

**A STUDY ON GAP ANALYSIS AND IMPLEMENTATION OF NABH
STANDARDS IN THE CRITICAL DEPARMENTS (ICU)**

Dissertation Submitted to



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by

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Under the Supervision and Guidance of

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Date: 23.06.2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Tushar Chaudhary has undergone Dissertation period in **Quality department** from 24 March to 21 June. During this period, he exhibited high levels of professionalism and tremendous zest of learning.

We would like to thank his sincere effort during this period.

We wish Mr. Tushar Chaudhary all the best in his future endeavors with best wishes


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DECLARATION BY STUDENT

I hereby declare that this dissertation titled ... STUDY ON GAP ANALYSIS AND IMPLEMENTATION OF NABH STANDARDS IN THE CRITICAL DEPARMENTS (ICU) 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Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Tushar Chaudhary

(Signature) Name of Student Date

Completion Certification

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This is to certify that (Tushar Chaudhary) in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management)/MBA (Pharmaceutical Management)/MBA (Rural Management) from the IIHMR University, Jaipur has successfully completed her/his internship at (name of the organization) during March 22, 2022, to June 19, 2022.

Place: Date: 24 June 2022
of the Organization Name of the organization
Jindal Super speciality Hospital Bharatpur

Preceptor/Head

Certificate from Faculty Guide and School Dean

CERTIFICATE

This is to certify that dissertation titled STUDY ON GAP ANALYSIS AND IMPLEMENTATION OF NABH STANDARDS IN THE CRITICAL DEPARMENTS (ICU) is a record of the research work undertaken by (Tushar Chaudhary) 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 his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide Dr Mahendra kumar

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Date 25 June 2022

School Dean

Date

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ABSTRACT

Background-The first step in evaluating the available service delivery system is to conduct a gap analysis. It is a good foundation for implementing a modern management system. It can be compared to a predetermined standard (SOP). It indicates the places where the existing service system can be improved. It focuses on the effectiveness of management service components. Critical-care patient treatment is resource-intensive,

with ICUs accounting for 20-25 percent of hospital costs. Quality and safety of medical care are given more importance. It also makes people suffer since it raises the rates of morbidity and mortality. Initiatives for quality improvement (QI) in the ICU have been found to enhance outcomes and cut costs by reducing Nosocomial infections. The study will assist in identifying the gaps between the SOPs and the current practices and will help to bridge operational and clinical process gaps in the ICU in order to improve overall efficiency and quality of care.

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1 INTRODUCTION

Jindal super specialty Hospital was established on **2nd July 2008 by Dr. P. R. Jindal**, it is First corporate hospital in Bharatpur (Rajasthan) Division. This Hospital is 100 bedded, multispecialty hospital with the most effective resident doctors, nursing staff, paramedics, and administrative support personnel, as well as the best pool of highly skilled and experienced doctors to always provide consultation and treatment to patients. Intensive care units, operating rooms, diagnostic services, blood banks, and pharmacies are just a few of the amenities we provide. The hospital is furnished with cutting-edge infrastructure and medical tools, such as CT scanners and X-ray machines.

Jindal hospital, Bharatpur accredited hospital with accreditations by JCI (Joint Commission International) And Getting excellence level in NABH (National accreditation board of hospital) as well. The specialties offered are-

Clinical Services-

1. General medicine
2. General surgery including laparoscopic surgery
3. Orthopedics including joint replacement
4. Obstetrics and gynecology including high risk obs.
5. Pediatrics' including surgeries
6. Neonatology
7. Cardiology with Cath-lab
8. Emergency medicine
9. Anesthesiology
10. Critical care
11. Ent
12. Urology
13. Neurosurgery
14. NICU
15. Plastic surgery
16. Dental
17. Physiotherapy
18. Dermatology

19. Gastroenterology
20. Nephrology with dialysis
21. Ophthalmology
22. Medical oncology

The first stage of a review of a service delivery system is to identify any gaps. A contemporary management system can be put in place on top of this solid foundation. Based on established Standard Operating Procedures, it can be evaluated. It shows where the current system of providing services can be improved. It emphasises the management services' components and their efficacy.

ICU spending accounts for 20–25 percent of hospital budgets and requires a lot of resources to care for critically ill patients. Because health care is so expensive and there is a risk of harm, there is a growing emphasis on the quality and safety of medical care. Due to the increased morbidity and death that arises from poor quality care, it is expensive and causes human suffering.

The ICU is physically situated in a different portion of the hospital, it routinely does business in the emergency room, hospital ward, and follow-up clinic. An intensive care unit (ICU) at level 1 can provide oxygen, non-invasive monitoring, and more extensive nurse care in comparison to a ward. For a brief length of time, a level 2 ICU can provide invasive monitoring and minimal life support. A level 3 ICU offers complete medical attention.

Because nurses are the primary consumers of the expensive and high-priced materials and equipment used in intensive care units (ICUs), understanding ICU nurses' perspectives on resource management helps to improve ICU inventory control. The hospital supply chain needs to be improved if resources are to be managed efficiently. It is also essential to undertake training sessions to increase the nurses' knowledge of efficient supply chains and the storage of the stock items in the units.

An essential component of patient care is quality orientation. In the current competitive context, best care at the institutional level is not regarded as sufficient. It needs to be observable, esteeming, and comparable. To evaluate the appropriateness and efficacy of medical care, whole quality management is consequently crucial. It is possible to identify the scope of improvement by analysing the quality of the services provided, the outcomes of interventions and treatments, unwanted outcomes, and other processes related to

management and treatment. These goals can be accomplished with the aid of quality indicators. Transparency and customer emphasis in healthcare are growing. The standard of care and its price should be disclosed to patients and their family members.

The Indian Society of Critical Care Medicine (ISCCM) took the initiative to develop quality indicators for ICUs in 2008 during a meeting of its executive body. These indicators would allow India's intensive care units to assess their performance level and compare it to national data.

All operations that result in intended changes in quality are collectively referred to as quality improvement (QI). Quality indicators rise gradually because of an efficient QI system. Therefore, it becomes crucial in an intensive care unit to verify that quality control methods are being followed according to protocol (ICU).

As a result, any flaws in the quality control method and indications must be constantly observed.

By bridging gaps in operational and clinical processes in the ICU, this study will assist in identifying the discrepancies between the SOPs and the current practises and will improve the overall effectiveness and standard of care there.

1.1 PROBLEM STATEMENT

The inventory management, housekeeping, laundry and linen, patient care, infection control procedures, and quality control standards are all inefficient in the ICU of AHI.

1.2 RESEARCH QUESTIONS:

1. In the intensive care unit, what are the typical operating procedures?
2. What is the ICU's level of adherence to SOPs?
3. What are the gaps between the ICU's standard operating procedure (SOPS) and present practises?

1.3 OBJECTIVES:

1. To assess AHI's standard operating procedure in terms of inventory, laundry and linen, training and HR, cleaning, and quality control in the ICU.
2. Creating a checklist to assess whether the ICU is following standard operating procedures.

3. To find the discrepancies between the ICU's current practises and its standard operating procedures (SOPs).

1.4 OPERATIONAL DEFINATION

1. To develop the management literature states that gap analysis compares actual performance to When an organisation isn't utilising its resources and processes to their full potential or planned performance. Lack of investment in capital or technology could result in a company producing or performing below its potential.

The following areas will get attention:

- ICU infection prevention
- Management of inventories
- Controlling quality
- Handling laundry and linens
- Routine maintenance
- Quality assurance techniques
- Care for patients (clinical)

2 REVIEWS OF LITERATURE

Table 2.1: Review of Literature

Sr No	Title	Authors	Description
1	Transitional care in ICU	Suchana Roy Bhowmik	As patients move between one location and another, or between different levels of care within the same facility, transitional care is defined as a collection of measures taken to guarantee coordination and continuity of treatment. For people with complex care needs, transitional care is crucial. This includes both the sending and receiving sides of the transfer. According to a study by Goldfarb and Rowan from 2000. Only 44% of these patients, compared to over 80% of patients, were fully prepared for the transfer, according to the staff's estimation from the study.

3 METHODOLOGIES

3.1 Study design

Observational and descriptive study

3.2 Setting

ICU-1 (3rd floor) & NICU (2nd floor) Jindal multi-speciality hospital Bharatpur Rajasthan.

This study is an observational one, hence data collection was done in that way.

3.3 Collection of Onsite Data

Interview the most important parties, including the nurses, ward boys, and ICU patients.

Pay attention to and assess the procedures and regulations in place.

Created a check list based on SOPs and discovered tracked activities based on the checklist.

Key trends, triggers, possible gaps, and recognised issues can all be found through process analysis.

Plans of action for the found gaps were created.

- Preparation of an executive summary for the gap analysis presentation; overviews of the roles and responsibilities of each stakeholder; and recommendations for next steps.

An Excel data sheet will be created each day to check for compliance with SOPs as part of the data.

Analysis procedure

- CAPA is performed for trend analysis, which is monitored periodically.
- Microsoft Excel for data analysis.

4 RESULTS

According to the observations obtained after using the checklist for 2.5 months. -

Data were calculated during a 70-day period, and the observations were divided into three categories.

- 1) Infection control
- 2) Clinical

3) Operational

Table- 4.1 Cases (Non- compliance) observed as per the checklist-

Checklist compliance	No of observed cases	Total days
Infection control	59	70
Clinical	210	70
Operational	324	70

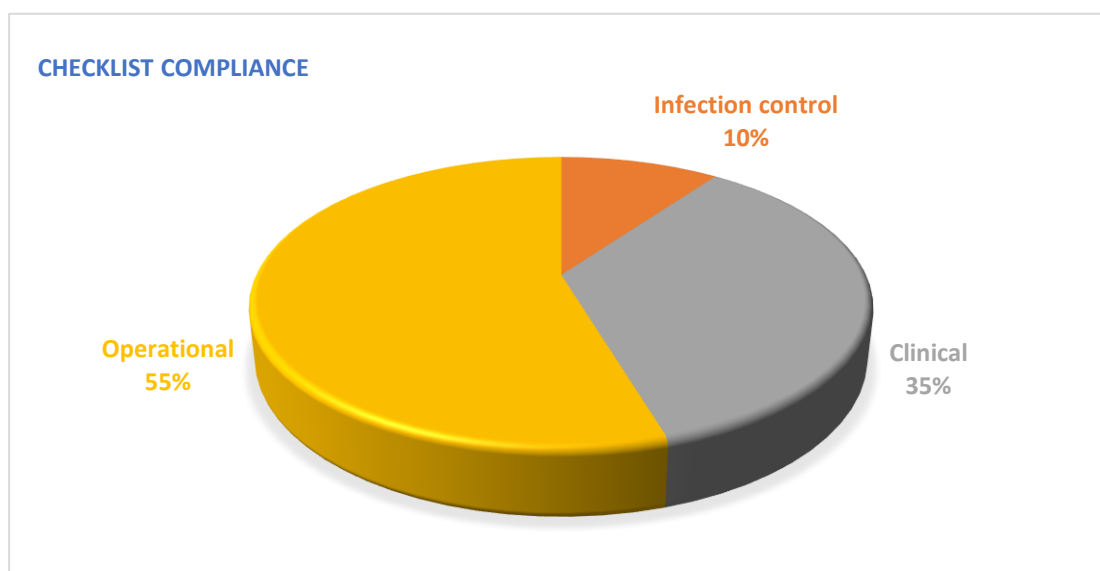


Figure 4.1: Graphical representation of Non-Compliance as per checklist

A summary of each stakeholder's roles, responsibilities, gaps, and next steps has been developed for the gap analysis presentation.

- An Excel data sheet will be prepared as part of the data analysis procedure.

Data was compiled over a period of 70 days, and the observations were divided into three categories: clinical, operational, and infection control.

The operational department had the highest non-compliance rates (55%) followed by clinical (35%) and infection control (10 percent)

Conclusion: After these observational findings, the gaps between ideal (sops) and present procedures were discovered. Best practises from around the world were then chosen for Jindal Super-Multi Speciality Hospital in Bharatpur based on the noncompliance found.

Table 4.2 Number of cases (non- compliance) observed in infection control department

Infection control	
Needle Prick Injury	2
Proper disposal of sharps	7
Fumigation	2
Isolation protocol	8
Labelling of Hazardous Material	4
Spill Management	3
BMW Segregation inadequate	15
Housekeeping Department (Cleaning not proper)	18

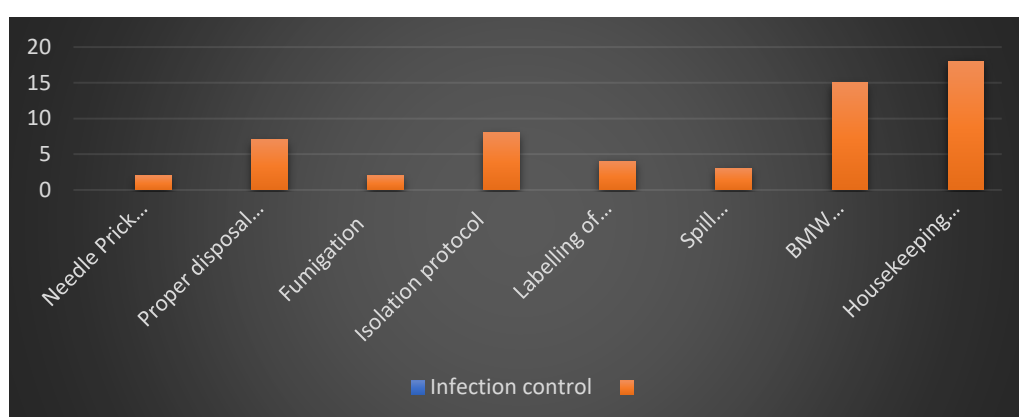


Figure 4.2: Graphical representation of Non-Compliance in Infection Control Department

From Table 4.2 and Figure 4.2 It is evident that adherence to housekeeping and BMW segregation was not up to mark in the ICU.

Table 4.3 Number of cases (non-compliance) observed in clinical processes

Clinical	
Initial Assessment & Re-assessment maintained	46
Verbal Order maintained	9
Spirometry not done	24
Transfer/discharge summary not prepared	12
Counseling of relatives not done	18

Patient care not given	41
Documentation error	32
Antibiotic form not filled	13
Narcotic double lock and stock register maintained	8
No tracking quality indicators	7

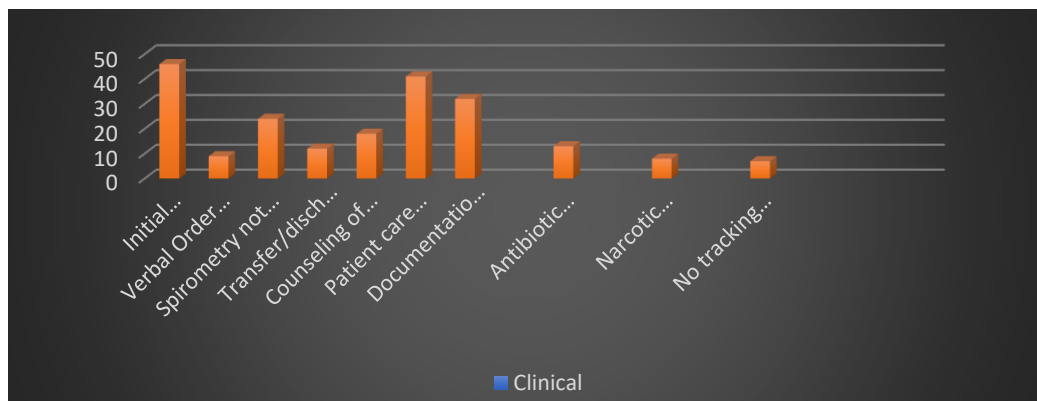


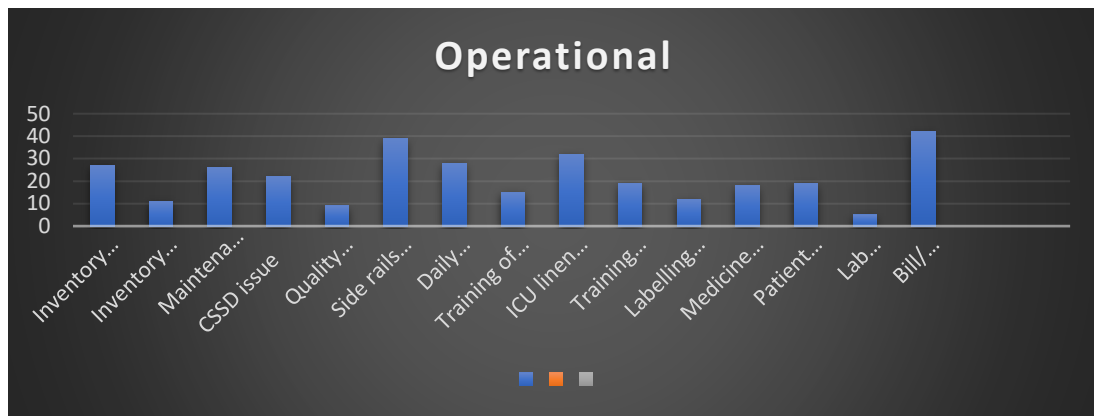
Figure 4.3: Graphical representation of Non-Compliance in Clinical Processes

From Table 4.3 and Figure 4.3 It is evident that adherence to patient care and initial assessment and Reassessment was not up to mark in the ICU. Found much NC in documentation error too.

Table 4.4 Number of cases (non-compliance) observed in Operational processes

Operational

Inventory from store issue	2 7
Inventory from pharmacy issue	1 1
Maintenance of ICU critical instrument not proper	2 6
CSSD issue	2 2
Quality indicator record file	9
Side rails and belt used for patient	3 9
Daily evaluation of nurses not done	2 8
Training of nurse's issue	1 5
ICU linen issue	3 2
Figure 4.4: Graphical representation of Non-Compliance in Operational Processes	
Training period not proper	1 9
Labelling of loaded syringe- pts name, medicine name, date of loading	1 2
Medicine in refrigerator it should have Reg no.& patient name	1 8
Patient dress not available	1 9
Lab investigation& reports wrong	5
Bill/ Patient on prescription policy	4 2



From table 4.4 and figure 4.4 It is evident that adherence to patient on prescription policy and Side rails and belt used for patient was not up to mark in the ICU. And need to work in linen issue and inventory issue.

5 RECOMMENDATIONS

Best practices for training and development programs

Implementation plan

- Impart training based on the needs. (Prioritize)
- ICU staff training program will cover about compliance according to NABH 5th standard guidelines and would also emphasise the customer services division and infection control department.
- ICU staff members have a variety of duties; thus, their training would be tailored to these needs.
- Use surveys and skill evaluations to determine the training modules' and programmes' success.
- In the absence of any certification nurses and other trainee want to work in the ICU they should have under supervision in the Nursing superintendent.

House keeping

Implementation plan

- The ICU would maintain a daily checklist for housekeeping procedures.
- High-touch surfaces and their regular cleaning would receive constant attention and reminders.
- Both the ICU nurse and the housekeeping supervisor would be evaluating the housekeeping personnel in regard to standards for cleaning and disposal of segregation waste, hand hygiene, and hand washing practises.

CSSD

Implementation plan

- For run CSSD staff should have mandatory certificate.
- To prevent any situations of understocking or overstocking, CSSD employees and ICU staff would collaborate to maintain effective communication.

Clinical Gaps

Implementation plan

- A general induction should be held for a week for new doctors and nurses so they can understand the sops of the ICU as well as the quality indicators that followed through the quality and infection control department.
- Constant warning and reminder should be giving to the nurse to fill the documentation in proper way and medical record of the are well maintained on time.
- Only immediate family members should be informed of the patient's admittance to the ICU and their condition within a minimum of two hours after the admission. When a patient dies, this will be beneficial.
- Nurse should check crash tray and update buffer stock time to time to avoid delay in medication.
- Haemodialysis should be measure frequently.
- A committed full-time assistance nurse should be present to support the designated staff.
- If patient enter in the ICU Dr should attend the patient instantly If patient have serious condition call the specialist or surgeon related to the patient disease.
- Transfer summary should be prepared by the doctor for helping smooth discharge of patient from the ward.

6 ANNEXURE-1

Table 6.1: GAPS Identified in ICU

Sr. No	Process	SOP'S	<u>C</u>	<u>NC</u>	GAP IDENTIFIED
1					
(a)	Instrument inventory Management	Head of department places a written request. Department raises PR . Indent in the system. Bio medical Er keeps track of the instruments that have been issued.	C		
(b)	Maintenance of equipment's (Ventilator, bedside monitor, defibrillator, syringe pump ECG.	In terms of equipment, it is maintained by the biomedical engineering department. The nursing team needs to keep an eye out for due dates as well as instruments.		NC	Protocol is not being followed
(c)	Charging policy	The ICU staff use supplies from the bulk stock, but they must also list those supplies on the consumables page.	C		
(d)	Daily inventory must be Check	The use of linens should be continuously observed.		NC	Miss communication between ICU and CSSD department

Table 6.1 continued

2)	Training and HR				
(a)	Training content and duration of training period	General induction, interdepartmental training calendar, for a refresher training 8 hours per month.		NC	Proper time frame and content were using as per the NABH 4 th standard not as per the NABH 5 TH Standard. And absence of staff for training sessions.
(b)	Adequacy of training	Training need analysis (TNA) should be done according to feedback of ICU in charge and Hod of the department.	C		
(c)	Evaluation	Continues daily evaluation and monthly should be done.	C		
3)	Infection control				
(a)	BMW Segregation	Containers that are color-coded according to BMW regulations. General garbage is in black, while cotton, human tissue, organs, and dressings are in yellow. Gloves, masks, caps, catheters, and		NC	Lack of awareness regarding BMW Segregation guidelines.

Table 6.1 continued

		sharp needle containers are all coloured red.			
(b)	Types of material used	Sodium hypochlorite solution used for floor cleaning, bacillol for equipment cleaning.	C		
(c)	Management of Spill	According to the protocol for spill management.		NC	The housekeeping crew isn't properly trained to handle spills.
4)	Quality control				
(a)	Documentation error	Proper documentation of all the processes.		NC	Protocol was not followed
(b)	Hand washing and hygiene practice	According to IC protocol, hand hygiene should be practised for 5 seconds and 7 steps at a time.		NC	WHO 7 steps of hand washing not followed by all department staff. Some housekeeping staff don't know about the steps.
(c)	Medication error	No of medication chart with error and % of medication chart with error, Number and % age of adverse drug reaction.	C		
(d)	Mortality/morbidity	Standardised mortality ratio in ICU. Actual death in ICU and predicted death in ICU	C		

Table 6.1 continued

(c)	Medication error	No of medication chart with error and % of medication chart with error, Number and % age of adverse drug reaction.	C		
(d)	Mortality/morbidity	Standardised mortality ratio in ICU. Actual death in ICU and predicted death in ICU	C		
(e)	Bed sores	No of incident of bed sores. It should be done by nursing.	C		
(f)	Blood transfusion adverse reaction.	Tracking of no of transfusion reaction and number of units transfused. % Of transfusion reactions.	C		
(g)	Nurse handover/ Dr handover	Total number of handovers by nurse& total number of handovers done appropriately by doctors.	C		
(h)	ICU Shifting within 24 hours	Transferring a patient to the intensive care unit	C		

Table 6.1 continued

		should be monitored by the nursing staff.			
(I)	LOS	It should be done to monitor and track LOS; however, the protocol does not describe it.		NC	Additionally, it is an important ICU quality indicator.

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