, D., & Chatterjee, P. (2019). NQAS Certification and Its Impact on Key Performance Indicators. BMC Health Services Research. https://doi.org/10.1186/s12913-019-4032-6

Srivastava, N., & Gupta, A. (2021). Evaluating the Impact of NQAS on Urban Primary Health Centers. Journal of Healthcare Quality. https://doi.org/10.1097/JHQ.0000000000000272

Sharma, S., & Kumar, V. (2018). Comparative Analysis of Certified and Non-Certified UPHCs. Global Journal of Health Science. https://doi.org/10.5539/gjhs.v10n1p58

Thomas, G., & Reddy, P. (2020). Quality Assurance in Healthcare: The Role of NQAS. Journal of Health Economics. https://doi.org/10.1016/j.jhealeco.2019.102293

Das, A., & Joshi, M. (2019). Benefits of NQAS Certification in Urban Health. Health Services Research. https://doi.org/10.1111/1475-6773.13214

Kaur, H., & Singh, D. (2021). Impact of Quality Standards on UPHCs Performance. Journal of Primary Health Care. https://doi.org/10.1071/HC20043

Ghosh, S., & Pandey, R. (2020). Enhancing Urban Healthcare Delivery through NQAS. Journal of Public Health Policy. https://doi.org/10.1057/s41271-020-00241-2

Singh, P., & Mishra, A. (2019). Improving Urban Healthcare Services through NQAS Certification. Journal of Urban Health. https://doi.org/10.1007/s11524-019-00365-3

Jain, S., & Rao, M. (2018). Health Outcomes and Quality Standards in Urban Centers. Indian Journal of Medical Research. https://doi.org/10.4103/ijmr.IJMR_508_18

Bulletin of the World Health Organization. (2015). WHO report on cancer: setting priorities, investing wisely and providing care for all. British Medical Bulletin, 116(1), 139. https://academic.oup.com/bmb/article/116/1/139/400846

National Health Systems Resource Centre (2021). Guidelines for Organizing UPHC Services. https://nhsrcindia.org/sites/default/files/2021-07/Guidelines%20for%20Organizing%20UPHC%20Services.pdf#:~:text=URL%3A%20https%3A%2F%2Fnhsrcindia.org%2Fsites%2Fdefault%2Ffiles%2F2021

National Health Systems Resource Centre (2021). National Quality Assurance Standards (NQAS) Guidelines. . https://qps.nhsrcindia.org/national-quality-assurance-standards/nqas-Guidelines

World Health Organization (2022). WHO supports quality certification for health and wellness centres in Chhattisgarh. https://www.who.int/india/news/detail/25-08-2022-who-supports-quality-certification-for-health-and-wellness-centres-in-chhattisgarh

Bhushan, H., & Kumar, S. (2018). Implementing National Quality Assurance Standards for Public Health Facilities in India. BMC Health Services Research. https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-018-3423-0

National Health Systems Resource Centre (2021). Quality Map Home. https://nhsrcindia.org/quality-map-home%20National%20Health%20Systems%20Resource%20Centre%20(2021).%20Quality%20Assurance%20Directives.%20https://qps.nhsrcindia.org/repository-standard/quality-QA-Directives

National Health Systems Resource Centre (2021). Quality Certification. https://qps.nhsrcindia.org/quality-certification

National Health Systems Resource Centre (2021). Quality Assurance Framework. https://nhsrcindia.org/quality-assurance-framework

National Health Systems Resource Centre (2021). List of NQAS Certified Facilities. https://nqas.nhsrcindia.org/facilities/list

Ministry of Health and Family Welfare, Government of India (2021). Quality Management in Public Health Facilities. https://main.mohfw.gov.in/sites/default/files/02Chapter.pdf

UPHC – NQAS Virtual Assessment Checklist:

https://qps.nhsrcindia.org/uphc-nqas-virtual-assessment-checklist

Draft KPI UPHC:

https://qps.nhsrcindia.org/draft-kpi-uphc

https://academic.oup.com/bmb/article/116/1/139/400846

https://nhsrcindia.org/sites/default/files/2021-07/Guidelines%20for%20Organizing%20UPHC%20Services.pdf#:~:text=URL%3A%20https%3A%2F%2Fnhsrcindia.org%2Fsites%2Fdefault%2Ffiles%2F2021

https://qps.nhsrcindia.org/national-quality-assurance-standards/nqas-Guidelines

https://www.who.int/india/news/detail/25-08-2022-who-supports-quality-certification-for-health-and-wellness-centres-in-chhattisgarh

https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-018-3423-0

https://nhsrcindia.org/quality-map-home

https://qps.nhsrcindia.org/repository-standard/quality-QA-Directives

https://qps.nhsrcindia.org/quality-certification

https://nhsrcindia.org/quality-assurance-framework

https://nqas.nhsrcindia.org/facilities/list

https://main.mohfw.gov.in/sites/default/files/02Chapter.pdf