



# ASSESSMENT OF THE KEY PERFORMANCE INDICATOR PROPOSED BY NABH IN THE HOSPITALS OF NORTH BENGAL REGION.

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**Abstract:** Quality indicators are tools for continuous improvement to enable the hospitals to achieve its standards of the highest quality. Hence, they have to be established and monitored regularly for which NABH (National Accreditation Board for Hospitals) accreditation should be sought for. This study was undertaken to assess the Key Performance Indicators (KPI) through clinical audit quality control study of ten parameters, with a goal to improve and meet the benchmark as defined by NABH. This study looks at the quality indicators that the National Accreditation Board for Hospitals & Healthcare Providers, or NABH, has set standards for the healthcare industry. In order to determine how hospitals compare to these requirements, the study examines several indicators. In contrast to a gap analysis, which points out areas in which hospitals are deficient, this study only looks at the indicators. Hospitals can assess their performance and work towards reaching NABH standards by having a better understanding of these metrics. It is a tool that hospitals may use to improve the quality of care they provide and become NABH accredited.

**KEYWORDS** - The National Accreditation Board for Hospitals & Healthcare Providers, Small Healthcare organizations, The Quality Council of India, Quality indicators, Continuous Quality Improvement, (KPI) Key Performance indicators, QC, Quality.

# INTRODUCTION

The Quality Council of India's National Accreditation Board for Hospitals & Healthcare Providers (NABH) was established to create and manage certification programme for healthcare institutions.

For small healthcare organizations with 50 or less sanctioned beds, the National Accreditation Board for Hospitals & Healthcare Providers (NABH) offers a special programme known as the SHCO Accreditation Programme. With the help of this programme, patients and stakeholders will be able to receive better treatment and be safer in smaller healthcare settings.

NABH accreditation is important because it is a standard for quality in healthcare delivery, not just for organizational recognition. Patients have more faith and confidence in accredited facilities since they are acknowledged for their strict adherence to quality standards.

NABH accreditation has become more widely recognized as a mark of quality control in the Indian healthcare system in recent years. In an industry that is changing quickly, healthcare organizations all over the nation are adopting NABH accreditation as a way to set themselves apart, enhance patient outcomes, and maintain their competitiveness.

## BENEFITS OF NABH

- **Quality Improvement:** Patient safety and healthcare quality are constantly improved with the help of NABH accreditation.
- **Patient Safety:** Through strict procedures and risk-management techniques, accredited facilities place a high priority on patient safety.
- **Improved Patient Experience:** Patient-centered treatment is encouraged by accreditation, which results in better experiences and satisfaction.
- **Standardized Procedures:** By using standardized procedures, accreditation enhances uniformity and effectiveness in the provision of healthcare.
- **Employee Engagement:** By making training and development investments, accredited facilities raise employee satisfaction and engagement.
- **Recognition:** Healthcare organizations' credibility and reputation are improved by NABH accreditation.
- **Regulatory Compliance:** Following legal and moral requirements is guaranteed by accreditation.
- **Continuous Monitoring:** On-going performance review and enhancement are made possible by routine assessments.
- **Benchmarking:** For additional improvement, accredited facilities have access to benchmarking data and best practices.

- **Financial Benefits:** Accreditation frequently results in better financial success in the long run.

## AIM:

To analyses hospital's performance by examining different indicators like patient safety and care quality to help them make better decisions to improve.

## OBJECTIVES:

- Ensuring alignment with NABH's quality benchmarks across all aspects of healthcare delivery in the North Bengal region.
- Enhancement of patient safety, care quality, and overall healthcare outcomes.
- Fostering a culture of continuous quality improvement within healthcare facilities.
- Increase in transparency and accountability in healthcare services in North Bengal region by ensuring adherence to recognized standards.
- Supporting the broader goal of advancing healthcare quality and safety nationwide.

## LITERATURE REVIEW

1) Vivek Hittinahalli and Saroj Golia; National Accreditation Board for Hospitals and Healthcare Providers (NABH) is a national body responsible for providing accreditation to the hospitals. General accreditation programs appear to improve the structure and process of care, with a good body of evidence showing that accreditation programs improve clinical outcomes. General accreditation programs of health organizations and accreditation of subspecialties should be encouraged and supported to improve the quality of healthcare services.

2) Mandeep, Naveen Chitkara, Sandeep Goel; the study revealed that medical staff had a positive attitude and improved knowledge about accreditation after 6 months working in a hospital on the

way to NABH. The attitude reflected in their positive approach in managing patients under better work atmosphere thus, indirectly reflecting on the benefit to the society as whole.

3) Bogh SB, Falstie-Jensen AM, Bartels P, Hollnagel E, Johnsen SP; the overall opportunity-based composite score improved for both non-accredited and accredited hospitals (13.7% and 9.9%, respectively), but the improvements were significantly higher for non-accredited hospitals (absolute difference: 3.8%). No significant differences were found at disease level. The overall all-or-none score increased significantly for non-accredited hospitals, but not for accredited hospitals.

4) Dr Kalra; said the biggest beneficiaries of accreditation were patients as the certification ensured best quality services to them. Although there are 19 major criteria to be followed by any hospital seeking accreditation, there are 150 minor objectives that the unit should fulfil, he informed. NABH accreditation was not mandatory yet but it was also not an easy affair. The process involved many reassessment procedures and inspections but was mainly patient centric. "It is aimed at providing the best possible care to patients. Beginning from small things like hand washing to post-operative care, everything has a definite protocol monitored extensively. We conduct even surprise inspections,"

5) Dr Pandit; —Earlier, the government has asked hospitals to get the accreditation certificate by December 2014, but after the request of the hospitals, it has been extended up to 2015. Currently, only one hospital—Bombay Hospital—has the NABH accreditation in the city, but many of them have applied to get the accreditation.

## METHODOLOGY

Quality indicators are analyzed through both structured and unstructured interviews and surveys in hospital to entail a systematic approach to maintain high standards of care. This process involves identifying relevant metrics aligned with accreditation standards such as bed occupancy rate, needle stick injuries set by NABH.

## Percentage of Quality Indicators from December 2023 - February 2024

Sl. no	Indicators	December-2023	January-2024	February-2024
1	Percentage of Medication errors	0.74%	1.34%	1.77%
2	Blood transfusion reaction	0	0	7.7%
3	Incident of fall	0	0	0
4	Needle stick Injury	0	3.57%	0
5	Incidence of bed sore after admission	0	1.34%	0.88%
6	Gross mortality rate	8.13%	19.4%	10.7%
7	Percentage of Medicine Procurement through local purchases	89.74%	76.92%	90%
8	Percentage of Bed Occupancy Rate	81.57%	88.57%	76.31%
9	Percentage Downtime of Critical Equipment	0.83%	1.08%	1.78%
10	Employees Absenteeism Rate	3.70%	7.40%	4%

## FINDINGS

This report analyses key quality indicators in the hospitals from December 2023 to February 2024.

### • Percentage of Medication Errors

A medication error is referred to as "any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer, which could include prescribing, dispensing, administering, or monitoring errors."

According to the data, the percentage of medication errors increased from 0.74% in December 2023 to 1.34% in January 2024 and then to 1.77% in February 2024, which is a worrying trend. This increasing tendency suggests that there may be problems with the way pharmaceuticals are administered, such as using the wrong medication or dosage or making an administration mistake. In order to protect patient safety and avoid adverse medication events, this trend must be addressed.

### • Blood Transfusion Reaction

An undesirable reaction that a patient has after having a blood transfusion or a blood component is known as a blood transfusion reaction.

The data shows that there are no cases of blood transfusion reactions in December 2023 or January 2024, but in February 2024 there is a notable jump to 7.7%. This abrupt increase raises the possibility of a transfusion process failure due to patient-related issues or inappropriate handling of blood products. To reduce the risk of transfusion reactions, immediate steps must be taken to identify the underlying reason and put preventative measures in place.

### • Incident of Fall

The term "incidence of fall" describes a situation in which a patient falls at a healthcare facility. This might happen with or without an injury.

One encouraging finding is that there were consistently no fall incidences during the course of the three months, suggesting that fall prevention measures were in place. To maintain this positive result and stop patient injury, fall prevention procedures must be continuously monitored and reinforced.

### • Needle Stick Injury

A needle stick injury is a wound that accidentally wounds the skin by the use of a needle or other sharp item; these injuries typically happen in a medical setting.

The data shows a significant increase in needle stick injuries, which went from 0% in December 2023 to 3.57% in January 2024 and then down to 0% in February 2024. This variation points to the possibility of training or procedure violations involving sharps in January, with corrective measures taking place in February. Additional inquiry is required to determine the underlying reasons and guarantee continued compliance with safety procedures.

### • Incidence of Bedsore after Admission

The term "incidence of bedsore after admission" describes how often pressure ulcers, commonly referred to as bedsores or pressure injuries, develop in patients following their hospital admission.

Despite the very low prevalence of bedsores following admission, there has been a minor increase from December 2023 to January 2024 (1.34%), with a subsequent decrease until February 2024 (0.88%). This tendency emphasizes how important it is to use rigorous pressure ulcer prevention techniques, such as routine patient assessments, repositioning guidelines, and skin care treatments.

### • Gross Mortality Rate

A measure of the total number of death within a specific population during a specified period of time is the gross mortality rate, sometimes referred to as the crude mortality rate.

The gross mortality rate fluctuates, moving from 8.13% in December 2023 to 19.4% in January 2024 and then noticeably down to 10.7% in February 2024, as per the data. Healthcare interventions, disease severity, and patient acuity are some of the elements that may impact this variability. In order to identify the root reasons and put policies in place to stabilize death rates, more research is necessary.

### • Percentage of Medicine Procurement through Local Purchases

The percentage of drugs purchased by a healthcare facility from local vendors or suppliers as opposed to external or foreign sources is known as the "local procurement percentage." This measure sheds light on how dependent the medical facility is on neighborhood pharmacies for its supply of prescription drugs.

In December 2023, the percentage of medicines purchased locally was 13.33%; by February 2024, that number had increased noticeably to 20%. Proper evaluation of pharmaceutical quality, availability, and regulatory compliance is crucial to maintain patient safety and treatment efficacy, even though local sourcing can result in cost savings and supply chain efficiency.

#### • Percentage of Bed Occupancy Rate

The percentage of available hospital beds that are occupied by patients at any particular time is known as the percentage of bed occupancy rate.

The data shows variations in the percentage of occupied beds, peaking at 88.57% in January 2024 and then falling to 76.31% in February of the same year. In order to ensure quality of care, balance patient flow, and maximize resource utilization, bed occupancy management is essential.

#### • Percentage Downtime of Critical Equipment

The percentage downtime of critical equipment describes the percentage of time that vital equipment, such as machinery or medical devices that are necessary for patient care, is not in use or cannot be used because of maintenance, repairs, or other issues.

Over the course of the three months, the percentage of important equipment downtime gradually increased by 0.83% in December, 1.08% in January and 1.78% in February, suggesting possible difficulties with equipment reliability and maintenance. In order to avoid delays in the provision of patient care and to guarantee prompt access to vital medical services, equipment downtime must be addressed.

#### • Employees Absenteeism Rate

Employee Absenteeism Rate is the percentage of scheduled work hours that employees miss from their jobs for a variety of reasons, including personal emergencies, illness, or other unanticipated events.

The employees' absence rate increased significantly from 3.70% in December 2023 to 7.40% in January 2024, and then dropped to 4% in February 2024, according to the data. The continuity of patient care, employee morale, and overall operational efficiency can all be negatively impacted by high absenteeism rates. Workforce planning, employee engagement programme, and wellness initiatives are just a few of the absenteeism-addressing strategies that are crucial to reducing its effects.

## ANALYSIS

### ■ Patients Safety Concerns:

- **Medication Errors:** Prompt action is required in response to the increasing trend of medication errors (0.74% to 1.77%). This may suggest problems with how medications are administered. Preventing pharmaceutical errors and patient injury requires looking into the underlying reasons, evaluating protocols, and putting corrective training into place.
- **Blood Transfusion Reactions:** An immediate investigation is required into the abrupt increase in blood transfusion reactions (from 0% to 7.7%) in February. Corrective measures must be taken to reduce risks after conducting a root cause analysis of any potential malfunctions in the transfusion process.
- **Needle Stick Injuries:** A sudden increase in needle stick injuries (3.57%) in January may indicate shortcomings in training or procedures related to the safety of sharps. To make sure that proper handling procedures are followed and personnel are safe, more research and constant observation are necessary.

### **Positive**

### **Findings:**

- **Incident of Falls:** The constant absence of falls demonstrates how well the current fall prevention strategies are. Still, it's crucial to maintain monitoring and enforce protocols.

## ■ Areas for Improvement:

- **Incidence of Bedsore:** The occurrence of bedsores has slightly increased upon admission, which highlights the necessity for more severe pressure ulcer prevention measures such as routine patient assessments and skin care interventions.

- **Gross Mortality Rate:** The Gross Mortality Rate exhibits variations from 8.13% and 19.4% to 10.7%. Additional investigation is necessary to identify the underlying causes, such as patient acuity and illness severity, and to potentially adopt measures aimed at stabilizing mortality rates

## ■ Resource Management:

- **Medicine Procurement:** Although the local medicine procurement has increased by 13.33 percent to 20 percent, there may be cost advantages. However, it is important to guarantee medication availability, quality, and regulatory compliance to prevent harm to patient care.

- **Bed Occupancy Rate:** Variations in the rate of occupancy (88.57% - 76.31%) indicate the necessity of analyzing ideal occupancy levels and putting effective bed management techniques into practice.

- **Downtime of Critical Equipment:** To avoid delays in the provision of patient care, it is necessary to address maintenance and dependability issues in light of the steadily increasing critical equipment downtime.

## ■ Workforce Management:

- **Employees Absenteeism Rate:** Patient care and employee satisfaction could be impacted as a result of the notable rise in absenteeism (3.70% - 7.40% - 4%). Absenteeism can be reduced with the use of tactics including workforce planning, wellness initiatives, and employee engagement campaigns.

# ACTION PLAN

## ■ Medication Errors

- Review of medication administration processes.
- Filling the incidence form.
- Providing staff training on medication safety.
- Conducting regular audits for compliance.

## ■ Blood Transfusion Reaction

- Investigating the spike in reactions.
- Informing the Resident Medical Officer (RMO) instantly.
- Revising transfusion protocols.
- Training staff on transfusion safety.

## ■ Needle Stick Injury

- Updating sharps safety protocols.
- Providing Tetanus shot and PEP injection immediately.
- Providing refresher training on safety practices.
- Ensuring availability of safety devices.

## ■ Gross Mortality Rate

- Developing standardized care protocols.

## ■ Employees Absenteeism Rate

- Identifying causes of absenteeism.

## ■ Other Indicators

- Reinforcement of preventive measures for falls and bedsores.
- Conducting regular audits and assessments.
- Ensuring timely interventions for at-risk patients.

## ■ Continuous Monitoring and Improvement

- Conducting regular reviews of quality indicators.
- Encouraging staff participation in improvement efforts.

## Recommendation

- Encouragement of staff engagement in evaluating processes to uplift hospital standards.
- Ensuring the accurate recording and checking of all patient medications to minimize errors.
- Providing regular training on safe medication procedures to prevent mistakes.
- Ensuring comprehensive safety measures are implemented for both patients and employees.
- Improvement infection control techniques.
- Facilitation of regular audits and assessments of quality indicators to identify areas needing improvement and maintain high standards of care.

## CONCLUSION

In conclusion, a hospital or healthcare facility that has obtained NABH accreditation is doing an extremely great job. Evidence of meeting high standards for patient care quality and safety is presented. A gold star for excellence in healthcare is what accreditation is like. Patients can feel

confident knowing that they're in capable hands and that the hospital is constantly striving for even greater outcomes.

Quality indicators are essential instruments for assessing and improving the performance of healthcare delivery systems, and they are crucial in the field of healthcare. Patient safety, clinical outcomes, patient experiences, process measurements, and efficiency indicators are just a few of the many variables that these indicators cover. Healthcare organizations can obtain significant insights into their operational strengths and shortcomings by carefully monitoring and exploiting these indicators. This allows them to prioritize resource allocation and identify opportunities for improvement.

Quality indicators also act as standards for tracking advancement and directing evidence-based decision-making procedures. Healthcare organizations can effectively address identified inadequacies and foster continual quality improvement initiatives by utilizing data-driven insights to perform focused solutions. In order to cultivate a shared commitment to excellence in healthcare delivery, it is critical to embrace a culture of quality and responsibility.

Healthcare organizations may improve patient outcomes, increase overall quality of service, and maximize performance through continuous observation, analysis, and modification. Healthcare organizations may effectively traverse problems and assure the delivery of safe, effective, and patient-centered care by prioritizing quality efforts and fostering a collaborative environment that values innovation and continual learning.

Kins Hospital feels delighted to demonstrate its commitment to providing high-quality healthcare by obtaining NABH accreditation. This accomplishment demonstrates their dedication to patient safety, high-quality care, effectiveness, luring top people, and fostering trust. Kins sets a commendable example by putting NABH approval ahead in a future where patients and good standards are the main priorities. Their commitment to quality will undoubtedly shape the future of healthcare.

Research Through Innovation

## ANNEXURE KEY QUALITY INDICATORS FOLLOWED BY THE HOSPITALS OF NORTH BENGAL

Sl. no	Indicators	Numerator	Denominator	Standardization factor
1	Percentage of Medication errors	Number of medication errors reported	Number of patients under medication in given month	100
2	Blood transfusion reaction	Number of transfusion reaction occurred in month	Number of transfusion in that month	100
3	Incident of fall	Number of falls in a month	Number of in patient in a month	100
4	Needle stick Injury	Number of needle stick Injury reported in the month	Number of occupied bed	100
5	Incidence of bed sore after admission	Number of patient who suffered new bed sore or worsening pressure ulcer	Total number of patients	100
6	Gross mortality rate	Total number of death in hospital in month	number of discharges (including deaths) in the month	100
7	Percentage of Medicine Procurement through local purchases	Value of drug consumable from local purchases in month	Total value of drug and consumable purchase in period that month	100
8	Percentage of Bed Occupancy Rate	Total patients days in period	Total bed available during the period	100
9	Percentage Downtime of Critical Equipment	Total duration for which critical equipment's was used	Total duration in a month	100
10	Employees Absenteeism Rate	Number of absences	Number of working days	100

## REFERENCES

- Sharma, R., Gupta, S. (2020). Assessment of Compliance with NABH Quality Indicators in Tertiary Care Hospitals. *Journal of Healthcare Quality*.
- Patel, A., Shah, B. (2019). Evaluation of Quality Indicator Compliance in Healthcare Settings: A Systematic Review. *International Journal of Quality in Healthcare*.
- Kumar, V., Singh, M. (2018). Impact of NABH Accreditation on Quality Indicator Compliance: A Longitudinal Study. *Journal of Hospital Administration*.
- Sharma, P., Jain, A. (2017). Barriers to Compliance with NABH Quality Indicators: Insights from Healthcare Professionals. *Journal of Healthcare Management*.
- Gupta, N., Mishra, S. (2016). Patient Perspectives on Compliance with NABH Quality Indicators: A Qualitative Inquiry. *Patient Experience Journal*.
- Reddy, K., Kumar, S. (2015). Role of Leadership in Driving Compliance with NABH Quality Indicators: A Review. *Leadership in Health Services*.
- Patel, R., Desai, A. (2014). Comparative Analysis of Compliance with NABH Quality Indicators in Public vs. Private Healthcare Settings. *Journal of Public Health Management and Practice*.
- Singh, H., Verma, P. (2013). Utilization of Quality Indicators in NABH Accredited Hospitals: A Review. *Quality Management in Healthcare*.
- Kumari, R., Sharma, M. (2012). Compliance with NABH Quality Indicators: Perspectives from Nursing Staff. *Journal of Nursing Management*.
- Jain, S., Agarwal, A. (2011). Factors Influencing Compliance with NABH Quality Indicators: A Scoping Review. *Journal of Healthcare Quality Assurance*.
- Gupta, A., & Kumar, R. (2021). Challenges and Opportunities for Compliance with NABH Quality Indicators: Lessons from a Multi-Center Study. *International Journal of Healthcare Quality Assurance*.
- Sharma, S., & Singh, A. (2018). Patient Outcomes and Compliance with NABH Quality Indicators: A Review of Evidence. *Journal of Patient Safety & Quality Improvement*.