

A Comparative Analysis of Functioning and Service Delivery for Non-Communicable Diseases in NQAS-Certified and Non-Certified UPHCs in Rajasthan

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

Dr. Rohit Das

Under the supervision and Guidance of

Dr. Neetu Purohit

2023

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled *A Comparative Analysis of Functioning and Service Delivery for Non-Communicable Diseases in NQAS-Certified and Non-Certified UPHCs in Rajasthan* is the bonafide 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Dr, Rohit Das

Date: 27th May 2023

CERTIFICATE

This is to certify that dissertation titled ***A Comparative Analysis of Functioning and Service Delivery for Non-Communicable Diseases in NQAS-Certified and Non-Certified UPHCs in Rajasthan*** is a record of the research work undertaken by (Name of Student) in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management)/MBA (Pharmaceutical Management)/MBA (Development Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

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Faculty Guide
IIHMR University, Jaipur

Dr. Mahender Kumar
School Dean
IIHMR University, Jaipur

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1. INTRODUCTION

Non-Communicable diseases (NCDs) are a group of diseases that affect individuals over an extended period of time causing socio-economic burden to the nation (WHO). They are chronic in nature and are a result of a combination of genetic, physiological, environmental and behavioral factors. According to WHO (2021), NCDs account for 64% of the disease burden in India. “Increasing longevity, unhealthy diets and sedentary lifestyles have led to an increase in NCDs such as heart disease, diabetes and cancers in India”.¹

Noncommunicable diseases (NCDs) have emerged as a major public health concern around the world, putting a tremendous strain on healthcare systems and economies. NCDs cause a considerable share of morbidity and mortality in India, posing a serious threat to population health. As a result, effective management of NCDs at the primary care level is critical to reducing the burden and improving population health outcomes.

The NUHM envisions the Urban Primary Health Centre, similar to a rural PHC, as the focal location for the delivery of health care services. While the fundamental premise remains the same, the services and delivery mechanisms of UPHCs have been modified to address the unique health and livelihood concerns that the urban population faces. Today's metropolitan regions are getting increasingly congested, particularly in slum and slum like habitations, with low or no proper sanitation, water supply, or garbage disposal system. This along with lifestyle changes and habits has led to an increased burden of non-communicable diseases in the urban population. Recognizing the importance of ensuring quality healthcare services, the Ministry of Health and Family Welfare, Government of India, introduced the National Quality Assurance Standards (NQAS) certification program for healthcare facilities, including UPHCs.

With the aim to improve the quality of Health care services at public health facilities, the Ministry of Health & Family welfare (MoHFW), Government of

India initiated the comprehensive accreditation process. The MoHFW along with the support of its flagship programme, National Health Mission (NHM), launched National Quality Assurance Standards (NQAS) in 2013. NQAS have been developed keeping in mind the specific requirements for public health facilities and is derived by global best practices. NQAS are currently available for District Hospitals, CHCs, PHCs and Urban PHCs. Standards are primarily meant for providers to assess the quality for improvement through predefined standards and to bring up their facilities for certification (MoHFW, 2013). The NQAS are broadly arranged under 8 "Areas of Concern"— Service Provision, Patient Rights, Inputs, Support Services, Clinical Care, Infection Control, Quality Management and Outcome. These standards are ISQua 4 (International Society for Quality in Health Care) accredited and meets global benchmarks in terms of comprehensiveness, objectivity, evidence and firmness of development (MoHFW, 2013) The program covers various domains, including infrastructure and equipment, patient safety, infection control, documentation, and service delivery for specific health conditions, such as NCDs.

The functioning and infrastructure of healthcare facilities significantly influence the quality of healthcare services delivered. NQAS certified UPHCs are expected to have better functioning and infrastructure compared to non-certified UPHCs. This may include availability of trained healthcare professionals, appropriate diagnostic equipment for NCD screening and monitoring, well-maintained facilities, and adherence to infection control practices. By comparing these aspects, the study can determine the extent to which NQAS certification contributes to improved functioning and infrastructure for NCD management.

Service delivery mechanisms related to NCDs are crucial in ensuring timely and appropriate care for individuals. Effective service delivery encompasses various components, such as regular health screenings, accurate diagnosis, evidence-based treatment protocols, referral systems for specialized care, patient education and counseling, and follow-up mechanisms. NQAS certified UPHCs are anticipated to demonstrate better service delivery related to NCDs compared to non-certified UPHCs. Through a comparative analysis, the study can identify the

areas where NQAS certification positively impacts NCD service delivery and highlight the potential gaps in non-certified UPHCs.

2. LITERATURE REVIEW

The paper discusses the National Urban Health Mission (NUHM) in India, which is a programmatic response for providing primary health care services to the urban poor in 1178 cities of varying sizes and institutional capacities. NUHM has contributed to increased utilization of primary health care services, reduced out-of-pocket expenditure for health care of the urban poor, and reduced disparities in urban health care infrastructure in bigger and smaller towns. The paper highlights the initiatives taken under NUHM to disaggregate urban health data in the Health Management Information System (HMIS) and coordinate with key schemes under the Reproductive and Child Health programme. It also discusses the unique arrangement launched in 779 cities for implementing NUHM, which recognizes the differential institutional strengths of these urban local bodies (ULBs) appropriately.

The paper further describes the initiatives for increased coordination in the states for intersectoral convergence, strengthened integration with vertical programs, and increased coordination with programs like the National Urban Livelihood Mission (NULM) and Swachh Bharat Mission (Clean India Mission). The paper also mentions the State Quality Assurance Committee and State Quality Assurance Units set up in all states and union territories under NHM, and the National Quality Assurance Standards (NQAS) recognized internationally and accredited by the International Society for Quality in HealthCare (ISQua). Finally, the paper discusses the patient satisfaction system named "Mera Aspataal" (My Hospital) initiated by the Government of India to empower patients to express their views on health services.²

The paper by Nair and Nari (2018) focuses on the utilization of health care services provided by Urban Primary Health Centres (UPHCs) in Kerala and the satisfaction of beneficiaries with these services. The study was conducted between 2016-2018 and assessed the satisfaction of beneficiaries on five domains: human resources, diagnostic or lab facilities, functioning of pharmacy, infrastructure, and treatment services based on the location of

UPHCs in urban (town/city limits), coastal areas, and slums. The study found that UPHC services are used largely by the urban poor irrespective of the location of the UPHC. The utilization of UPHC services increased from 581 to 747 per 1000 population (assigned wards) from 2016-17 to 2018-19. Over 4 lakh persons in Kerala are screened for NCDs every year through the UPHCs. Beneficiary level overall satisfaction on the services of UPHCs reveals that overall 88 percent of the patients are satisfied on the services.

The study also found that the correlates of respondent's satisfaction levels on UPHCs services are the location of UPHCs in urban (town/city limits), shorter distance of UPHC from home, those who had previously visited any health facility for treatment before seeking treatment at UPHC, and those who frequently visit the UPHC for treatment.³ Another paper discusses the implementation of the National Quality Assurance Program in India to improve the quality of health services provided in public facilities. The program has been successful in enhancing the credibility and sustainability of health services by integrating the quality dimension. The paper emphasizes the importance of a systematic approach and a culture of transparency, engagement, and openness about results in building quality health services.

The paper also highlights the negative impact of poor-quality care on resources, human capital, productivity, and population health. The paper concludes that the journey for implementation of NQAS was difficult and challenging, but commitment and leadership of the medical officer, collective teamwork of the staff, and innovative approaches for any problem yielded the desired results.⁴ A study conducted in Rajasthan regarding WSR lifestyle disorders. The study is a survey-based observational study that collected data from a mobile medical camp conducted in five villages of Gogunda tehsil of Udaipur district and the OPD of National Institute of Ayurveda Hospital in Jaipur during February 2014.

The study found that lifestyle disorders such as diabetes, hypertension, obesity, depression, and acid peptic diseases are more prevalent in urban areas than in rural areas. The probable reasons for this are drug abuse, sedentary

lifestyle, tobacco and smoking, and varied patterns of lifestyle in urban areas. The study also found that the rural style of life gives room for deficiency disorders, communicable diseases, and degenerative disorders. The paper concludes that awareness of health in terms of preventive aspects through Ayurveda is necessary in both urban and rural areas.⁵

Another study on the Prevalence and pattern of risk factors for non-communicable diseases in urban population of Jaipur, Rajasthan aims to measure the prevalence of major risk factors for non-communicable diseases (NCDs) in the age group of 25-64 years in both sexes in people of Jaipur city, Rajasthan, and to find out the association of socio-demographic characteristics with risk factors. The study was conducted from 1st June 2012 to 31st December 2013 in the area covered under Municipal Corporation of Jaipur city. The study used the standard WHO STEPS structured instrument for assessing risk factors of NCDs, which was suitably modified by IDSP for the Indian context. The study found that there is a high burden of risk factors of NCDs among the residents of Jaipur city, and no respondents had "0" risk factor. About 65% of respondents had 1-2 risk factors, and 35% had three or more risk factors.

The study also found that tobacco use, harmful use of alcohol, physical inactivity, and unhealthy diet were becoming more prevalent, leading to overweight, obesity, raised blood pressure, raised blood glucose, and dyslipidemia, all important biological risk factors for NCDs. The study concludes that effective and sound measures for prevention and control of risk factors in the given community are required to reduce the burden of NCDs.⁶ The study conducted by Gollandaj et.al (2021) about the National Quality Assurance Standards (NQAS) Accreditation in Public Health Facilities and its impact in Karnataka, Maharashtra, and Chhattisgarh" aimed to evaluate the impact of NQAS accreditation on the quality of care in healthcare facilities.

The researchers employed a cross-sectional survey design to collect data from healthcare staff in selected facilities across the three Indian states. A total of 195 healthcare staff members from eight hospitals participated in the study.

The results revealed that staff perceived an improvement in quality as indicated by the high scores on the "Quality Result" variable, comparing the period before and after NQAS accreditation. The Benefits of NQAS accreditation subscale also demonstrated positive outcomes, with a mean score of 4.48, indicating improved teamwork and productivity. Significant differences were observed, particularly between Primary Health Centers (PHCs) and Community Health Centers (CHCs), as well as between PHCs and District Hospitals (DHs). The qualitative insights provided valuable advantages of NQAS accreditation, including public hospitals being competitive with private hospitals, fostering pride and satisfaction among staff, and being viewed as an effective tool for enhancing healthcare quality.

Overall, this study highlights the positive impact of NQAS accreditation on healthcare quality from the perspective of staff perception and performance outcomes in the selected Indian states.⁷ A study by Sindhu Joseph on the Impact assessment of accreditation in primary and secondary public Healthcare Institutions in the State of Kerala examines the impact of accreditation on the quality of public healthcare delivery in primary and secondary healthcare facilities in Kerala, India.

This is a cross-sectional study conducted in Kerala. Ten constructs used in the study, overarching the quality healthcare delivery, adapting previous studies, SERVQUAL, and Donabedian's SPO models, are Physical Facility, Admission Services, Patient centeredness, Accessibility of Medical Care, Financial Factors, Professionalism, Staff Services, Medical Quality, Diagnostic Services, and Patient Satisfaction. The study employed a positivist approach using a survey questionnaire. The study was conducted from July 2017 to July 2018. According to this study Accreditation has a positive impact on patient satisfaction and other quality dimensions, overarching structural and procedural quality in primary healthcare facilities under the public sector in Kerala.

Conversely, accreditation has not improved the quality dimensions in secondary healthcare facilities and thereby, the satisfaction of patients. It cannot be assumed that accreditation is always associated with quality care

in primary healthcare facilities. The implementation process must be systematic and must be regularly monitored to make it useful.⁸

Another pilot study about the prevalence of non-communicable disease urban population in Udaipur aims to study the prevalence of non-communicable diseases in the urban population of Udaipur district in Rajasthan, India. The study was conducted on a sample of 568 individuals, comprising both males and females aged 18 years and above. The study measured various parameters such as blood glucose levels, blood pressure, height, weight, waist girth, and hip circumference. The prevalence of type 2 diabetes was found to be 7.8% among males and 7.1% among females. The prevalence of pre-hypertension and hypertension was found to be higher in males than females. The study also found that females had a higher BMI than males.

The study concludes that long exposure to an unhealthy lifestyle involving cigarette smoking, obesity, and sedentary lifestyle, consumption of diets rich in highly saturated fats, sugars, and salt, typified by "fast foods" to increase higher levels of risk factors, such as hypertension, dyslipidemia, diabetes, obesity, coronary and other vascular disease.⁹ Another paper investigates the prevalence and impact of health determinants on non-communicable diseases (NCDs) and multimorbidity among urban elderly in six southern states of India. The study was conducted from October 2018 to September 2019, and a total of 1,671 respondents aged 60-80 years were recruited using a stratified multistage sampling strategy. Through survey forms, information regarding demographic characteristics, health-influencing lifestyle factors, and history of nine NCDs was collected. The prevalence of hypertension was found to be 40.4%, followed by diabetes (31.2%), arthritis (22.1%), sensory impairment (10.1%), heart diseases (7.8%), and dyslipidemia (7.0%). 74.1% of participants had at least one morbidity, and 40.0% of people had multimorbidity. Being overweight is the highest risk health determinant for hypertension, diabetes, heart disease, high cholesterol, stroke, and joint pain.

Obese people have 64% more risk of hypertension than people with normal BMI. People with disturbed sleep have increased risk of hypertension, high cholesterol, and joint pain by more than 80% compared to people with proper sleep. Among the modifiable health determinants of obesity, disturbed sleep, constipation, and physical activity up to 30 minutes were positively associated with multimorbidity. Those in the age group of 70 to 80 years have a high risk for NCDs and multimorbidity compared to those in the age group of 60 to 70 years. The study concludes that a healthy lifestyle is necessary to reduce the burden of NCDs among the elderly, and developing holistic health policies seems an urgent need.¹⁰

3. RESEARCH METHODOLOGY

RESEARCH QUESTION:

1. How does the functioning and infrastructure of NQAS-certified and non-certified UPHCs in Rajasthan differ?
2. Are there notable differences in the quality-of-service delivery between NQAS-certified and non-certified UPHCs in Rajasthan, specifically in relation to the management of non-communicable diseases?

RESEARCH OBJECTIVES:

- a) To assess the infrastructure of NQAS-certified and non-certified UPHCs in Rajasthan.
- b) To evaluate the service delivery in terms of quality of services, resources, and outcomes.
- c) To identify gaps in the functioning between NQAS-certified and non-certified UPHCs.

STUDY DESIGN:

Descriptive analytical study design which involved the analysis of the scores obtained by certified and non-certified UPHCs during the NQAS assessing process. The study utilized secondary data to analyze the scores obtained by the certified and non-certified UPHCs under the thematic area of non-communicable diseases. The study involves comparing certified and non-certified under 8 areas of concerns. Selected standards under these areas have been taken to understand the differences. Primary and Secondary data analysis was conducted using Microsoft Excel.

STUDY SETTING:

The study is based on the NQAS scores data obtained from UPHCs from the districts of Kota, Bhilwara, and Jaipur in the state of Rajasthan. The data collection and analysis of these districts were done on the basis of the allotment of 5 Certified and 5 non-certified UPHCs by the Department of Quality in the NHM, Rajasthan, and does not involve any sampling process.

STUDY POPULATION:

5 Non-certified UPHCs and 5 certified UPHCs from the districts of Kota, Bhilwara, and Jaipur in the state of Rajasthan.

ETHICAL CONSIDERATIONS:

The study was approved by NHM, Rajasthan for the purpose of this thesis only. The study adheres to confidentiality terms and does not use any personal identifiable information and hence does not violate privacy.

4. DATA ANALYSIS AND INTERPRETATION

The analysis conducted below graphically depicts the difference in functioning and infrastructure of NQAS-certified and non-certified UPHCs considered in the study.

1. UPHC BAPU NAGAR:

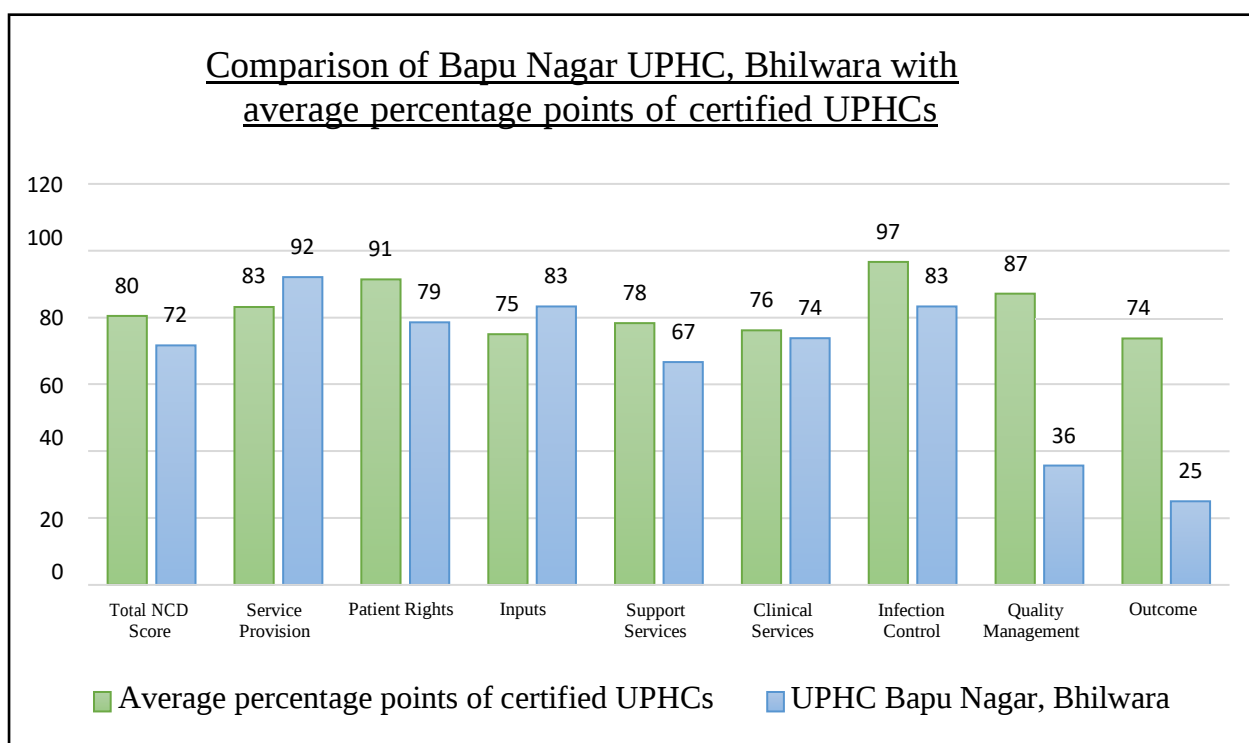


Figure 4.1: Comparison of Bapu Nagar UPHC, Bhilwara with average percentage points of certified UPHCs

Figure 4.1 shows the average percentage points obtained by the UPHCs under each area of concern. Under NQAS, the points obtained by the facility is aggregated into percentage and measured. Each area of concern is scored and a weighted percentage is given based on the points obtained under each area of concern by the facility and this is converted to final percentage obtained by that facility. These percentages obtained by a certified UPHC in a particular area of concern is summed and divided by the number of certified UPHCs. In this way we can obtain average score of all the certified UPHCs under 8 areas of concern. This average score creates a benchmark with which scores obtained by the non-certified UPHCs are compared. Bapu Nagar is performing well in Service provision, Inputs areas, and scores 92%, 83% respectively which is higher than the average percentage points of certified

UPHCs. In all other areas of concern, it scores points closer to a certified UPHC. It needs improvement in the following aspect: To create quality assurance based on guidelines, formulating strategies to meet the benchmarks, follows SOPs and creating quality indicators.

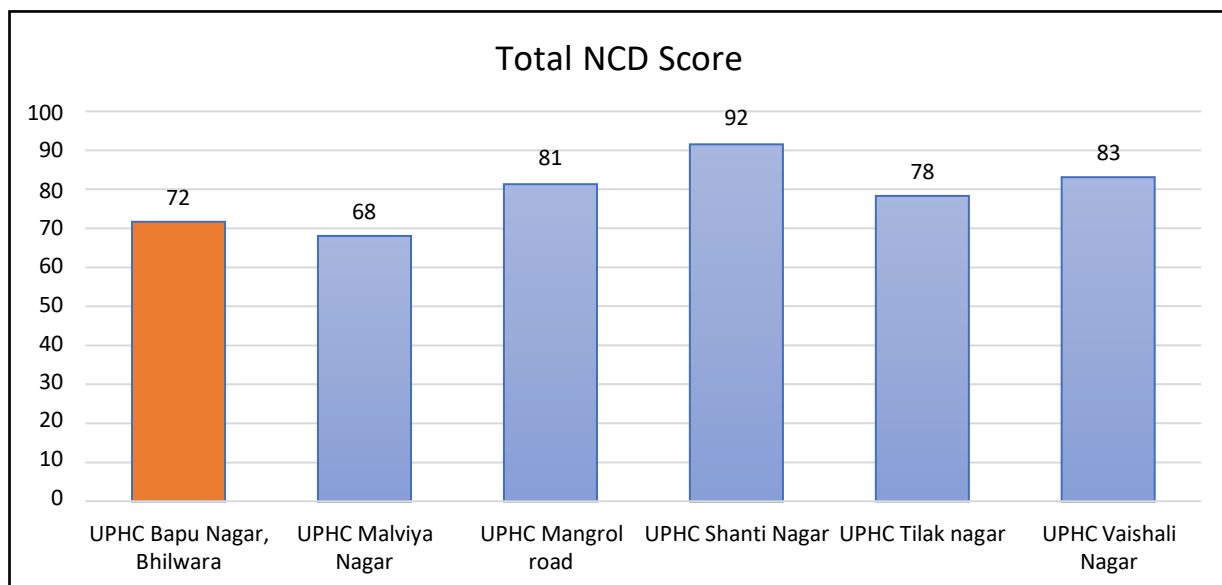


Figure 4.2: Total NCD Score – Bapu Nagar vs. others certified

Figure 4.2 shows the analysis of total NCD score which is the aggregate percentage obtained by the facility after assessing all the areas of concern. These scores are compared between Bapu Nagar UPHC which is represented by orange column and certified UPHCs which is represented by blue column obtained by Bapu Nagar UPHC with certified UPHCs. Under the total NCD score, Bapu Nagar scores 72% which is higher than Malviya Nagar.

2. UPHC BARKAT NAGAR:

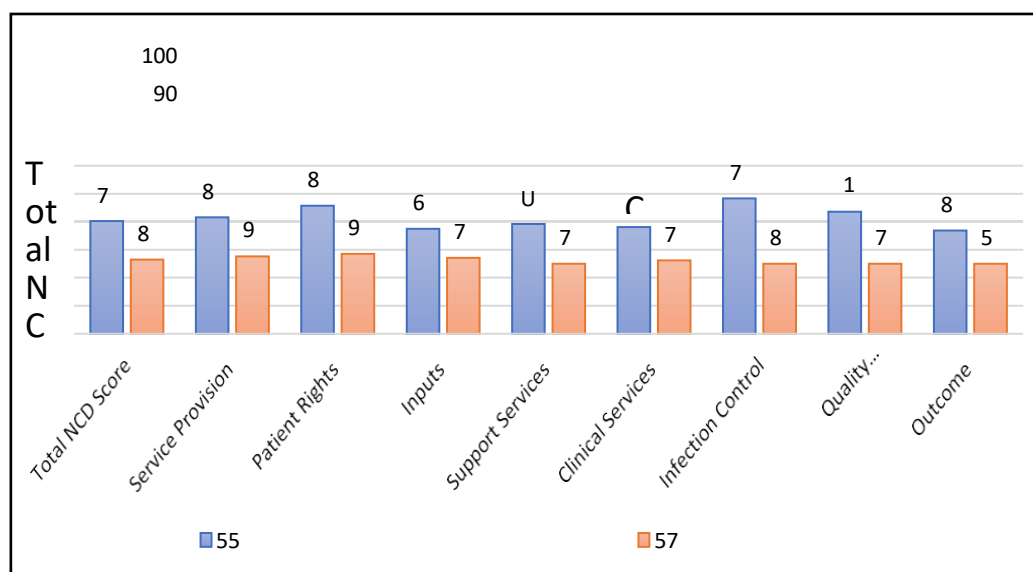


Figure 4.3: Comparison of Barkat Nagar UPHC with average percentage points of certified UPHCs

Figure 4.3 shows the average percentage points obtained by the UPHCs under each area of concern. Under NQAS, the points obtained by the facility is aggregated into percentage and measured. Each area of concern is scored and a weighted percentage is given based on the points obtained under each area of concern by the facility and this is converted to final percentage obtained by that facility. These percentages obtained by a certified UPHC in a particular area of concern is summed and divided by the number of certified UPHCs. In this way we can obtain average score of all the certified UPHCs under 8 areas of concern. This average score creates a benchmark with which scores obtained by the non-certified UPHCs are compared. UPHC Barkat Nagar on average has scored a percentage in and around 50% in all the areas of concern when compared with certified UPHCs. The least is scored in areas of support, infection control, quality and outcomes where the percentage just touches 50. This shows that there is a need in improving the methods of collecting and reporting data which comes under support services, infection control which is bio-medical waste management, quality improvement in terms of adherence to SOPs and guidelines and bringing in quality indicators to measure their performance. The total NCD score achieved is 53% which is nearly 30 percentage points less than what is being seen on average from the certified UPHCs.

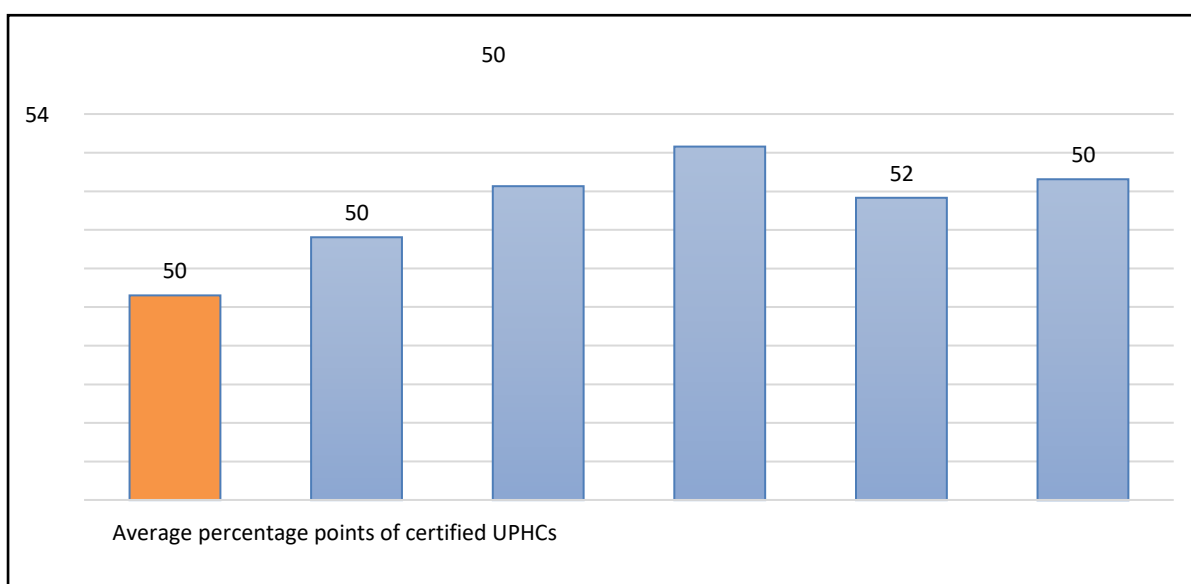


Figure 4.4: Total NCD Score – Barkat Nagar vs. others certified

Figure 4.4 depicts the analysis of total NCD score which is the aggregate percentage obtained by the facility after assessing all the areas of concern that in the total NCD score which corresponds to the functioning of the UPHC under non communicable diseases, it can be seen that NQAS certified UPHCs which is represented in blue column and non-certified is represented in orange column. UPHC Barkat Nagar scores 50 % in NCD service delivery under NQAS. This score is lesser than the scores obtained by certified UPHCs which shows the need for improvement.

3. UPHC CHOMU:

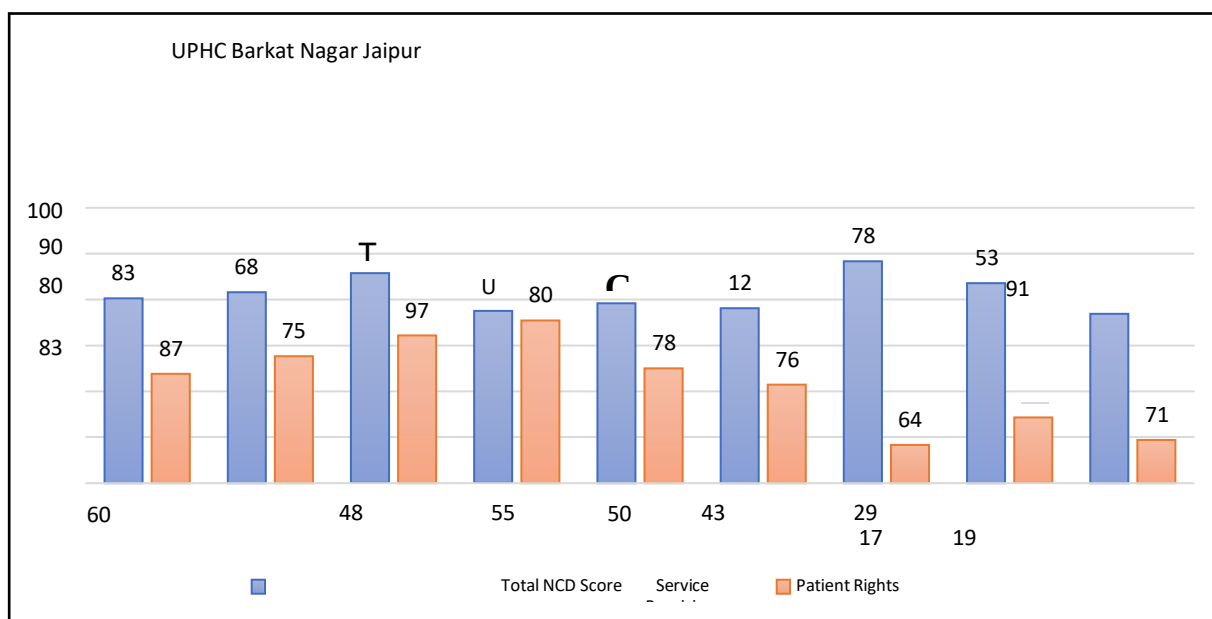


Figure 4.5: Comparison of Chomu UPHC with average percentage points of certified UPHCs

Figure 4.5 shows the average percentage points obtained by the UPHCs under each area of concern. Under NQAS, the points obtained by the facility is aggregated into percentage and measured. Each area of concern is scored and a weighted percentage is given based on the points obtained under each area of concern by the facility and this is converted to final percentage obtained by that facility. These percentages obtained by a certified UPHC in a particular area of concern are summed and divided by the number of certified UPHCs. In this way we can obtain the average score of all the certified UPHCs under 8 areas of concern. This average score creates a benchmark with which scores obtained by the non-certified UPHCs are compared we can see that UPHC Chomu when compared with the average percentage points of the certified UPHCs under each area of concern underperforms against the certified under all the areas. On average Chomu's performance lags behind by 30 percentage points in all the areas except in inputs. It underperforms to a larger extent in infection and quality management.

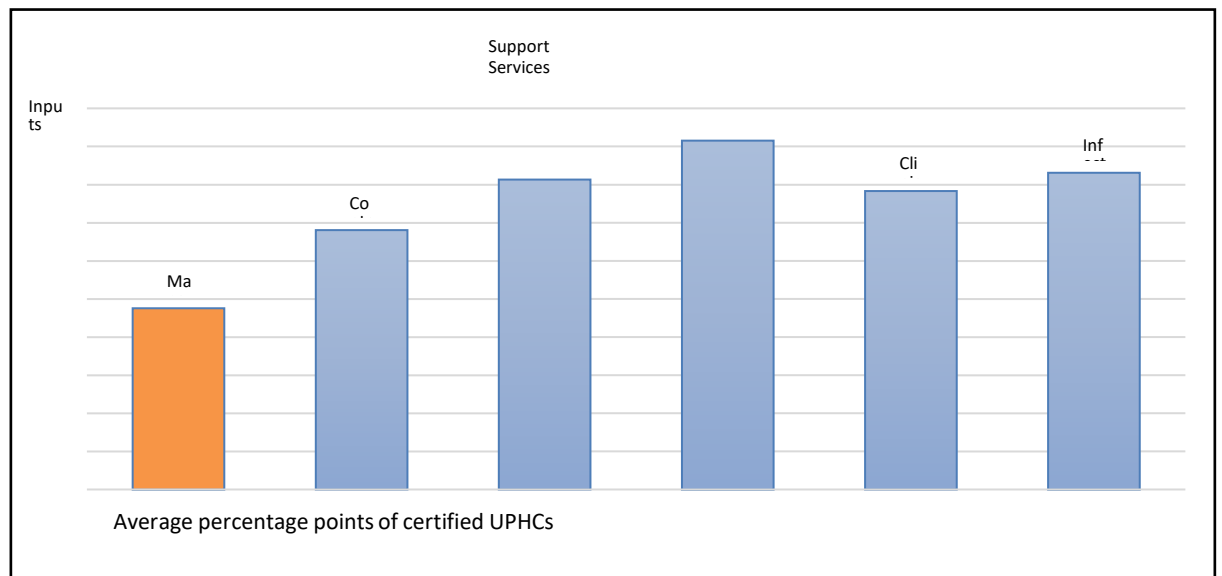


Figure 4.6: Total NCD Score – Chomu UPHC vs. others certified

Figure 4.6 shows the analysis of total NCD score which is the aggregate percentage obtained by the facility after assessing all the areas of concern that in the total NCD score which corresponds to the functioning of the UPHC under non communicable diseases, it can be seen that NQAS certified UPHCs which is represented in blue column and non-certified is represented in orange column. It can be seen that UPHC Chomu scores less than 50% whereas all the certified are in a range of 70-95%. This shows the gap in service delivery in UPHC Chomu when compared to certified UPHC showing the reason behind certification.

4. SAKATPURA KOTA:

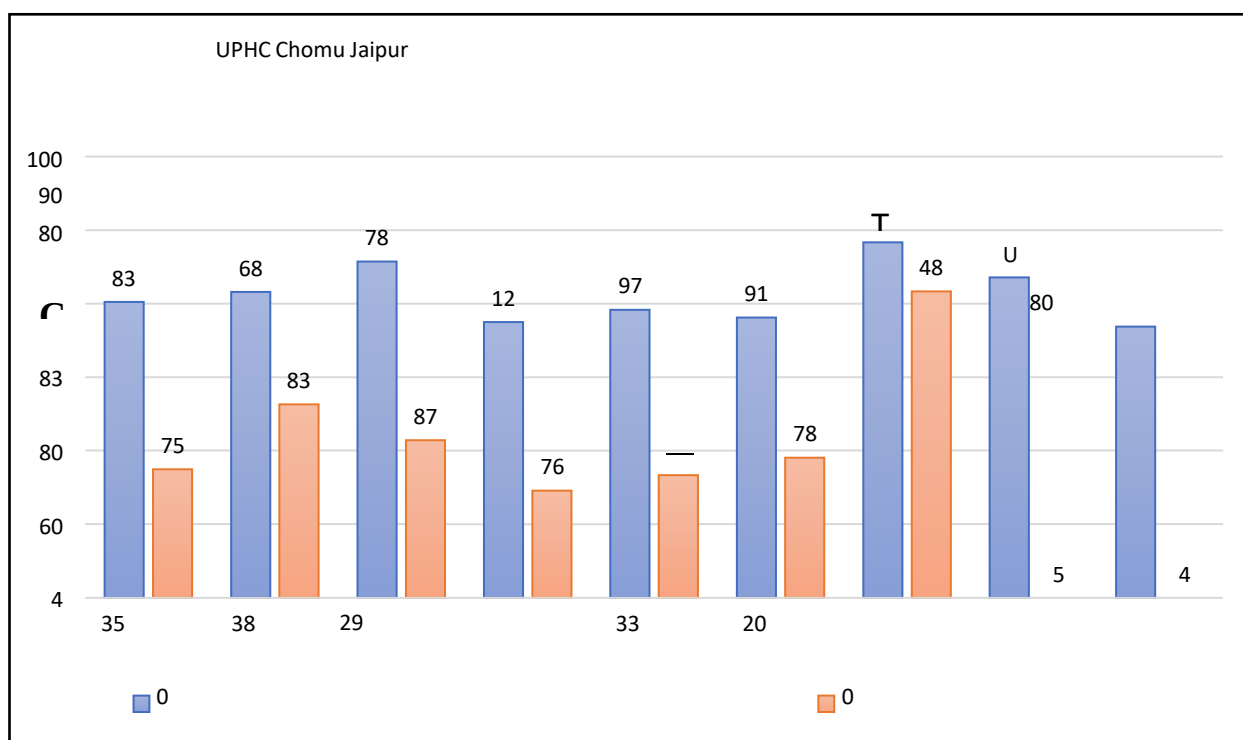


Figure 4.7: Comparison of Sakatpura UPHC with average percentage points of certified UPHCs

Figure 4.7 shows the average percentage points obtained by the UPHCs under each area of concern. Under NQAS, the points obtained by the facility is aggregated into percentage and measured. Each area of concern is scored and a weighted percentage is given based on the points obtained under each area of concern by the facility and this is converted to the final percentage obtained by that facility. These percentages obtained by a certified UPHC in a particular area of concern are summed up and divided by the number of certified UPHCs. In this way, we can obtain the average score of all the certified UPHCs under 8 areas of concern. This average score creates a benchmark with which scores obtained by the non-certified UPHCs are compared. It can be seen that the total NCD score achieved by this UPHC is 35% which is nearly 45% points lesser than the average percentage achieved by the certified UPHCs. It scores an average of 40 percentage points less than certified UPHCs under all concerns.

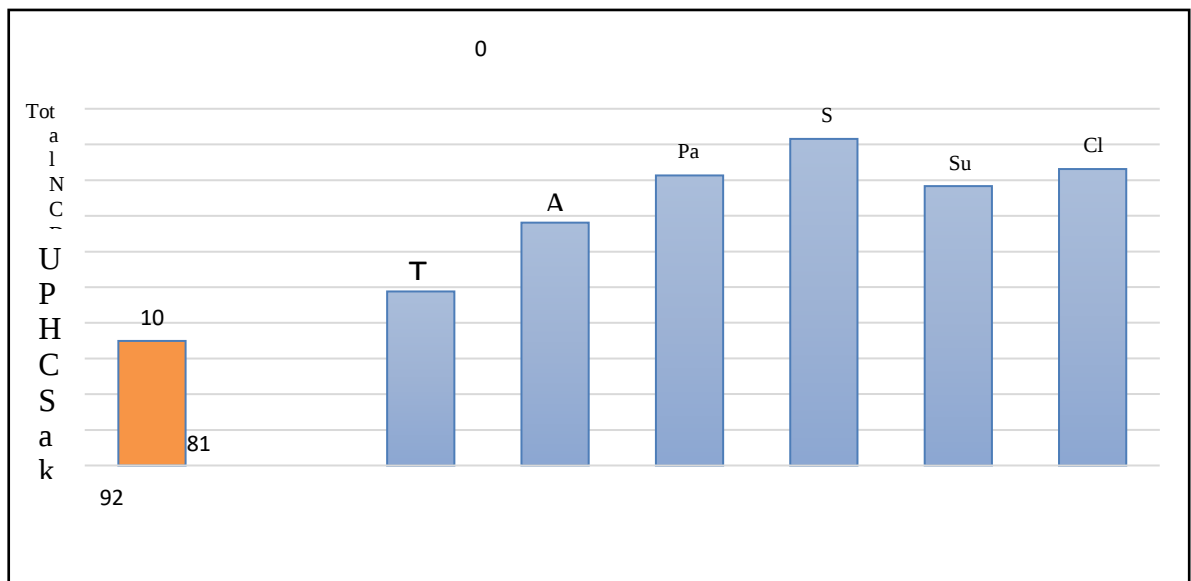


Figure 4.8: Total NCD Score – Sakatpura UPHC vs. others certified

Figure 4.8 shows the analysis of total NCD score which is the aggregate percentage obtained by the facility after assessing all the areas of concern that in the total NCD score which corresponds to the functioning of the UPHC under non communicable diseases, It can be seen that NQAS certified UPHCs which is represented in blue column and non-certified is represented in orange column. It can be seen that Sakatpura UPHC underperforms in terms of NCD service delivery when compared to non-certified UPHCs.

5. UPHC RANPUR KOTA:

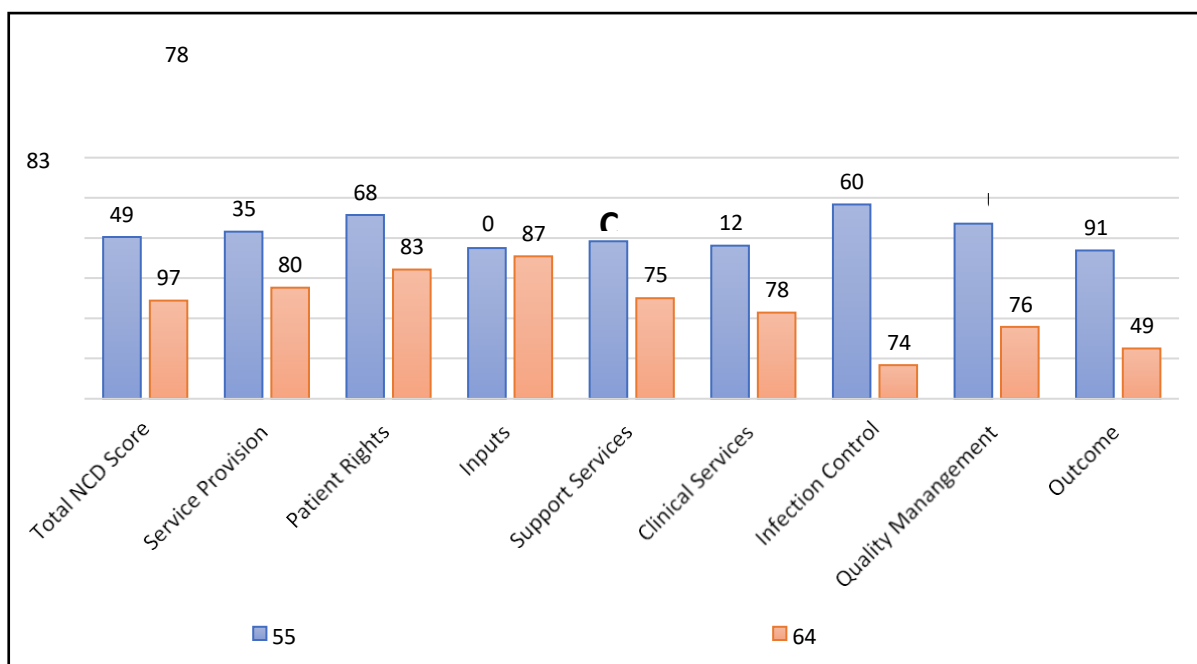


Figure 4.9: Comparison of Rampur UPHC with average percentage points of certified UPHCs

Figure 4.9 shows the average percentage points obtained by the UPHCs under each area of concern. Under NQAS, the points obtained by the facility is aggregated into percentage and measured. Each area of concern is scored and a weighted percentage is given based on the points obtained under each area of concern by the facility and this is converted to the final percentage obtained by that facility. These percentages obtained by a certified UPHC in a particular area of concern are summed up and divided by the number of certified UPHCs. In this way, we can obtain the average score of all the certified UPHCs under 8 areas of concern. This average score creates a benchmark with which scores obtained by the non-certified UPHCs are compared. Rampur Kota UPHC performs well under inputs area of concern, least performance is seen with the infection control area with just 17% points. It can be seen that the score obtained by Rampur PHCs almost same as the average percentage points obtained by all the certified UPHCs under Inputs area of concern. Total NCD score obtained by Rampur UPHC is 49% which is almost 30% points lesser than average percentage points obtained by certified UPHCs.

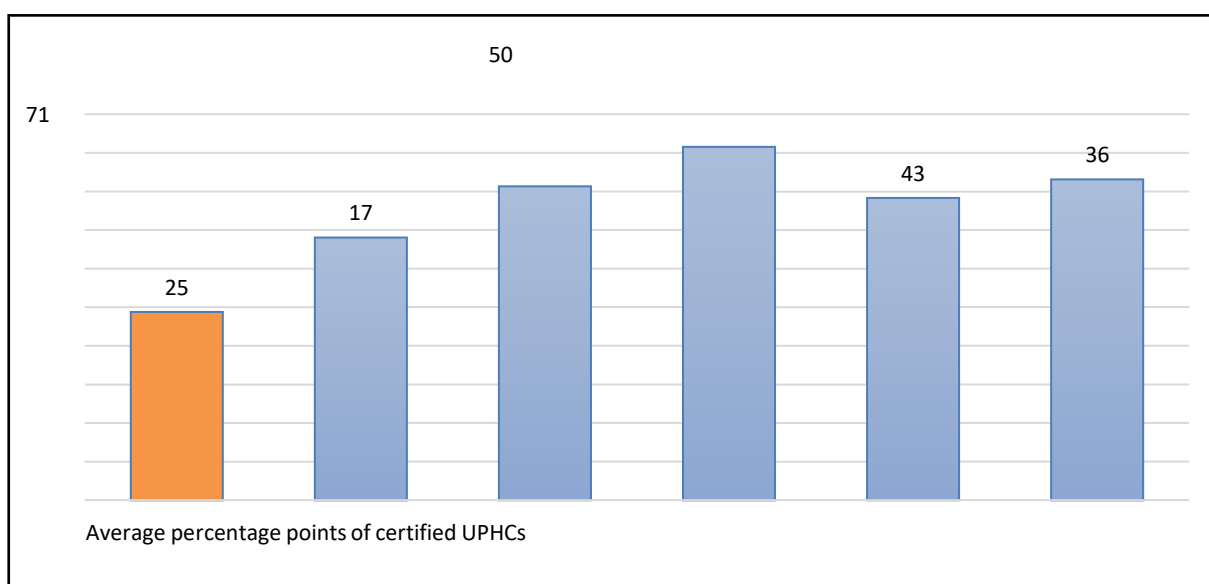


Figure 4.10: Total NCD Score – Ranpur UPHC vs. others certified

Figure 4.10 shows the total NCD score obtained by Ranpur Kota against the total scores obtained by certified UPHCs. Ranpur Kota scores less than 50% when compared to others, this shows that overall, from service delivery to infection control till quality management, there is a gap in NCD services seen. The certified UPHCs shows better standards in the services it provides to patients based on NQAS standards.

COMPARISON OF ALL THE UPHCs UNDER STUDY BASED ON AREA OF CONCERN UNDER NQAS

The following analysis addresses the noted differences in the infrastructure between NQAS certified and non-certified UPHCs along with evaluating the service delivery in terms of its quality, availability of resources, and the outcomes. This analysis addresses the research question as well which is to identify any notable differences in quality-of-service delivery, under the management of NCDs.

a) AREA OF CONCERN – SERVICE PROVISION

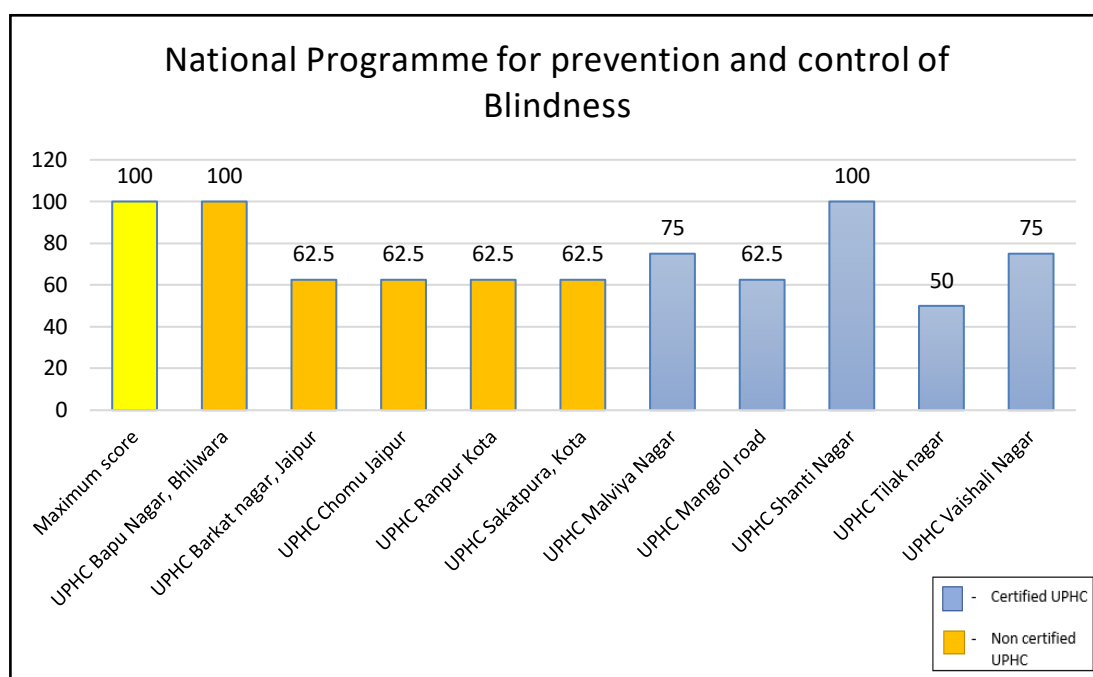


Figure 4.11: Service provision scores under the National Programme for prevention and control of blindness

Figure 4.11 depicts the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the Blindness program is 8 which has been translated to 100% and based on this the certified and non-certified UPHCs are compared. The Orange columns correspond to non-certified UPHCs and the blue columns correspond to certified PHCs. It can be seen that in terms of service provision under the National Blindness Program UPHC Babu Nagar, Bhilwara scores 100% equivalent to a certified UPHC. All the non-certified UPHCs score 62.5%, UPHC Tilak Nagar scores lesser than non-certified UPHC in the service delivery.

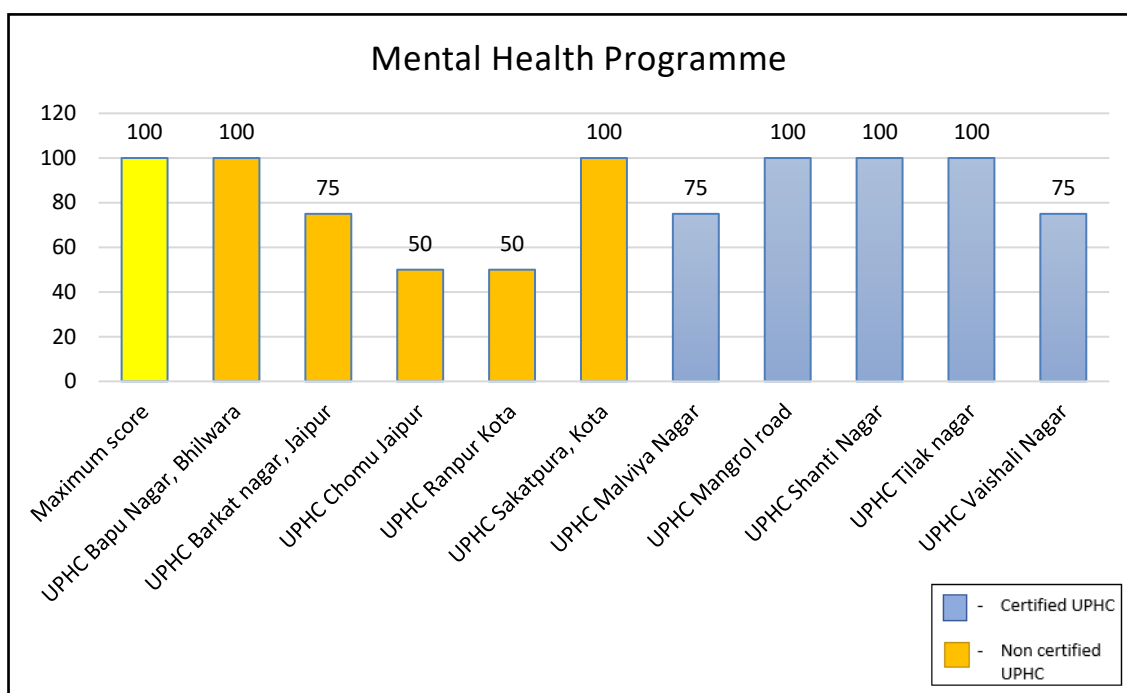


Figure 4.12: Service provision scores for Mental Health program

From figure 4.12, we can interpret the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the Mental health program is 4 which has been translated to 100% and based on this the certified and non- certified UPHCs are compared. The Orange columns correspond to non-certified UPHCs and the blue columns correspond to certified PHCs. The above graph shows that UPHC in Babu Nagar and Sakatpura scores 100% in service delivery under mental health program and UPHC in Barkat Nagar scores 75% and the other two non-certified PHCs scores 50% each. In the Certified PHCs, Mangrol road, Shanti Nagar and Tilak Nagar UPHC scores centum and the other two score 75%.

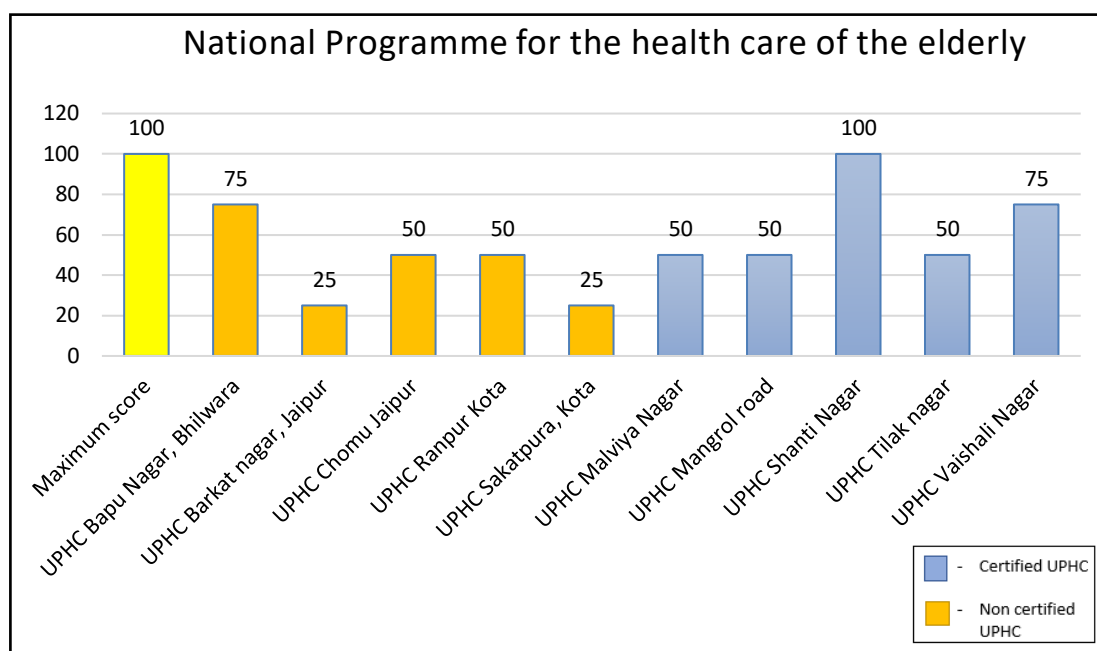


Figure 4.13: Service provision scores under National program for the healthcare of elderly

Figure 4.13 depicts the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the healthcare of elderly program is 4 which has been translated to 100% and based on this the certified and non- certified UPHCs are compared. The Orange columns correspond to non-certified UPHCs and the blue columns correspond to certified PHCs. The above graph shows that the performance of non certified ranges from as low as 25% to 75% in service delivery under this program and that of certified UPHC ranges from 50% to 100%. UPHC in Shanti nagar is the only UPHC considered under the study which scores 100% thus showing that its service delivery is up to themark.

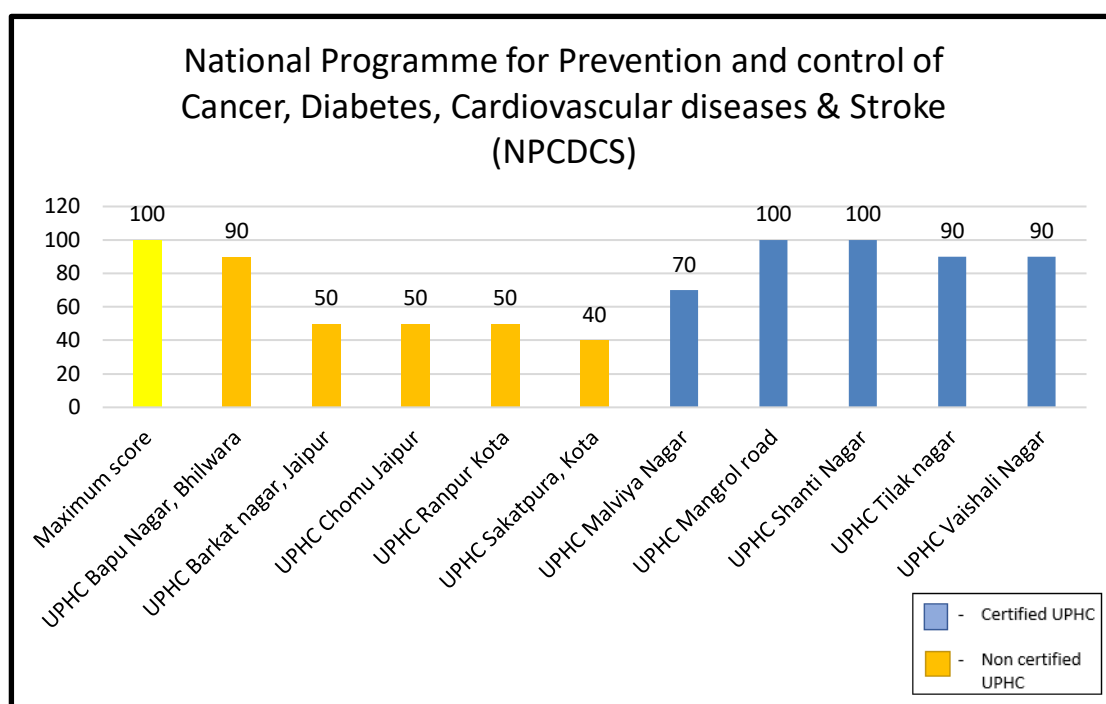


Figure 4.14: Service provision scores under NPCDCS

From figure 4.14, we interpret the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS) is 10 which has been translated to 100% and based on this the certified and non-certified UPHCs are compared. The Orange columns correspond to non- certified UPHCs and the blue columns correspond to certified PHCs. UPHC in Bapu Nagar scores 90% under this program and the other non-certified UPHC scores in a range between 40 to 50%. Certified UPHCs score in a range from 70% to 100% showing a higher performance.

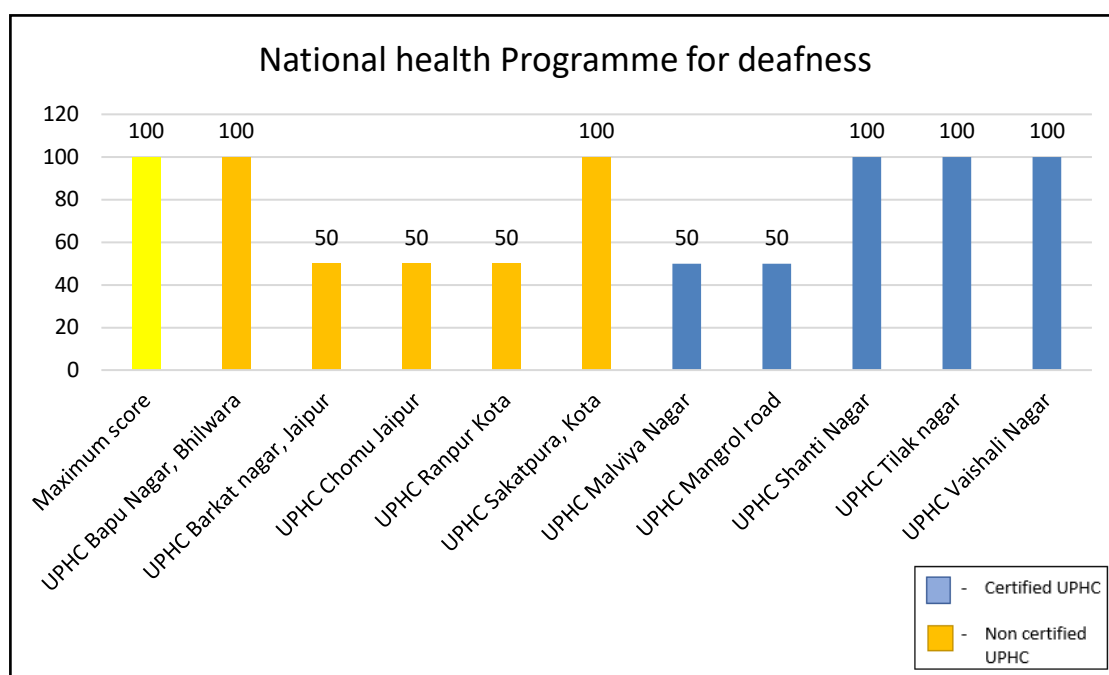


Figure 4.15: Service provision scores under National Health Program for Deafness

Figure 4.15 depicts the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the National health Programme for deafness is 2 which has been translated to 100% and based on this the certified and non-certified UPHCs are compared. The Orange columns correspond to non-certified UPHCs and the blue columns correspond to certified PHCs. It can be seen that most UPHCs whether certified or not scores a range from 50% to 100% with 2 noncertified scoring 100% showing the provision for service delivery under this scheme which is up to the mark. 3 certified UPHCs also score centum in this service delivery.

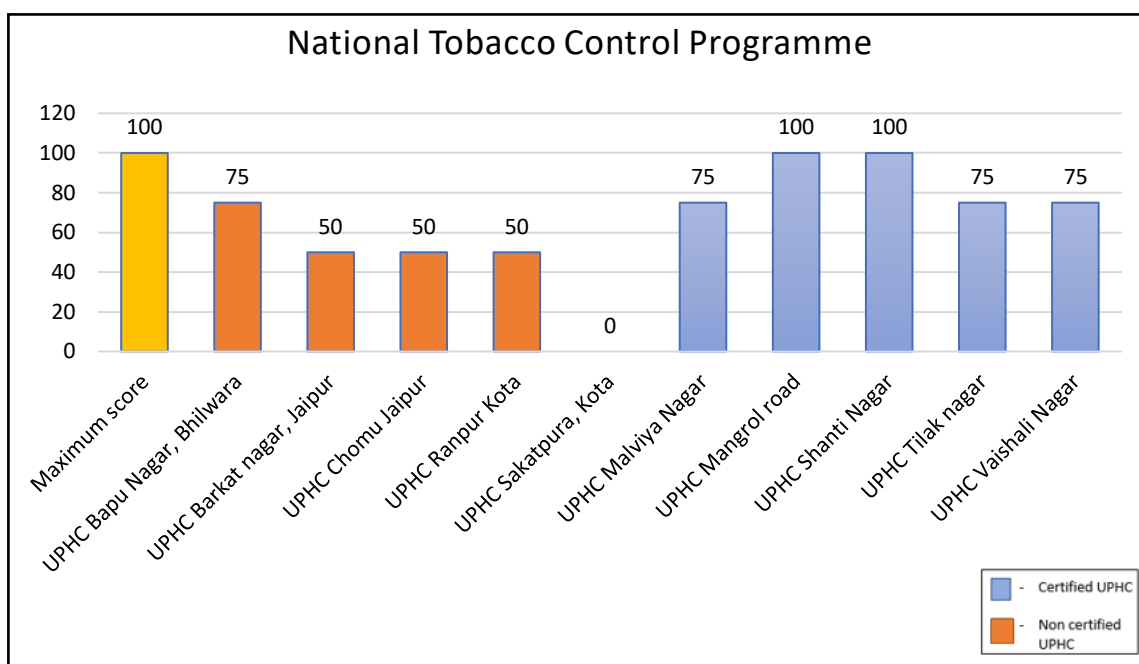


Figure 4.16: Service provision scores under National Tobacco Control Program

Figure 4.16 depicts the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the National Tobacco Control Programme is 2 which has been translated to 100% and based on this the certified and non-certified UPHCs are compared. The Orange columns correspond to non-certified UPHCs and the blue columns correspond to certified PHCs. It can be seen that UPHC in Sakatpura scores 0 in terms of service provision and other non-certified UPHC scores in a range of 50 to 75%. But certified UPHCs score in a range of 75 to 100%.

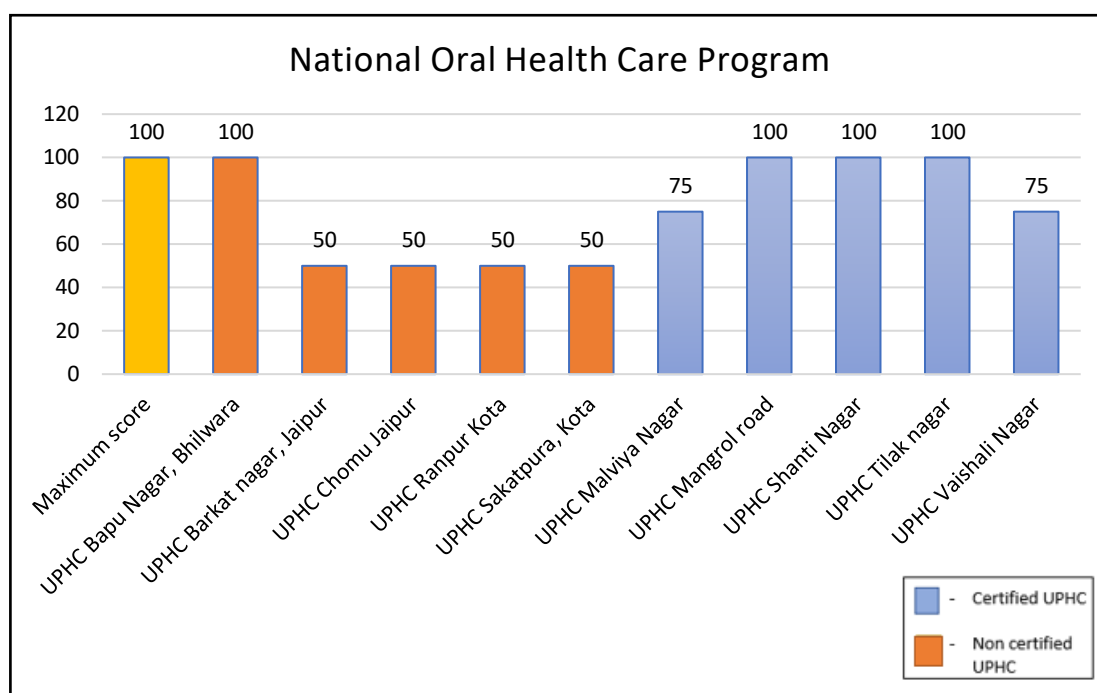


Figure 4.17: Service provision scores under National Oral Healthcare program

Figure 4.17 depicts the score in terms of the percentage of the maximum score obtained by each UPHC. The maximum score for service provision under the National Oral Health Care Program is 4 which has been translated to 100% and based on this the certified and non-certified UPHCs are compared. The Orange columns correspond to non-certified UPHCs and the blue columns correspond to certified PHCs. From the above graph we can see that UPHC in Bapu Nagar which is non-certified performs at the level of certified UPHCs scoring centum and the other non-certified score 50% and certified UPHC score in a range from 75% to 100%.

b) PATIENTS' RIGHTS

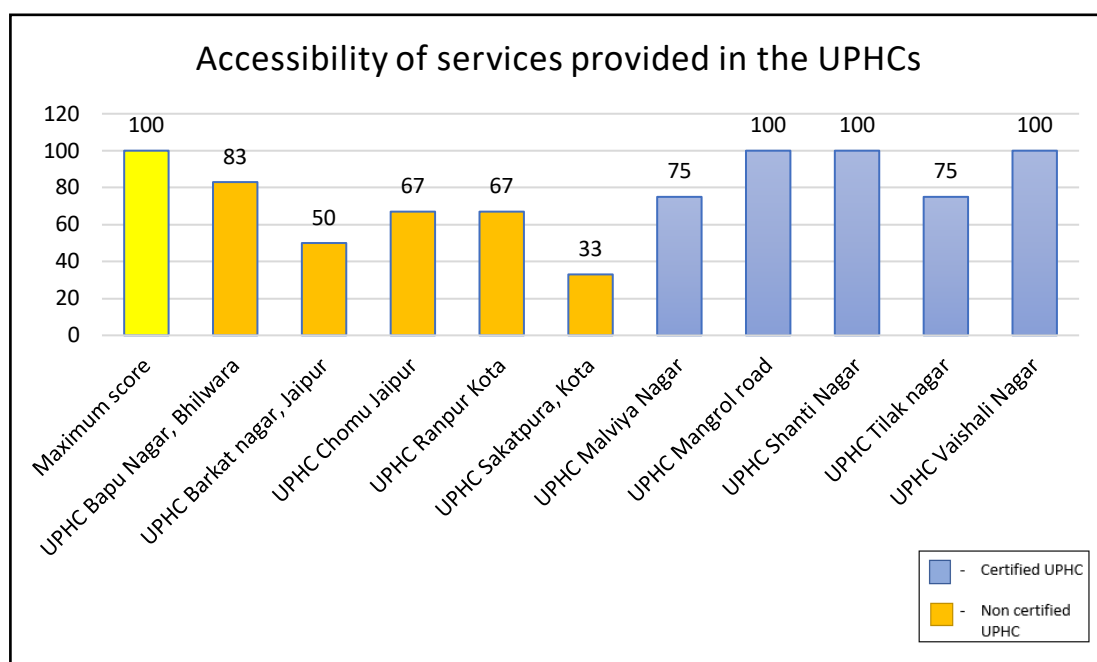


Figure 4.18: Service Accessibility Scoring

Figure 4.18 shows the accessibility of the services provided by the UPHC in terms of whether IECs are displayed and if the patient is sensitized about the information, the maximum score that can be achieved is 12 which is translated to 100%. The orange columns translate to non-certified UPHC and Blue columns translate to certified UPHC. It can be seen that except UPHC in Bapu Nagar all the other non-certified UPHC perform at a range of 30 to 70%. When compared to certified which score at a range of 75% to 100%.

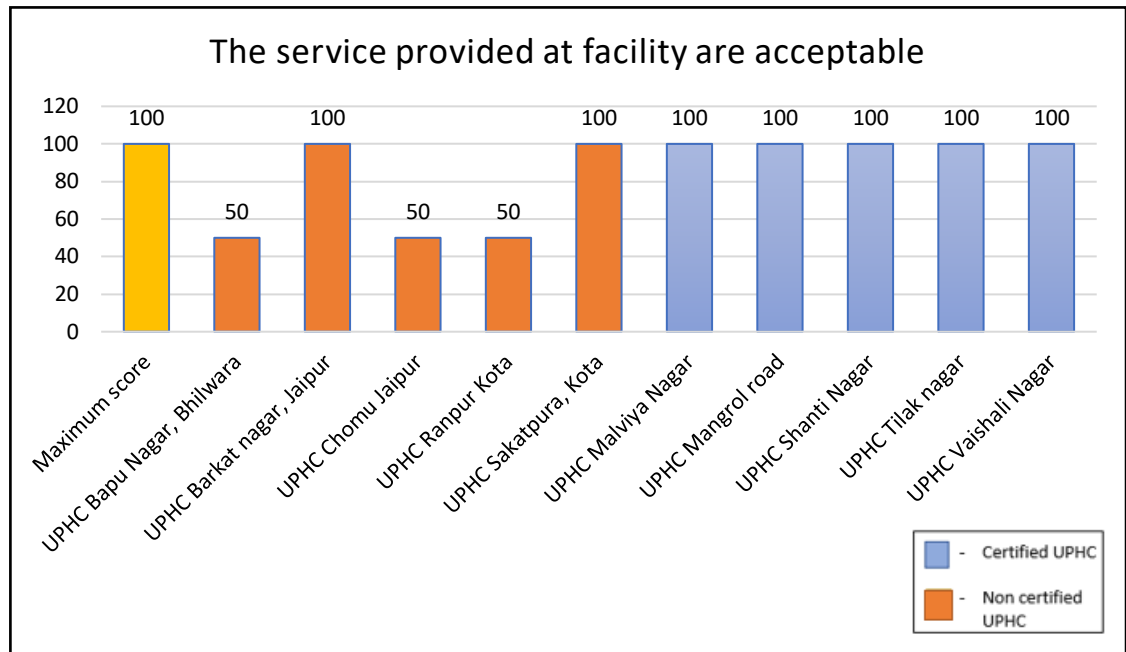


Figure 4.19: Service Acceptability Scoring

Figure 4.19 shows the acceptability of the services by a patient based on the confidentiality maintained by the facility and the respect to privacy being upheld. The maximum score is 2 and is translated as 100%. The orange columns shows non-certified UPHCs and blue columns show certified UPHCs. It can be noted that all the certified UPHCs rank 100% in this matter and two of the 5 non-certified UPHC also scores 100%.

c) **CLINICAL SERVICES:**

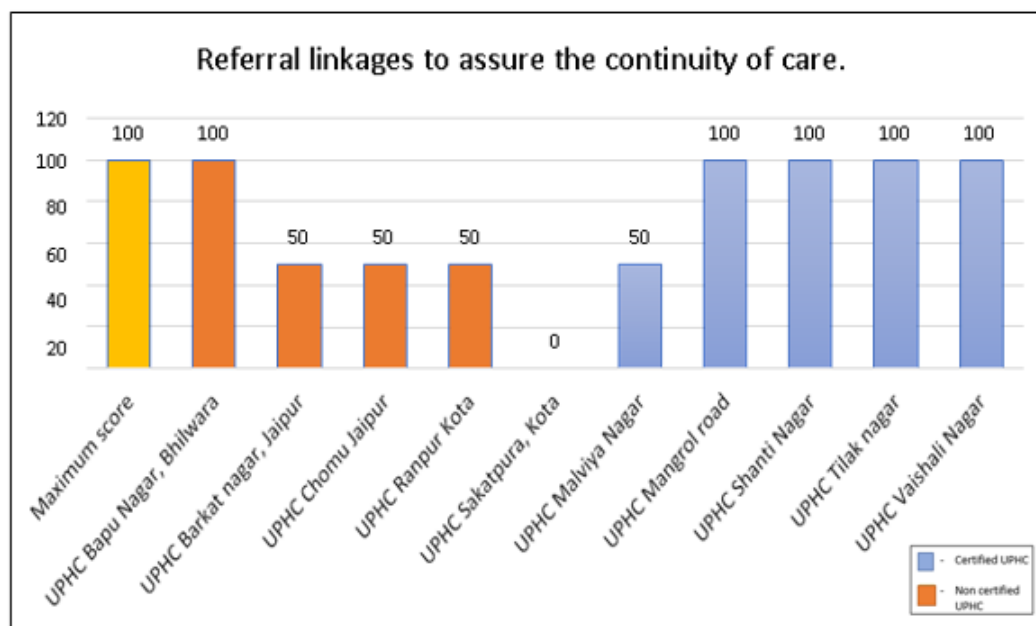


Figure 4.20: Referral linkages scoring

Figure 4.20 shows whether the UPHC has a referral facility available to transfer the patient to a higher facility when the service is unavailable, this provides a continuum of care. The maximum score that can be obtained is 2 and it translates to 100%. It can be seen that out of 5 certified UPHCs, 4 UPHCs score a 100% in the area of referrals and one scores 50%. Non-certified UPHC Sakatpura scores 0% in this area and the rest score in a range of 50-100%.

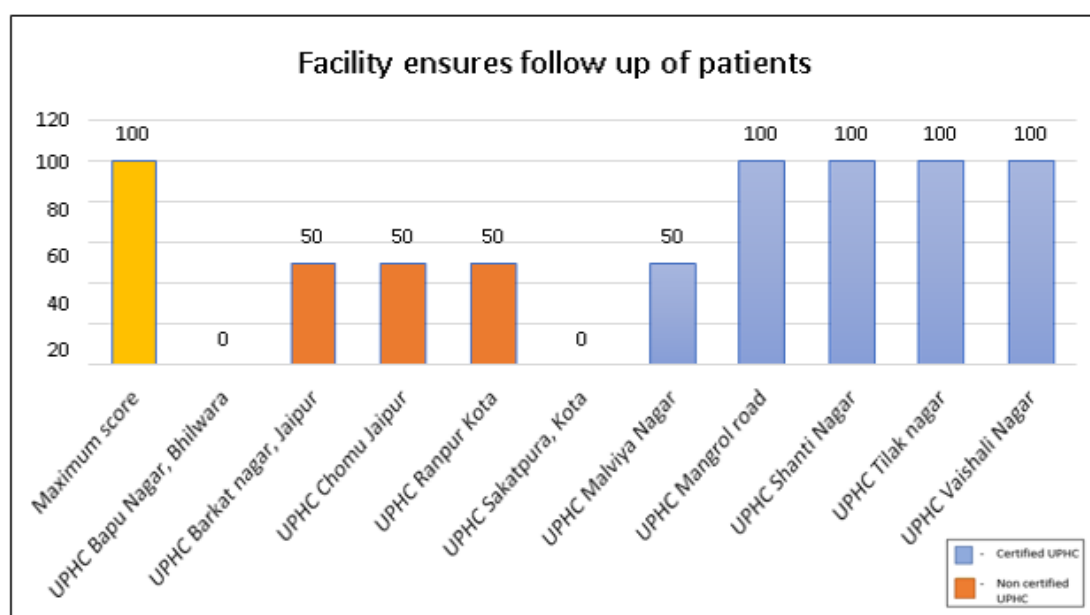


Figure 4.21: Follow-up scoring

Figure 4.21 depicts whether the facility ensures follow-up of patients which have been referred by them, this helps in better prognosis. It can be seen that most non-certified UPHCs either score 0 or 50% in this area but certified UPHCs score in a range of 50% to 100%.

d) INFECTION CONTROL

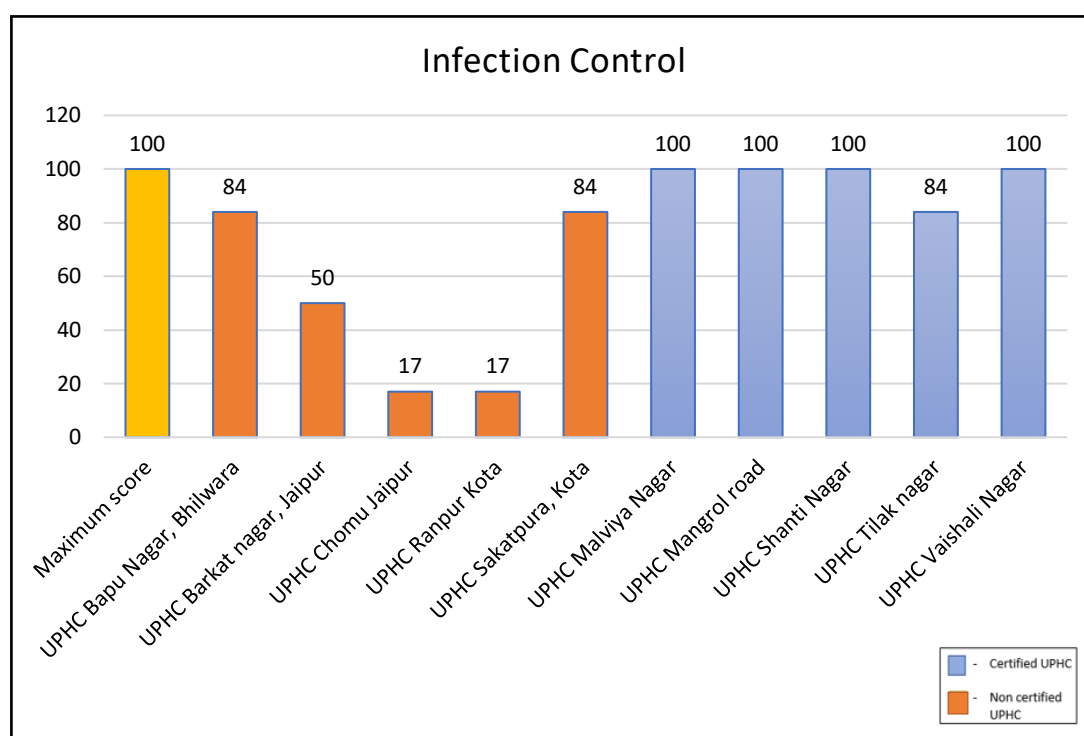


Figure 4.22: Infection Control scoring

Figure 4.22 assesses infection control based on hand washing technique and IEC and the

bio medical waste management done by the facility. The maximum score attained is 6 which is translated to 100%. It can be seen that 3 out of 5 non-certified UPHC score less than 50% in this aspect and all the certified UPHC score in a range above 85% to 100%.

e) QUALITY MAINTENANCE:

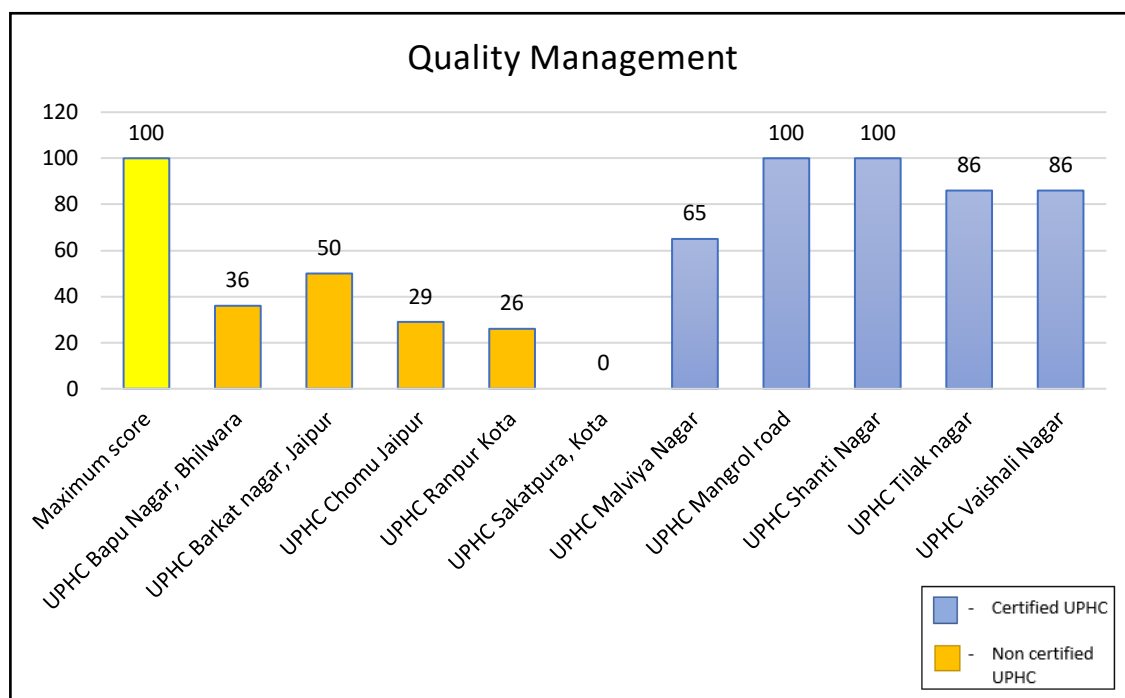


Figure 4.23: Quality Management Scoring

Figure 4.23 assesses the quality management of the facility in terms of its internal assurance and adherence to guidelines. The maximum score is 14 which translates to 100%. The orange columns correspond to non-certified UPHC and the blue columns correspond to certified UPHC. It can be seen that non-certified UPHC performs poorly in terms of quality maintenance and the scores range from 0 to 50 % but the certified UPHC score range above 65% with 2 out of 5 UPHC scoring a 100%.

f) **INPUTS:**

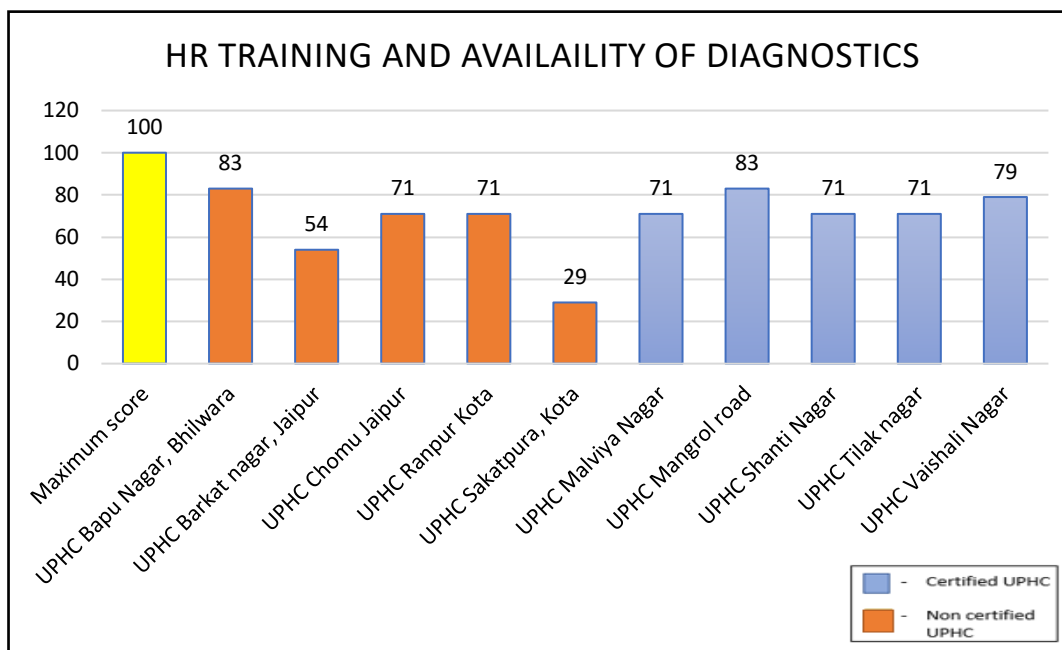


Figure 4.24: HR training and diagnostics availability

Figure 4.24 shows the availability of HR and diagnostics in the certified and non-certified UPHCs taken under the study. The orange column represents non-certified UPHCs and the blue represents certified UPHCs. It can be seen that availability of HR and Diagnostics in Babu Nagar, Chomu and Ranpur is almost same as what is available in a certified UPHC in Malviya Nagar, Shanti Nagar and Tilak Nagar.

g) **SUPPORT SERVICES:**

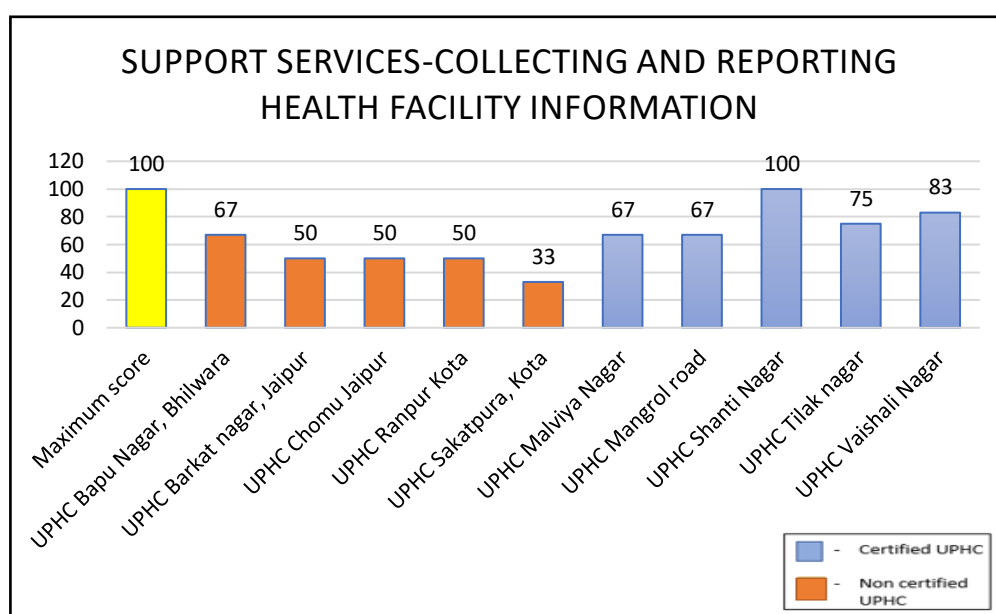


Figure 4.25: Documentation aspect of Facilities

Figure 4.25 shows the documentation aspect of the facilities. Orange column represents non-certified UPHCs and blue columns represent certified UPHCs. In terms of documentation, certified UPHCs are lagging behind with 4 of the UPHCs ranging from 33 to 50%. Bapu Nagar UPHC fares better and almost same as certified UPHCs taken in the study. UPHC Shanti Nagar scores the maximum amongst all.

h) OUTCOMES:

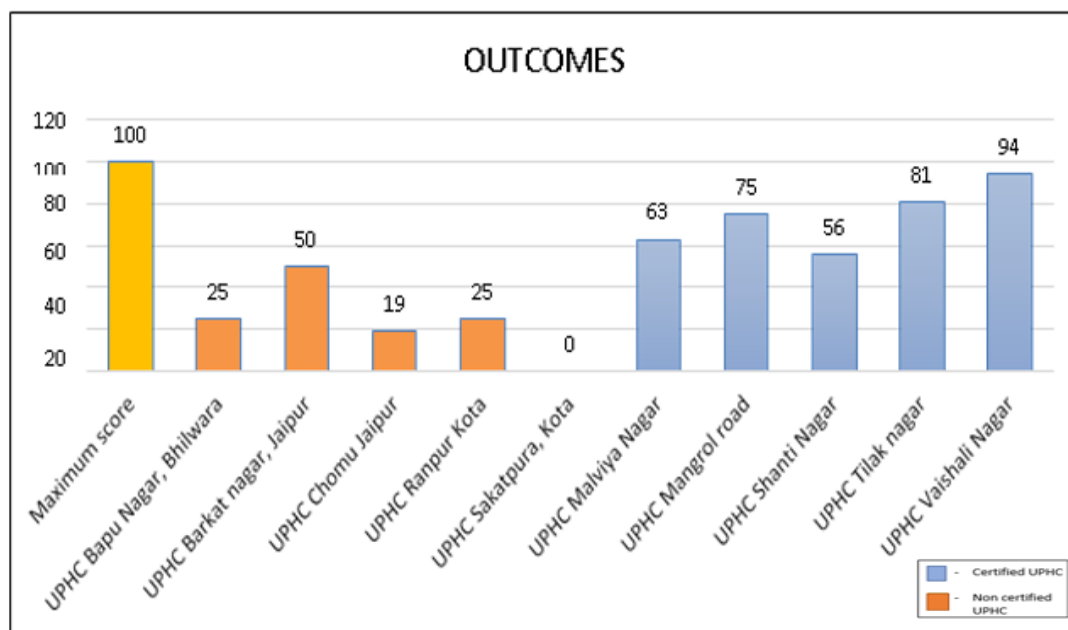


Figure 4.26: Performance of UPHCs based on quality indicators and benchmarking

Figure 4.26 shows the performance of UPHCs in terms of utilizing quality indicators and their attitude to strive towards performing to match the benchmark. All the non-certified UPHCs which are represented by orange column lag behind in this aspect showing a need for improvement in this area. All the certified UPHCs perform well showing they do have measures to assess their services and quality indicators and strive towards delivering benchmark service.

6. DISCUSSION:

The comparative comparison of NQAS-certified and non-certified Urban Primary Health Centers (UPHCs) in relation to NCDs under the NCD thematic area in the state of Rajasthan provides useful insights into the quality of care and its impact on patient outcomes.

Firstly, the analysis reveals that Bapu Nagar UPHC, a non-certified facility, performs well in service provision and inputs areas, scoring higher than the average percentage points of certified UPHCs. This indicates that Bapu Nagar UPHC excels in providing essential services and has adequate resources for NCD management. However, the facility lags behind in outcome and quality management areas, scoring less than 40%. In comparison to the least performing certified UPHCs (Malviya Nagar and Shanti Nagar), Bapu Nagar UPHC falls short by nearly 30% in terms of overall functioning. Despite this, Bapu Nagar UPHC manages to score higher than Malviya Nagar in terms of the total NCD score, with 72%.

Another non-certified UPHC, Barkat Nagar, achieves an average score of around 50% in all areas of concern, indicating a relatively weaker performance compared to certified UPHCs. The total NCD score achieved by Barkat Nagar UPHC is 53%, which is nearly 30 percentage points lower than the average score of certified UPHCs. This suggests that Barkat Nagar UPHC needs improvement in various aspects of NCD management to match the performance of certified UPHCs.

Ranpur Kota UPHC demonstrates strong performance in the inputs area of concern but lags significantly in infection control, scoring only 17%. Although the score obtained by Ranpur UPHC in the inputs area is comparable to the average percentage points of certified UPHCs, the total NCD score of 49% falls short by almost 30% compared to the certified UPHCs' average score. This indicates the need for better infection control practices and overall performance improvement in Ranpur Kota UPHC.

Sakatpura, Kota UPHC scores 83% in infection control, which is equivalent to accredited UPHCs like UPHC Tilak Nagar. However, Sakatpura UPHC's performance in quality management and result areas is the worst of all the UPHCs studied, with a score of 0 in both. Sakatpura UPHC's total NCD score is 35%, which is roughly 45% lower than the average percentage reached by certified UPHCs. This emphasises the critical need for significant changes in quality management and outcome measurements at Sakatpura UPHC.

When compared to other non-certified UPHCs, Bapu Nagar, Bhilwara scores much better in most areas of concern. Barkat Nagar UPHC outperforms its non-certified peers in terms of quality management and outcomes. Sakatpura UPHC performs similarly to Bapu Nagar UPHC in terms of infection control, getting 83%. Sakatpura UPHC's zero score in quality management and result areas, on the other hand, indicates a critical need for improvement.

When comparing certified UPHCs, UPHC Shanti Nagar comes out on top, getting 100% in multiple categories, including service provision, patient rights, support services, infection control, and quality management. Other recognized UPHCs, including UPHC Mangrol Road, UPHC Vaishali Nagar, and UPHC Malviya Nagar, also reach 100 percent completion rates in certain categories. However, when compared to other certified UPHCs, UPHC Malviya Nagar performs relatively poorly on the NCD thematic criteria.

One of the most critical aspects of this research is the UPHC infrastructure. NQAS-certified UPHCs often have a more robust infrastructure, including well-equipped clinics, testing facilities, and NCD management equipment. This allows for rapid and accurate NCD diagnosis, comprehensive therapy, and monitoring. In contrast, non-certified UPHCs may lack these resources, resulting in diagnostic delays, limited treatment options, and major gaps in patient care.

Adherence to standardized treatment techniques and guidelines is another important aspect. NQAS-certified UPHCs must adhere to evidence-based practises and stay current on the newest innovations in NCD management. As a result, patients obtain more suitable and effective therapy, resulting in better health outcomes. Non-certified UPHCs may adhere to treatment recommendations more inconsistently, potentially resulting in variations in care delivery and inferior outcomes. The expertise and training of the healthcare workers also contribute to the operation and provision of services by UPHCs. NQAS-certified UPHCs frequently have a well-trained and competent crew that has attended specialized NCD management training. As a result, they are able to provide specialized care such as lifestyle counseling, medication management, and patient education. Non-certified UPHCs, on the other hand, may lack this degree of training.

It is important to note that the comparative analysis between NQAS-certified and non-certified UPHCs in Rajasthan under the NCD thematic area has its limitations. The analysis may not account for other thematic areas and other contextual factors, such as geographical location, population density, or socioeconomic conditions, which can influence the functioning and service delivery of healthcare facilities. Additionally, the availability and accessibility of certified UPHCs in different regions of Rajasthan may vary, potentially leading to disparities in healthcare services for NCDs. In conclusion, the comparative analysis highlights the significant advantages of NQAS-certified UPHCs in the functioning and service delivery for NCDs in Rajasthan. The certification process ensures better infrastructure, adherence to treatment guidelines, well-trained staff, and patient-centric approaches which can be seen from the above results. To meet the population's healthcare needs, efforts should be undertaken to increase the certification and enhancement of UPHCs throughout the state, ensuring fair access to high-quality healthcare services for people living with NCDs.

7. RECOMMENDATIONS

1. UPHC Bapu Nagar, Bhilwara: Bapu Nagar underperforms in quality management and outcomes, there is a need to improve on the documentation aspect and implementation in accordance with SOPs, this can be done by providing necessary training and conducting regular monitoring and assessment regarding the updating of facility information to the portal.
2. UPHC Barkat Nagar: There is an overall improvement needed as this UPHC performs in an average manner under all the areas. There is a need to focus on providing adequate infrastructure, HR training, equipments and diagnostics, documentation, and quality management. Better infrastructure and facilities helps in rapid and more accurate NCD diagnosis, treatment and monitoring.
3. UPHC Chomu: It is underperforming specifically in the areas of infection control, quality management and outcome. We can see that adequate training and awareness to the staff in term of hand washing and asepsis technique and providing necessary equipments to and HR to perform Bio-medical waste management. Standardized Treatment Protocols help in ensuring that they have easy access to and efficiently apply standardized treatment protocols and guidelines for NCD management. This entails updating guidelines on a regular basis based on new evidence and developing best practices. Collaboration of the non-certified UPHC with certified UPHC based on the distance between these facilities can also facilitate the exchange of best practices and knowledge-sharing among healthcare providers, strengthening the overall healthcare system. This results in peer-to-peer education and motivation. This can be done to improve the delivery at Chomu by engaging with nearby certified UPHCs.
4. UPHC Sakatpura Kota: This UPHC scored nil in the quality management and control area and underperforms inputs area, as said above there is a need to upgrade the facilities and conduct necessary

training about the guidelines. There is a need to provide adequate resources to enhance service delivery.

5. UPHC Ranpur Kota: Underperforms in the areas of infection control, quality management and outcome. There is a need to provide trainings for the HR regarding asepsis, inducting them about the ways of documentation according to the guidelines. Encourage UPHC to establish mechanisms for regular patient follow-up and continuity of care, facilitating long-term management and monitoring of NCDs

6. CONCLUSION

Several observations may be made after conducting a comparison analysis of NQAS-certified and non-certified Urban Primary Health Centres (UPHCs) in Rajasthan regarding the functioning and service delivery for noncommunicable diseases (NCDs) under the NCD theme area.

The NQAS accreditation programme is designed to assure quality standards in healthcare institutions, namely in infrastructure, service delivery, and patient care. When the operation and service delivery of UPHCs for NCDs in Rajasthan are evaluated, it is clear that NQAS-certified UPHCs have significant advantages over non-certified UPHCs.

For starters, NQAS-certified UPHCs have improved infrastructure, such as well-equipped clinics, testing facilities, and specific NCD-related equipment. This infrastructure enables more accurate diagnosis and complete treatment of NCDs, hence improving overall care quality.

Second, NQAS-certified UPHCs adhere to standardised treatment protocols and criteria at a higher level. The accreditation procedure guarantees that these facilities adhere to evidence-based practices and are up to current on the latest advances in NCD management. As a result, individuals with NCDs receive more effective and efficient care, leading to improved health outcomes.

Third, NQAS-certified UPHCs frequently feature a well-trained and competent team, including doctors, nurses, and support workers who have received specialised NCD management training. This knowledge enables them to give specialised care, provide lifestyle counselling, and more efficiently monitor patients' progress. Non-certified UPHCs, on the other hand, may lack this level of training and knowledge, thus compromising service delivery quality.

Finally, NQAS-certified UPHCs display more patient-centered approaches, focusing on patient education, awareness, and engagement in NCD management. These clinics frequently have comprehensive procedures in place for patient follow-up, continuity of care, and treatment adherence monitoring. Patients who visit NQAS-certified UPHCs are more likely to receive complete treatment, which includes routine check-ups, medication management, and preventive measures.

In conclusion, the comparison research shows that NQAS-certified UPHCs in Rajasthan outperform their non-certified counterparts in terms of noncommunicable disease functioning and service delivery under the NCD theme area. The certification process promotes improved infrastructure, adherence to treatment standards, trained staff, and patient-centered approaches, all of which contribute to improved quality of care and health outcomes for people living with NCDs. It is critical to continue investing in certification and development.

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