

Internship Training

at

**Venkateshwar Hospital**

**Dwarka**

**Comparative analysis of the emergency response in the pre and during Covid-19 times  
in Emergency Department of a Multi-Speciality Hospital**

by

**Col Manoj Sharma**

**PG/19/042**

Under the guidance of

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**Post Graduate Diploma in Hospital and Health Management**

**2019-21**



**International Institute of Health Management Research**

**New Delhi**

The certificate is awarded to

**Col Manoj Sharma**

in recognition of having successfully completed his  
Internship in the department of

**Emergency Department of Venkateshwar Hospital  
Dwarka**

and has successfully completed his Project on

**Comparative analysis of the emergency response in the pre and during Covid-19 times  
in Emergency Department of a Multi-Speciality Hospital**

**Date -**

**Organization - Venkateshwar Hospital, Dwarka**

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

We wish him all the best for future endeavors.

  
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**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that **Col Manoj Sharma**, student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone internship training at **Venkateshwar Hospital, Dwarka** from Apr 2021 to Jun 2021.

**Col Manoj Sharma**, has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfilment of the course requirements.

I wish him all success in all his future endeavors.

Ms. Divya Aggarwal  
Associate Dean, Academic and Student Affairs  
IIHMR, New Delhi

Dr. Nitish Dogra  
Associate Professor,  
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I am also grateful to all the department heads and staffs; without their active co-operation the study would not have been completed.

**Col Manoj Sharma**

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## Certificate of Approval

The following dissertation titled “**Comparative analysis of the emergency response in the pre and during Covid-19 times in Emergency Department of a Multi-Speciality Hospital**” at **Venkateshwar Hospital, Dwarka** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a pre-requisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

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**Certificate from Dissertation Advisory Committee**

This is to certify that **Col Manoj Sharma**, a graduate student of the **PGDM (Hospital & Health Management)** has worked under our guidance and supervision. He is submitting this dissertation titled **“Comparative analysis of the emergency response in the pre and during Covid-19 times in Emergency Department of a Multi-Speciality Hospital”** at **Venkateshwar Hospital, Dwarka** in partial fulfilment of the requirements for the award of the **PGDM (Hospital & Health Management)**.

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

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and submitted by Col Manoj Sharma

Enrollment No. PG/19/042 under the supervision of my mentor Dr. Nitish Dogra, Associate Professor for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from Apr 2021 to Jun 2021 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Signature

## FEEDBACK FORM

**Name of the Student:** Col Manoj Sharma

**Dissertation Organisation:** Venkateshwar Hospital, Dwarka

**Area of Dissertation:** Comparative analysis of the emergency response in the pre and during Covid-19 times in Emergency Department of a Multi-Speciality Hospital

**Attendance:** Adequate

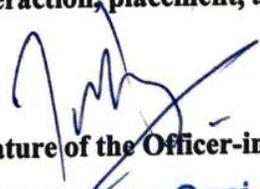
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### **List of Abbreviations**

**NABH:** NATIONAL ACCREDITATION BOARD FOR HOSPITALS &  
HEALTHCARE PROVIDERS

**NABL:** NATIONAL ACCREDITATION BOARD FOR TESTING AND  
CALIBRATION LABORATORIES

**FMS:** FACILITY MANAGEMENT AND SAFETY

**AAC:** ACCESS, ASSESSMENT AND CONTINUITY OF CARE

**COP:** CARE OF PATIENTS

**MOM:** MANAGEMENT OF MEDICATION

**HIC:** HOSPITAL INFECTION CONTROL

**ED:** EMERGENCY DEPARTMENT

**MLC:** MEDICO LEGAL CASES

**SOP:** STANDARD OPERATING PROCEDURES

**PPE:** PERSONAL PROTECTIVE EQUIPMENT

**TQM:** TOTAL QUALITY MANAGEMENT

**QCI:** QUALITY COUNCIL OF INDIA

**HOD:** HEAD OF DEPARTMENT

**ER:** EMERGENCY ROOM

# Section 1

## Organizational Profile

### Venkateshwar Hospital, Dwarka



## **Chapter 1- Organization Profile**

1.1 Venkateshwar Hospital, Dwarka was established by Venkateshwara Group in 2016. It is a provincial hospital that excels in the treatment of the large Dwarka community and also cares for patients around the world. It has modern equipment and uses Information Technology to the limit. Health care workers have built an effective team that provides the best possible treatment for patients. Services provided by the hospital include: -

- (a) Cardio-Thoracic and Vascular Surgery.
- (b) Dental.
- (c) Gastroenterology and Hepatology.
- (d) Gastrointestinal.
- (e) Minor Surgery Access and transplantation of the liver.
- (f) Interventional Cardiology.
- (g) Medical Oncology & Bone Marrow Transplant.
- (h) Neurology and Pediatric Neurology.
- (i) Neurosurgery, Orthopedics & Joint Restoration.
- (j) Pulmonology & Sleep Medicine.
- (k) Radiation Oncology.
- (l) Surgery and Gynae Oncology and Nephrology.
- (m) Urology & Kidney Transplant.

(n) The 24 \* 7 services offered are Emergency Services, Imaging Services, Pharmacy Services, Laboratory Services, Patients Services and Blood Bank Services.

1.2 **Vision.** To position themselves in the lead role on the global healthcare map.

1.3 **Mission.** To achieve global excellence in healthcare with evidence based ethical clinical practices by the team of highly skilled professionals by using cutting edge technology.

1.4 **Values of Venkateshwar Hospital.**

- (a) Ethical healthcare.
- (b) Commitment to quality.
- (c) Respect for individual.
- (d) Trust.
- (e) Integrity.
- (f) Compassion.
- (g) Equality.
- (h) Innovation.
- (i) Social responsibility.
- (j) Human dignity.
- (k) Excellence.

(l) Transparency.

1.5 Venkateshwar Hospital is a Multi-Specialty Hospital which has the following capabilities :-

(a) 14 Centre of Excellence.

(b) 34 Specialties.

(c) 325 Beds.

(d) 100 ICU Beds.

(e) 10 Modular OTs.

(f) 24x7 Pharmacy.

(g) 24x7 Blood Bank.

(h) 24x7 Emergency Trauma Centre.

## **Section 2**

### **Dissertation Report**

**Comparative Analysis of The Emergency Response in The**

**Pre And During Covid-19 Times in Emergency**

**Department of a Multi-Speciality Hospital**

## **Chapter 2- Emergency Department in Multi-Specialty Hospital**

### **Introduction**

2.1 **Hospital** is a place which is meant for the diagnosis of disease; treatment of patient; while their stay in the hospital, and during recovery from the injury or the disease. The modern hospitals also have the capacity to serve as investigating laboratories and teaching hubs. With times, the hospitals have become a place where large number of community needs are taken care off. There is improved outpatient facilities, as well as emergency, psychiatric, and rehabilitation services. The modern day healthcare organizations have become specialized centers which provide ambulatory care and day surgery. It is essential to maintain a very high standard of care to ensure faster recovery of the patients and for that it is desirable to monitor and maintain quality of highest standards. It is therefore important that the healthcare organizations continuously carryout audits of their infrastructure and processes to maintain superior outcomes which ensures better care of the patients coming to the hospitals.

2.2 Medical examination is one of the audit methods used by health care providers. It focuses mainly on the analysis of available data and hospital acquisition. The research was conducted to understand the strengths and limitations of the system in order to improve patient care and efficiency of health care workers. ‘Clinical evaluation is a systematic, critical and quantitative measure compared to explicit, quality standards of current treatment, including procedures used for diagnosis and treatment, utilization of resources, and the outcome and quality of patient health to improve the quality of patient care. (definition adapted from the Department of Health (1989) Patient Work, Worksheet 6, command 555,

London: HMSO). The need to conduct an audit to understand the quality of services the health care organization provides to patients and wishes to improve them to better patient care.

2.3 The main objectives of carrying out an audit are :-

- (a) To understand the loopholes in the system.
- (b) Carryout comparison of the past performance with the present status.
- (c) Know the strength of organization.
- (d) Identify the area of concerns and points of diversions.
- (e) Provide continuous feedback for quality improvement.

2.4 Quality improvement is a continuous process which needs to be regularly monitored for efficient and effective system. The main components of quality improvement are:-

- (a) **Quality Control.** It ensures that system meets the laid down specifications and live up to the expectations of the stakeholders. Quality Control needs regular testing and measurements.
- (b) **Quality Assurance.** The assurance of the quality is to comply with the laid down standards and monitoring the variations.
- (c) **Continuous Quality Improvement.** It is ensured by participative approach wherein all stakeholders understand their role and execute them in a copybook manner to improve the healthcare delivery.
- (d) **Total Quality Management.** TQM is the methodical process of minimizing errors by overcoming shortcomings. Quality management has its focus on patients and healthcare workers who diligently work towards patient satisfaction.

2.5 Various quality concerns from health providers, patients and management point of view are :-

(a) **Providers Concerns.**

- i. Follow preset practices to give care to the patients.
- ii. Adequate resources.
- iii. Satisfactory result.
- iv. It should add to development of skills and competencies.

(b) **Patient/Client Concern.**

- i. Accessibility.
- ii. Within the reach of the patient.
- iii. Immediate response and care.
- iv. Minimum wait time.
- v. Early detection and treatment.
- vi. Client management with compassion and concern.

(c) **Managements Concern.**

- i. Responsible to the community with the resources used for social care.
- ii. Ensuring public safety and preventing unsatisfactory care.
- iii. To meet the needs of the recipient and the provider and to provide affordable health care services.

2.6 Adoption is important in reducing important health interventions in many areas of quality care. When health services are to be expanded, there will be necessity for better technical quality but also better patient acceptance and focus - across ongoing care. Quality

ideas are made up of individual factors, the community connected to the health system.

Multiple various features that analyze quality of care are:

- (a) **Acceptance.** Compliance with the needs, expectations and desires of patients and their families.
- (b) **Effective Operation.** The ability to achieve significant health improvements.
- (c) **Efficiency.** Reducing the cost of health care without compromising on health development.
- (d) **Equality.** Compliance with a policy that determines the appropriate health distribution among people.
- (e) **Optimality.** The cost estimation versus the effectiveness of health care.
- (f) **Legitimacy.** Compliance with the public interest as set out in the code of conduct, regulations and laws.

2.7 Taking note of points above, in order to accomplish continuous and effective development, identification of methods and tools is a must. Method used for upgrading is important. Patient safety is of utmost importance which requires regular improvement of structures, processes and outcomes.

## 2.8 **Quality Benefits in Healthcare Organization.**

- (a) Minimization of waste.
- (b) Better team promotion rates.
- (c) Decreased misunderstandings and disputes between employees.
- (d) It works better.
- (e) Gaining patient trust.

- (f) Reduced patient complaints.
- (g) Reduced customer complaints.
- (h) Cases of rejection are reduced.
- (i) Improved care and guaranteed quality.
- (j) Reduced lead time.
- (k) Improved relationships with customers.
- (l) Reducing costs and maximizing profits.

### **Hospital Accreditation Authorities in India**

2.9 The accreditation of the hospital is “the process of external self-assessment and evaluation of external peer pressure used by health care organizations to accurately assess their level of performance in terms of established standards and to implement mechanisms for continuous improvement”. Critically, authorization is analysis, advice and improvement in the process. Similarly, problems with evidence-based medicine, quality assurance and medical ethics, and the reduction of medical error is an important part of authorization process.

### **Benefit of Accreditation**

2.10 Benefits to the patients are as follows :-

- (a) Improved health.
- (b) Better services.
- (c) Patients’rights are respected and protected.
- (d) Provide high quality care and patient satisfaction.

2.11 Gains to health providers are as given below :-

- (a) The flow of knowledge among staff is improved.

- (b) Health worker understand patients better.
- (c) The level of job satisfaction of health workers can be improved.
- (d) Remuneration on the basis of performance is provided to employees.

2.12 Benefits to the health facilities are as follows :-

- (a) Patients are more satisfied with services.
- (b) Environmental cleanliness can be achieved.
- (c) The hospital can be a well-known center.
- (d) It increases the rate of continuous development.

2.13 Benefits to other providers are as given below :-

- (a) Thirdparty test can be performed.
- (b) Access to verified details at the point of care.

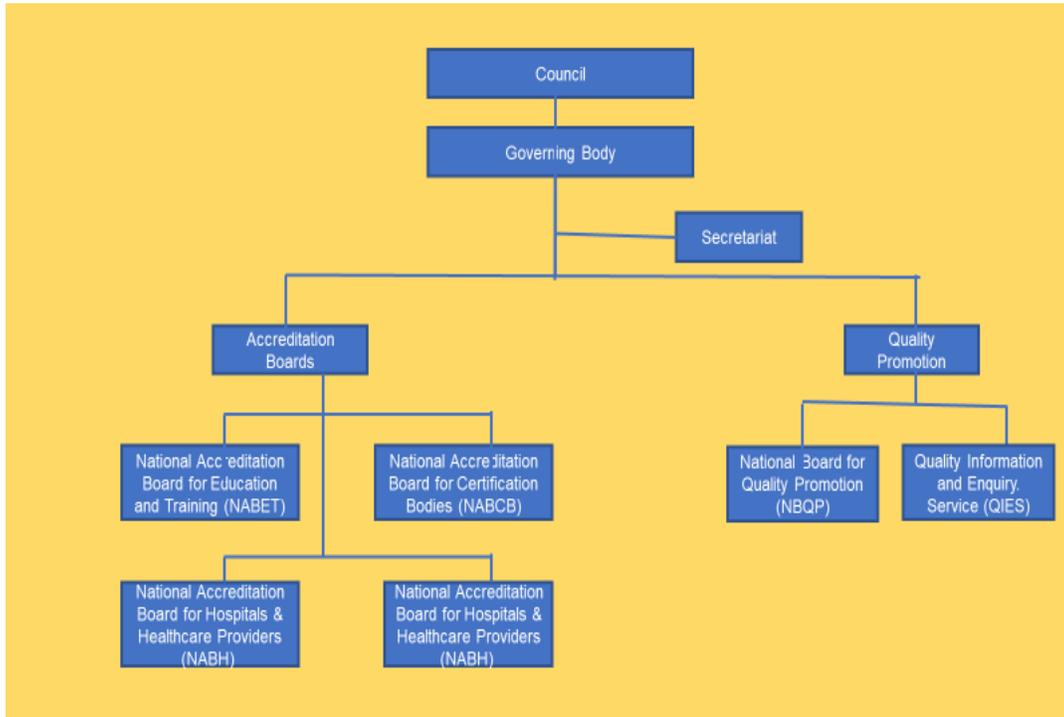
### **Quality Council of India(QCI)**

2.14 The Indian Quality Council established in 1997 by Government of India in partnership with the Indian sector, authorizing the education, health and quality development sector. QCI works for improvement of quality values by evolving planned course for improvement of quality in the country by creating an internationally accepted compliance assessment system. The QCI structure is presented in Figure-1. QCI has following accreditation boards:

- (a) National Accreditation Board for Certification Bodies (NABCB).
- (b) National Accreditation Board for Education and Training (NABET).
- (c) National Board for Quality Promotion (NBQP).
- (d) National Accreditation Board for Hospitals & Healthcare Providers (NABH).

- (e) National Accreditation Board for Testing and Calibration Laboratories (NABL).

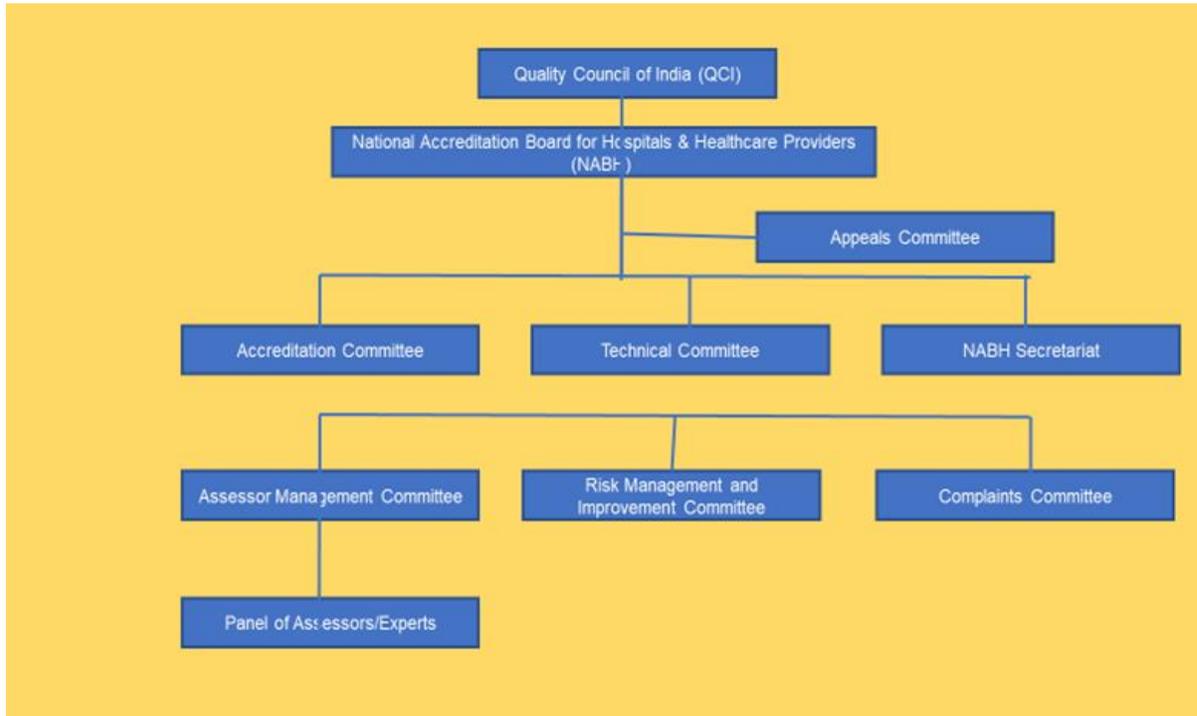
**Figure-1: Organogram of Quality Council of India**



### **National Accreditation Board for Hospitals and Healthcare Providers**

2.15 The National Accreditation Board for Hospitals & Healthcare Providers (NABH) is the governing body of the Quality Council of India, established to establish and implement accreditation systems for health organizations. NABH was established in 2006 and has its headquarters in New Delhi. The board is designed to address wants of clients and mark standards for advancement of the healthcare institutes. NABH is supported by various stakeholders including industry, consumers, government, but is independent in its operations. NABH structure is given in Figure- 2.

**Figure-2 : Organization of NABH**



**Vision**

2.16 Being the highest standard of health care accreditation and quality improvement, it operates in line with international standards.

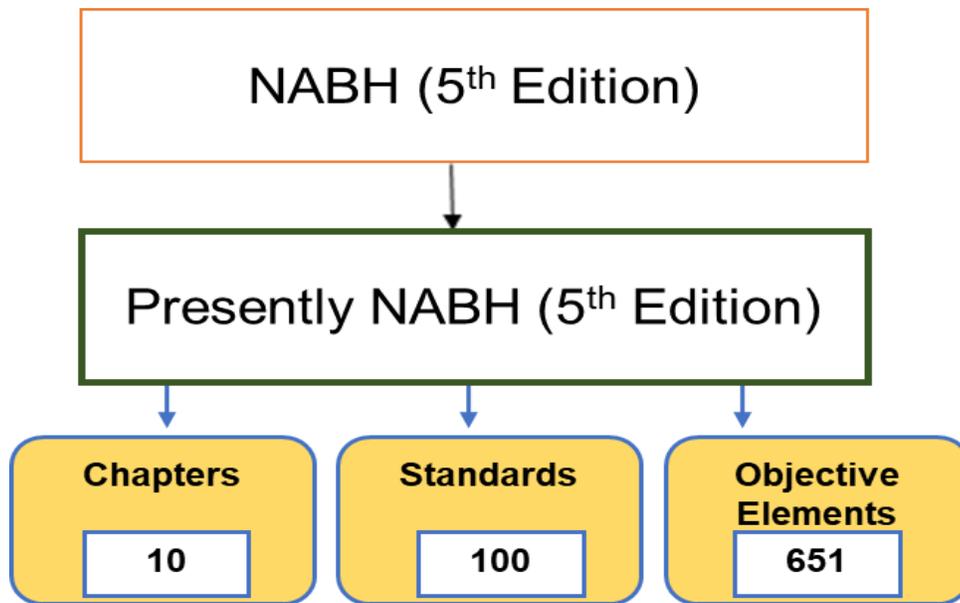
**Mission**

2.17 Conducting accreditation and co-operation programs with emphasis on safety of patients and excellence of health care built on national / international benchmarks, conducted by an external assessment and assessment process.

2.18 NABH's standards have brought about significant changes in the way health care providers have managed and managed to provide health services to patients. NABH

standards are approved by the International Society for Quality in Health Care (ISQUa). NABH standards emphasize on safety of patients and excellence of health care delivery by hospitals in a dynamic health care environment. Without explanation, the objectives always educate and guide the organization in making its activities focused on patient safety. An organization such as QCI and NABH has organized a comprehensive level of health care in its 10 categories, which continue to include 100 levels and 651 measurable items as given at Figure-3 which needs to be accomplished by health care providers for obtaining NABH accreditation. First standard edition was released in 2006 and thereafter reviewed every three years. Currently, version 5 of the NABH is in use and issued on 15 February 2020. It was approved by the International Society for Quality in Healthcare (ISQua) on 14 April 2020.

**Figure-3: Quality Standard Components of NABH**



2.19 The NABH chapters are divided between Patient Centered and Organization Centered. Details are provided below: -

(a) **Patient Centred Standards.**

- i. AAC - Access, Assessment and Continuity of Care.
- ii. COP - Care of Patients.
- iii. MOM - Management of Medication.
- iv. PRE - Patient Rights and Education.
- v. HIC - Hospital Infection Control.

(b) **Organization Centred Standards.**

- i. PSQ - Patient Safety and Quality improvement.
- ii. ROM - Responsibilities of Management.
- iii. FMS - Facility Management and Safety.
- iv. HRM - Human Resource Management.
- v. IMS - Information Management System.

**Chapter 3 - Comparative Analysis of The Emergency Response in The Pre And During  
Covid-19 Times in Emergency Department of a Multi-Speciality Hospital**

3.1 The Department of Emergency Medicine, which is a medical center, concentrates on emergency medical care, finding and treating injuries and serious illnesses that require instant medical consideration. Emergency department's job is to give patients medical aid on time as it is the way to other departments in the hospital. Level of care is reflected in the apt care provided by the hospital's emergency department which continues to build the reputation of the hospital. All patients have right to come to the emergency department to receive safe and quality care. In the meantime, if a patient receives a negative response or the procedures in ED do not work, it will create a negative image of the organization in the community that will affect income. Therefore, the operation of the system and resources in the emergency department should be normal, only then can the department work effectively.

**Venkateshwar Hospital Quality Assurance Policy**

3.2 The function of the quality frame followed by Venkateshwar Hospital complies with NABH guidelines. The quality assurance tools used for quality assurance at Venkateshwar Hospital are provided below: -

- (a) A gap tool.
- (b) In depth conversation.
- (c) Awareness.
- (d) Critical, Important and Desirable Analysis.
- (e) Photos.

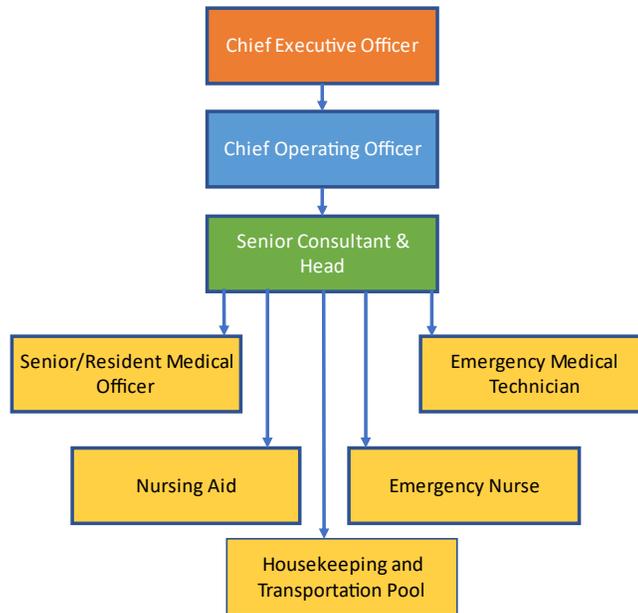
- (f) Mathematical tools.

### **Emergency Department at Venkateshwar Hospital**

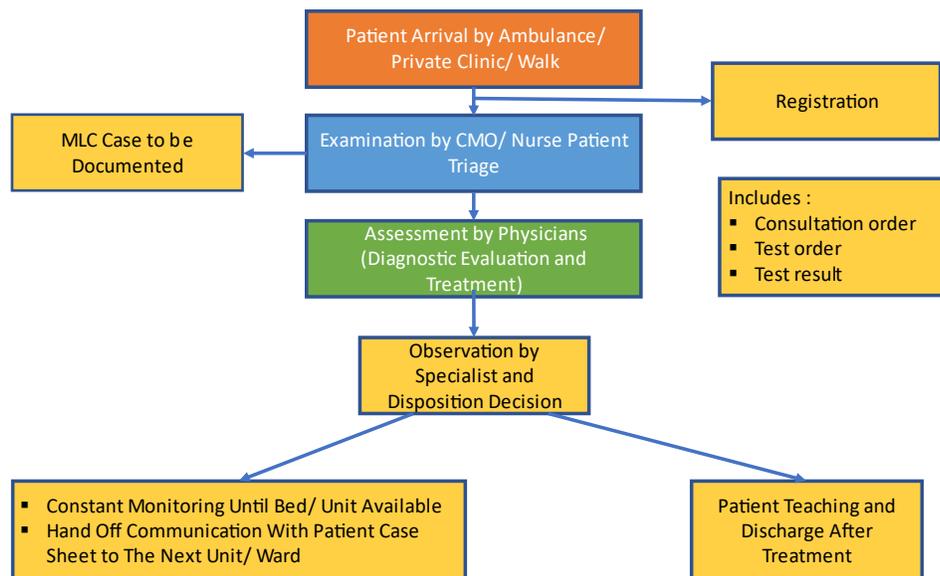
3.3 Emergency department is the most important part of any hospital which operates through the day and all through the year. It has six Triage Beds, nine Observation Beds and a Minor Procedure Room. It has highly skilled and trained Doctors, Staff & EMT. Emergency department of Venkateshwar Hospital is on the ground floor of a large hospital building. The emergency room is the most designated as the most important part of Multi-Specialty hospital. Venkateshwar Hospital Emergency Room is provided with easily accessible hospital space. According to the defined policy, all emergency responders, nurses, emergency specialists, housekeepers and nurse are led by Senior Consultant & Head as shown in Figure-4. This is adjusted in accordance with the law followed by the hospital.



**Figure-4: Manpower of Emergency Department at Venkateshwar Hospital**



**Fig. 5: Patient Flow Diagram in Emergency Department at Venkateshwar Hospital**



3.4 Figure-5 depicts sequence of action a patient undergoes when he or she arrives at the ED of Venkateshwar Hospital. On arrival of patient, screening is carried out by Triage Nurse to determine criticality of patient, and immediate medical attention is given and vitals are monitored. Simultaneously the registration of the patient is carried out by obtaining details from the attendant accompanying the patient. Medical attention is given to all. On completion of basic diagnostic test by the nurse, chief medical officer of the ED examines the patient.

3.5 Additional patient examinations are performed by the physician when undergoing tests and treatments that include the inclusion of ordered tests, tests performed and consultations provided. When the report is received, it is examined by an expert and the decision is taken for discharge or admission is recommended based on condition of the patient. Prior to the admission various approvals are taken in terms of hospital policy and a consultation with the patient case paper in the next unit / ward is made. In the event that a patient is discharged after a given treatment, patient education / training is carried out and a summary is handed over to the patient.

3.6 **Procedures in ED.** While interacting with HOD of Emergencies, following details were noted as regards the procedures conducted in ED:-

- (a) Cardio Pulmonary Rehabilitation (CPR).
- (b) Non-intravenous cannulations.
- (c) Arterial Gas Testing.
- (d) Aircraft protection methods eg, airway, Oropharyngeal or Nasopharyngeal airway etc.

- (e) Descriptive measures of wind, e.g. Quick Sequence Introduction or Crash Intubation.
- (f) Softening Process and Analgesia.
- (g) Anesthetic Block Region.
- (h) Central Closure.
- (i) Arterial Line Installation.
- (j) Texture.
- (k) Nasal packaging.
- (l) Collaborative reduction and transcription.
- (m) Abdominal cleansing.
- (n) Pleural Touching.
- (o) Ascitic stroke.
- (p) Pericardiocentesis.
- (q) Dehydration.
- (r) Injury and heat.
- (s) Intra articular injections.
- (t) The transcendent and changing heart rate.
- (u) Inserting a tube into the chest.
- (v) Abdominal Focused Abdominal Focus (FAST).

3.7 **Policy for MLCs.** Irrespective of the case in hand, patient is given medical attention on arrival and then doctor on duty notifies the ER coordinator about the MLC. Every MLC is notified to police as per hospital's policy and the following documents are made in accordance with existing standard operating procedures.

- (a) Each MLC will be notified to MRD manager and he will ensure for compliance in the event of MLC.
- (b) MLC files are marked properly and stored separately.
- (c) ER nurse will intimate safety officer about MLC case and local police will be informed. One copy each of the police report will be shared with security office, police and attached to the MLC file.
- (d) Suspected rape victim will be examined and treated by an obstetrician and gynecologist. The details will be endorsed in MLC report.
- (e) Samples, clothing etc. will be dealt with in accordance with the Forensic Evidence Policy.

3.8 **Triage of Patients : Policy.** On arrival of patients, priority of treatment is based on severity of disease and this was performed by a Triage Nurse. Patient priority policy is based on the urgency of their individual medical care needs. During CODE YELLOW, the code below is used. The screening is divided into three general categories based on the sensitivity of the patient with different color codes: -

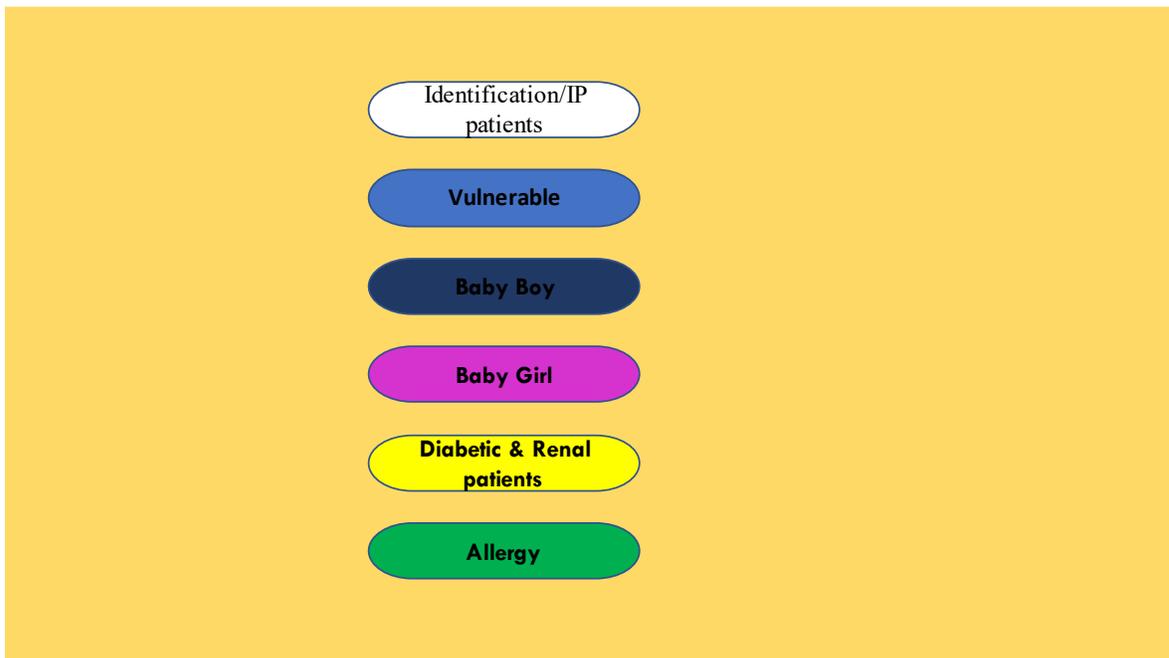
- (a) **Red – Immediate (Priority 1).** Most importantly, very urgent, life-threatening, panic or hypoxia is present or imminent, but the patient can recover and, if cared for immediately, will survive.
- (b) **Yellow – Urgent (Priority 2).** Most Important Second, Emergency, Injury has systemic effects, but the patient is not yet at risk for life-threatening or hypoxia; the patient can withstand a 45 - 60 minutes wait without the immediate risk of life.
- (c) **Green – Walking (Priority 3).** Non-Emergency Injuries, Made locally without the consequences of a rapid system; the least necessary care.

(d) **Black – Dead.** Any patient who does not respond and does not have an automatic transmission is declared dead.

3.9 The colour bands according to Figure-6 are used when the patient arrives and is examined by a triage nurse in the ED. The color codes used as mentioned below: -

- (a) Identification/IP patients – White band.
- (b) Vulnerable – Blue band.
- (c) Allergy – Green band.
- (d) Diabetic & Renal patients – Yellow band.
- (e) Baby boy – Blue band.
- (f) Baby girl – Pink band.

**Figure- 6: Colour Coded Bands Used During Triageing Process**

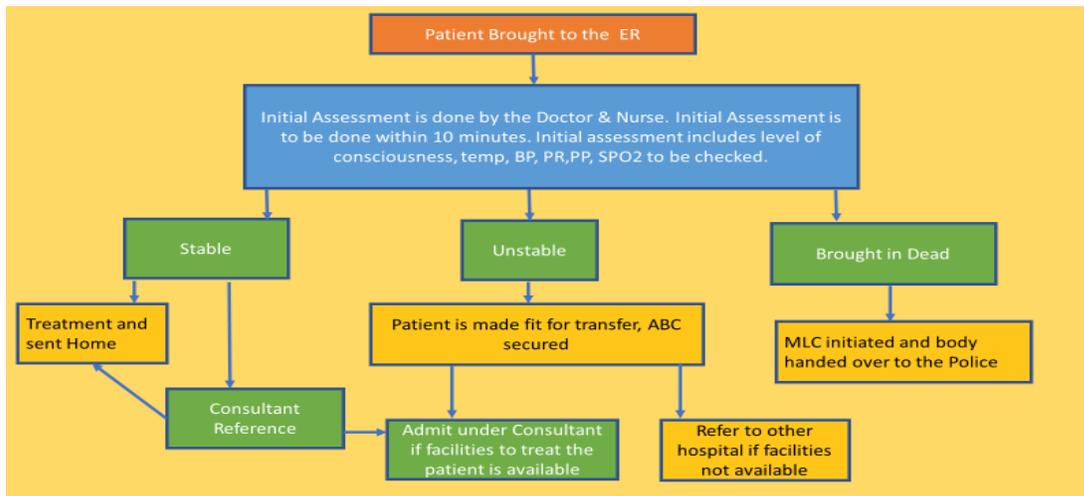


3.10 The steps to follow when a patient arrives at the emergency room are described in detail to find the appropriate treatment to reduce the risk to the patient. Based on first

examination of the patient, nurse ties a colored band on wrist of patient. Band used are listed on the chart as a hospital policy. After the band is tied, nurse will brief the patient about non removal of band. During treatment, if the band is to be taken off, nurse will take it off and new band according to the risk involved will be tied by nurse.

3.11 The various stages a patient goes through during the triage process at Venkateshwar Hospital is depicted at Figure-7. On arrival of patient at ED, diagnostic nurse conducts examination. Patient status tests are also performed by a nurse and their initial treatment and placement are decided based on tests performed. Post emergency examinations and treatment, the patient is referred to an internal hospital plan.

**Figure-7: Flow Chart of Patient Triage in Emergency Department**



3.12 **Hospital Preliminary Evaluation Policy.** The initial assessment in ED needs to be executed within ten minutes. First examination will ascertain patient's condition and determine the action to be initiated based on stability of the patient. Initial examination will

be performed by EMO who will be assisted by Nurse. Tests include having a cognitive test, heart rate, blood pressure test, temperature and RBS in case a patient has diabetes.

3.13 **Roles & Duties of an Emergency Nurse.** ER nurses need to think fast, take drastic measures, and have strong stomachs and hearts. The following is not a comprehensive list of ER nursing duties:-

- (a) Rapid patient examination.
- (b) Power reduction.
- (c) Wound care and management.
- (d) Blood draw and then IV.
- (e) Insurance papers and care coordination.
- (f) Management of allergies.
- (g) Patient response testing on intervention.
- (h) Record and report patient status.
- (i) Victim care / management.
- (j) Code care (respiratory / cardiac responses).
- (k) Drug administration and administration.
- (l) Minor surgical procedures.
- (m) Proper use of medical equipment (crash trucks, oxygen equipment, etc.).
- (n) Setup and management of transfusion.
- (o) Chart.
- (p) Coordinating and maintaining coordination.

3.14 **Initial Assessment Done by Medical Officer.** The initial examination will assist in the documentation of the care plan that will be written within 24 hours or within 24 hours depending on the patient's condition.

- (a) Presenting History is presented.
- (b) Past medical history.
- (c) Allergies.
- (d) Temperature., Blood Pressure, SPO2-, GRBS (optional).
- (e) Investigated.
- (f) Temporary diagnosis.
- (g) Treatment is provided
- (h) Course: outbound / login / transfer / directions.
- (i) Healthy food testing.
- (j) MLC has started.

3.15 **Policy for Urgent Medication in Emergency Department.** Policy for storing emergency medicine and replenishing them as soon as we use it. The process includes the following: -

- (a) All medicines in the emergency department must be available 24 hours a day.
- (b) All medicines in the emergency department will be completed daily by the occupational nurse.
- (c) With every change in turn, the on-duty nurse will inspect the crash and medical treatment to find the theft or loss.
- (d) The narcotic drugs will be kept in a box with double locks and keys, and will be under the supervision of a nursing superintendent.

- (e) Narcotic drugs will only be released at the signed request of the consultant.
- (f) When the crash truck is opened, it will be notified to the pharmacy and will be filled and locked within 10 minutes.
- (g) ER status will be assessed for each job change by an on-duty nurse.
- (h) Any mechanical malfunction will be reported to the presiding nurse and medical engineer and a complaint will be raised.

3.16 **Records Maintained in ED.**

- (a) Healthcare experts from different specialties.
- (b) MLC register
- (c) Patient register (IPD & OPD).
- (d) Patient case files.
- (e) Drug Inventory Register.
- (f) Controlled Drugs and Psychotropic Drugs Inventory.
- (g) Alcohol Drug Register.
- (h) Ambulance Register.
- (i) Asset register (CSSD, medicine, large inventory, crash truck, ambulance).
- (j) Register of patient culture.
- (k) MRD register.

3.17 **Forms and Formats Maintained in Emergency Department.**

- (a) Emergency Testing.
- (b) Repair Sheet.
- (c) MLC form.
- (d) Death certificates.

- (e) Left against the form of medical advice.
- (f) Consent Form for Anesthesia & Surgery.
- (g) Antibiotics / drug chart.
- (h) Medical Certificates.
- (i) Demand for Blood / Blood products.
- (j) Outpatient care form.
- (k) Police contact form.
- (l) Approval of treatment and / or surgical treatment and / or procedure.
- (m) Lab application.
- (n) Radiology Application Form.
- (o) Eligibility certificates.
- (p) Sickness certificates.
- (q) Process Security Checklist.

## **Chapter 4 - Literature Review**

### **4.1 Strategies for Improving Physician Documentation in the Emergency Department – a Systematic Review.** Diane L. Lorenzetti, Hude Quan,

Jason Jiang and Cynthia A. Beck. The article basically highlights that documents doctors' records to facilitate health care decisions reduce the number of correctly left untreated and inform health system planning and sharing. Although the accuracy and completeness of patient data both supports charts, quality, and continuity of care documents, doctors often have different perspectives on timely, legibility, clarity, and completeness of information. And this large number of educational, training and other methods was carried out in an environment, how much this intervention can improve the quality of documents, in emergency departments (EDS), is not known.

**4.2 An Analytical Study on Medical Waste Management in Hospitals.** Acharya and Singh Meeta. Hospital medical waste must be collected by cleaners that selected medical waste from all different departments, and can be transported manually to a temporary storage location, where hospital waste that was held before giving up, was at the disposal site, where a lot of time, total waste will be mixed with medical waste. Listed measures for the safe management of biomedical waste, treatment of their destruction, mutilation, disinfection, storage, transportation and disposal. Furthermore, it was found a lack of training, including waste, and additional personnel, which causes the mixture that is collected in infectious and non-communicable waste to be mixed and, therefore, the strategy for this, after all, failed.

**4.3 Improving Emergency Department Patient Flow.** Emergency Department, Calderdale & Huddersfield NHS Foundation Trust, West Yorkshire, UK. A literature review by Paul Richard Edwin Jarvis to find evidence-based strategies patients who spend on ED to

improve patient flow and reduce congestion in ED. Emergency Departments (ED) face important challenges in providing quality and timely medical care to patients amid an ever-growing number of patients, and limited hospital resources. A literature review was conducted to identify evidence-based strategies, reduce the amount of time spent by ED patients to improve patient flow, and reduce crowding in ED patients. The use of triage, doctors, rapid assessment, video streaming, and primary care physician cohabitation, ED, has been shown to improve patient flow. In addition, they are effective, it is indicated that the test at the place of medical care reduces the patient's time of stay ED.

4.4 **Effect of Interruption on Triage Effect in Emergency Department.**In the article the results of the Interruption of Photography in the Department of Emergencies, Kimberly D. Johnson, PhD, RN, CEN, Gordon L. Gillespie, i PhD, DNP, RN, CEN, CNE, CPEN, and Kimberly Vance, MSN, RN, NE-B. 130 million people that were looking for an ambulance in the United States experienced incomplete or incorrect triage examinations can lead to the fact that occurred in your hands that the patient's treatment results. The goal of this study was to determine what certain delays were in sorting and how certain disruptions affected the sorting process. A significant difference was the difference in sorting time between interrupted and uptime. Understanding the impact of impairment as a result of patient treatment will allow nurses and other health professionals to develop measures to reduce these outcomes.

4.5 **Patient Flow in the Emergency Department: Phase III— after Disposition Decision through Departure.** In this article, Mary C. Magee, MSN, RN, CPHQ, CPPS Senior Patient Safety/Quality Analyst Pennsylvania Patient Safety Authority said it was very important to ensure the well-being of patients in the hospital emergency department

as it was a question of life and death for them. In emergency department patients (ED), the time between state decision and departure from ED (e.g., Phase III) usually consists of waiting for orders to issue or complete inpatient orders, relocation, or transfer to next level of care (e.g., bedside). of patients, place of procedure). Many tests have been completed, emergency care has been provided, and state decisions have been made, and patients are waiting for that decision to be taken. For caregivers, the primary function in phase III is to care for and monitor the patient until he or she leaves ED in the form of discharge, referral, or admission.

#### 4.6 **Reorganising The Emergency Department to Manage The COVID-19**

**Outbreak**. This paper highlights the challenges facing health care organizations and the steps taken by the hospital for higher education providers. The patient travels through the reception area in the ED and is tested for fever before being transported to isolated areas within the ED. The management and placement of suspected COVID-19 patients is guided by a close collaboration between the ED and the Department of Infectious Diseases. With a growing number of patients, plans have been made to back up space and increase staffing. Employee safety is also paramount, with the provision and guidelines of defense equipment and team segregation to ensure that no pollution falls on employees. This was done through a pre-set of operational mandate and control structure within the ED, power management, asset management, operations, communication and information management and liaison with other clinical departments. The reorganization of the manuscripts was generally poor. Changing the traditional written procedure with information technology may improve security in the treatment process.

## **Chapter - 5**

5.1 The aim of the dissertation was to conduct a comparative analysis of emergency response before and during Covid-19 times at a Multi-Specialty Hospital in Delhi and to assess deviations from emergency department procedures and make recommendations for improved delivery of quality in service and satisfaction of patient.

### 5.2 **Research Questions.**

- (a) What procedures have been evolved to ensure quality in hospital in accordance with NABH standards?
- (b) What resources are currently available to assist and hinder the level of quality building and procedures in the emergency department?
- (c) How and what changes have been made in response to the emergency department of a special hospital in pre-Covid-19 and in Covid-19 times.

5.3 **Objectives.** To conduct a comparative analysis of the emergency response time before and during Covid-19 in the Emergency Department of the Multi-Specialty Hospital in Delhi.

- (a) Understanding the flow of emergency department procedures.
- (b) Compare time frame for doing and documenting initial assessment in pre and during covid times.
- (c) Analysis of Accurate Documentation of Medication Administered during pre and during covid.
- (d) Documentation of Nursing Plan of Care during pre and during covid times.

- (e) Provide recommendations on the steps to be taken to fill gaps.

#### 5.4 **Methodology.**

- (a) **Study Design:** A descriptive and comparative study involving the emergency department of the Multi-Specialty Hospital for the Pre Covid and during Covid times.
- (b) **Setting:** Venkateshwar Hospital Emergency Department, Dwarka.
- (c) **Study Period:** Three months (Mar - May 2021).
- (d) **Sample Size:** Of the 325 patient records of the Department of Emergency Services set, 126 patient records are updated / maintained during the Pre Covid-19 period from Jan- Mar 2020 and beyond during Covid-19 from March - May 2021.
- (e) Interaction with ED healthcare staff and consultations with senior management were planned but did not take place due to the closure and severity of the second wave as hospital staff were busy providing Covid-controlled patients and treating their precious lives.
- (f) **Study Tools:** Evaluation of infrastructure and services provided by hospital staff was based on checklists.
- (g) Relevant information was recorded in data sheet.

(h) **Data Collection Process.**

- i. Quality policy review, guidelines, SOPs of Venkateshwar Hospital emergency department, NABH guidelines.
- ii. Review of hospital manuals, policies and records.
- iii. Structure and processes views.
- iv. Review of hospital information records to draw relevant explanations of the emergency department's response before and during Covid-19.

(i) **Data Analysis.** Data analysis was performed using MS Excel. Analysis for each indicator according to the following% meet the standards. All parameters in the test tool bag are tested under the following sections:-

- i. Compliance.
- ii. Partial-compliance.
- iii. Non-compliance.

5.5 Covid -19 struck the world in the last quarter of 2019 and the intensity of its severity was realized in the beginning of 2020. No country in the world was spared by this virus. Some had severe effect on their health system which was over stretched during this pandemic. India too had its share of impact when the first wave struck the country in Jun – Sep 2020. But the second wave has been very severe and has impacted our healthcare system which was already over stretched. During these pandemic like situation Emergency Department of the hospitals have responded timely and saved many lives. Venkateshwar

hospital too has very efficient team which has worked overtime to respond to the community demand of patient treatment. Emergency department is the show window of any healthcare organization. The patients arrive at these places with an assurance that they will be treated well and then go back to their families. The response time of the emergency room team is a major quality parameter measured to assess the efficiency of the hospital. Every hospital evolves certain specific protocols to treat patients arriving at their hospital. It is thus important to understand the difference in response to patients arriving at emergency department during pre -covid times and during covid times. It is to understand whether covid made an impact on the response time and what was the changed protocols for treating the patients.

5.6 In pre – covid times, all patients arriving at the emergency department were treated as per the criticality of the individual however during covid times certain new parameters/ protocols were established to ensure safety of healthcare workers as well as others arriving at emergency department for other issues about their health. Hospital evolved new code for warning the arrival of covid patient in the hospital. Venkateshwar Hospital too had its code word to alarm other patients and the healthcare team in the emergency room. The code word for it is CODE GREEN. Every hospital has evolved protocols to handle covid patients and few of them are as given below :-

- (a) Clear signage for entrance.
- (b) Separate registration for covid patients.
- (c) Availability of medical masks at registration desk.

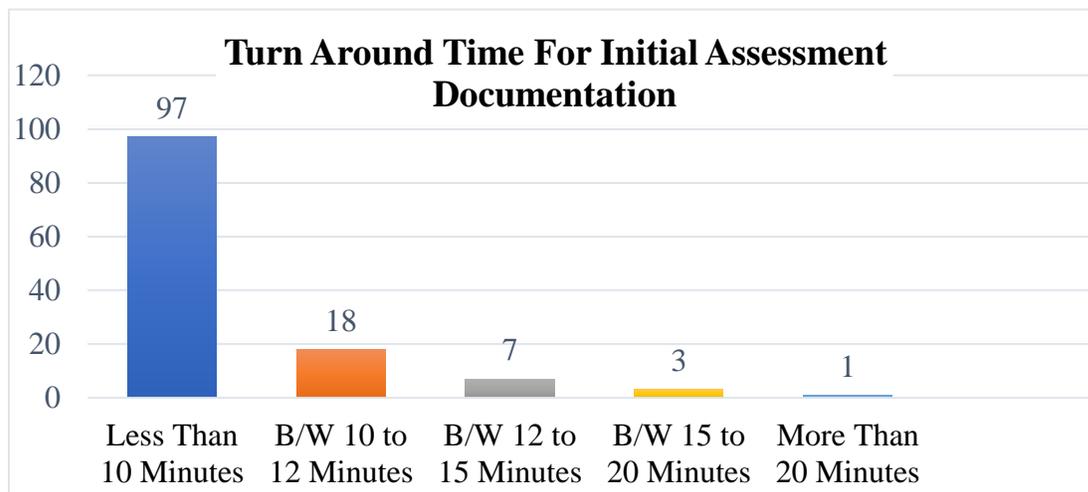
- (d) Ensure physical barriers.
- (e) Ensure availability of hand hygiene stations.
- (f) Use of PPE, mask, eye protection, gown, gloves.
- (g) Separate area for suspected covid patients.
- (h) Reduce waiting time.
- (i) Training on PPE donning and doffing steps.

## Chapter 6 - Results

6.1 An analysis of the 42 parameters from the NABH testing tool in accordance with NABH guidelines was performed to evaluate the infrastructure, process and services provided by ED. Post analysis, 126 samples were tested in which 42 parameters were checked, four parameters showed inconsistent and different correlations.

6.2 **Standard 1: Time Frame for Doing and Documenting Initial Assessment**. In the Pre-Covid Times, out of a total of 126 patient files examined, the 29-file (23%) screening form showed non-compliance which means that initial screening documents did not occur within 10 minutes according to hospital department policy and NABH guidelines. After further investigation it was found that 97 files (77%) were recorded in a typical 10 minutes period while 18 (14%) files were written between 10 and 12 minutes, 7 files (6%) recorded between 12 and 15 minutes and the remaining files took more than 15 minutes as shown in Figure-8. Delays in initial examination documents are due to staff shortages and maybe casualness over a period of time.

**Figure-8: Turn Around Percent Distribution for Initial Assessment  
Documentation in Emergency Department**



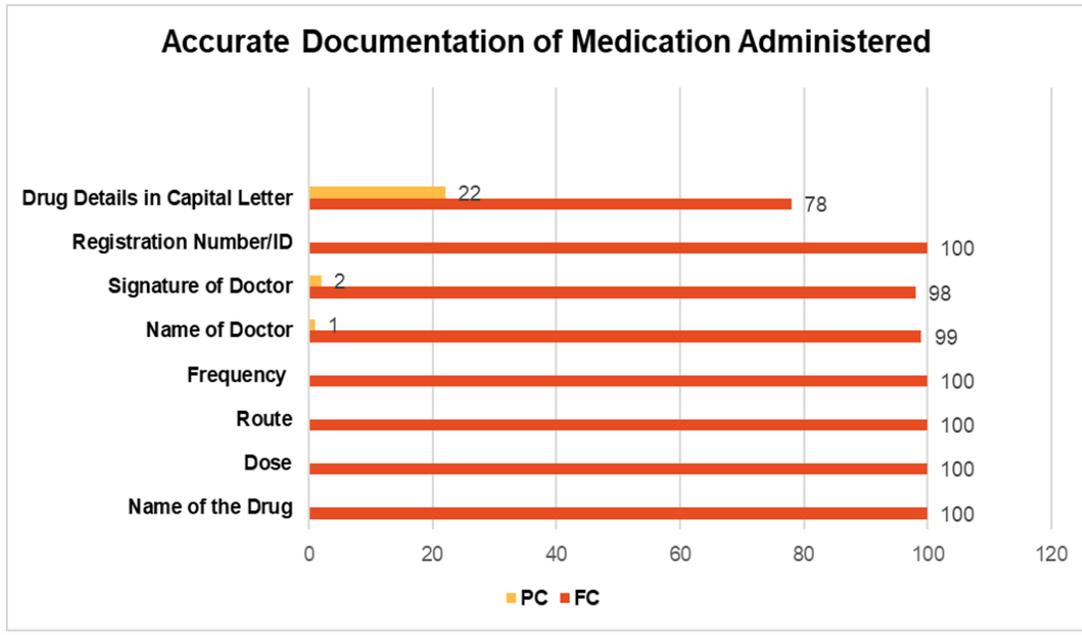
6.3 **Standard 2: Accurate Documentation of Medication Administered.** Different

features for precise documentation of medication given are:

- (a) Name of the drug administered.
- (b) Dose of the Drug.
- (c) Route of administration.
- (d) Frequency.
- (e) Name of the doctor who administered drug.
- (f) Signature of the doctor.
- (g) Registration id/number.
- (h) Documentation of drug in Capital Letter.

6.4 In a total of 126 patient files examined, it was found that the drug chart of 27 files (22%) showed partial compliance, meaning that the prescribed medication was not spelled correctly on the form because the drug name was not capitalized according to hospital policy and NABH guidelines. Similarly in 1 file (1%) showed partial compliance in giving the doctor's name and 3 files (2%) indicated a partial compliance with the doctor's signature. Figure-9 represents the compliance level for the various pharmacological markers given in the 126 tested files.

**Figure-9: Distribution of a percentage of different markers of accurate prescriptions for dispensed medicines**



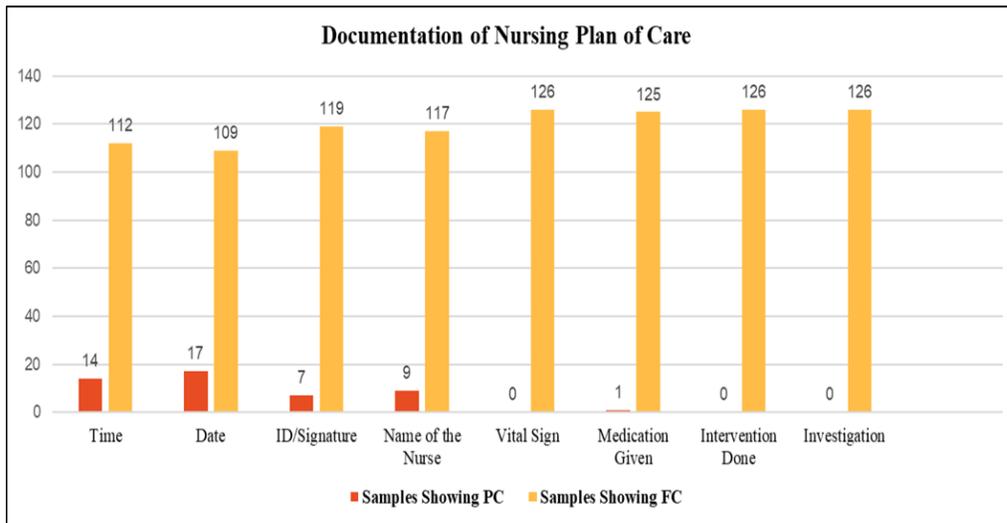
6.5 **Standard 3: Documentation of Nursing Plan of Care.** 126 patient files were surveyed, nurses' care system in 19 (17%) records was incorrect and showed non-compliance which meant that the Nursing plan documents for the care form were not completed correctly and in a few samples the time, date, ID / nurse name of the nurse was not available. hospital and NABH guidelines. The various aspects of a nursing program document are:

- (a) Time.
- (b) Date.
- (c) Name of the nurse on duty.
- (d) Signature/Registration id no. of the nurse.
- (e) Vital signs recorded.
- (f) Medication given as prescribed by doctor.

- (g) Intervention done.
- (h) Investigation.

6.6 The Figure-10 represents the compatibility level of the various nursing system documents, in which 126 files were studied, in 17 files (14%) the time, date, nurse's name on the job and signature / registration ID. of the nurse showed partial compliance compared to other qualifications.

**Figure-10 : Percent Distribution of Different Attributes for Documentation of Nursing plan care in Emergency Department**

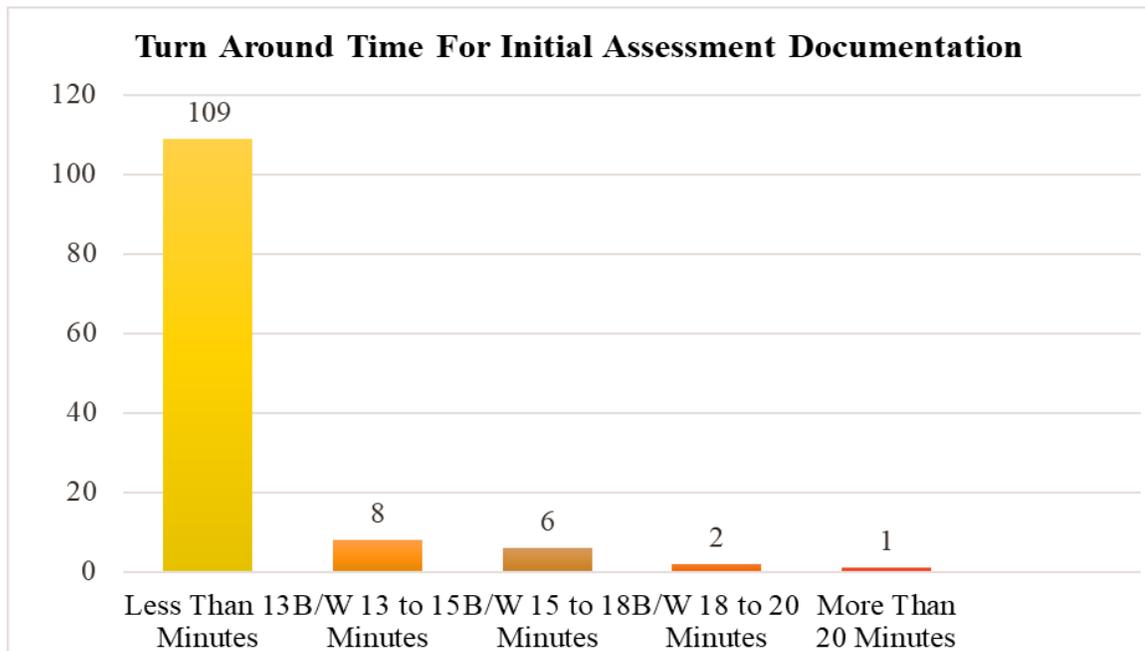


**Results During Covid-19 Times**

6.7 **Standard 1:Time Frame for Doing and Documenting Initial Assessment.** In the Covid Times, out of a total of 126 patient files examined, 9 (7%) screening form showed non-compliance which means that initial screening documents did not occur within 15 minutes according to hospital department policy as well as NABH guidelines. After further investigation it was found that 117 files (93%) were recorded in a typical 15 minute period while 6 (5%) files were written within 15 to 18 minutes, 2 (2%) files were recorded between

18 to 20 minutes and the remaining 1 file took more than 20 minutes as shown in Figure-11. Delays in initial inspection documents are due to staff shortages and the wearing of special clothing that includes Personal Protective Equipment.

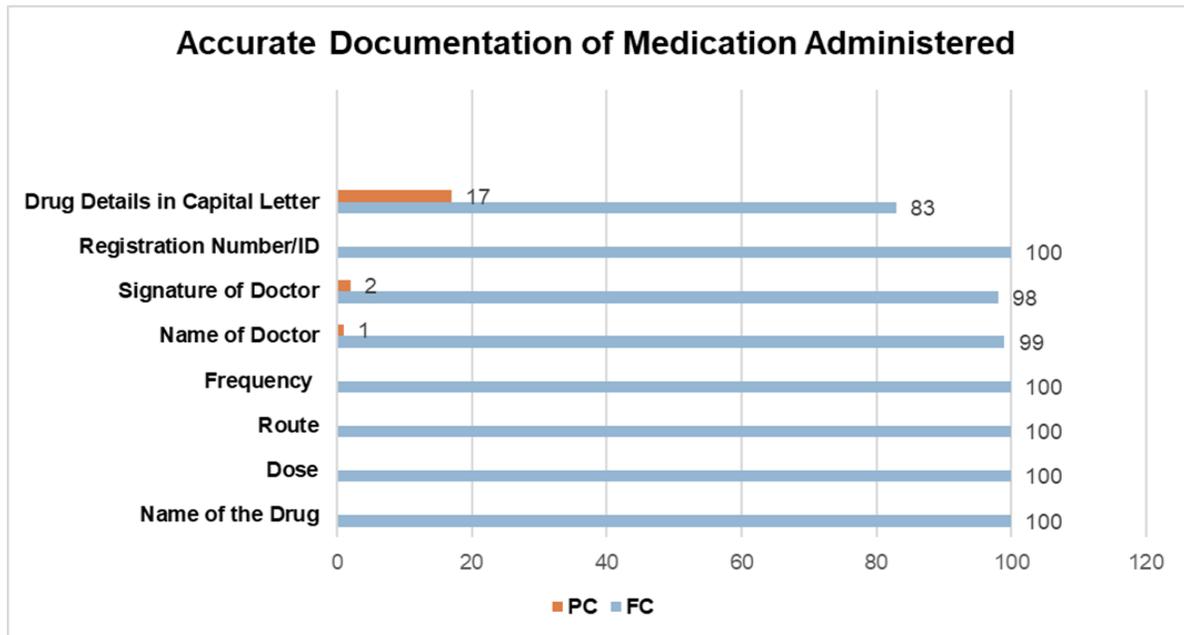
**Figure-11: Distribution of Turn Around Time Percentage in the First Examination Report to the Emergency Department During Covid-19**



6.8 **Standard 2: Accurate Documentation of Medication Administered.** In a total of 126 patient files examined, it was found that the drug chart of 23 files (17%) showed partial compliance, meaning that the drugs provided were not spelled correctly on the form because the drug name was not capitalized as hospital policy as well as NABH guidelines. Similarly 1 file (1%) showed partial compliance with the doctor's name and 3 (2%) files demonstrated partial compliance with the doctor's signature. Figure-12 represents the corresponding level of the various characteristics of the correct medical records given in the

126 files examined. It has been observed that the hospital conducts training for its staff to ensure better medication management of patients in the emergency department.

**Figure-12: Distribution of percentages of distinctive markers of accurate pharmaceutical documentation during Covid-19.**



6.9 **Standard 3: Segregation and Handling of Bio-Medical Waste.** In the 30 studies, it was found that 2 times (7%), the separation and treatment of medical waste showed partial compliance which meant that the drums were found to be overcrowded and discarded items such as swab pieces, gloves and plastic items lying on the floor next to the bins were not properly handled. in accordance with hospital policy as well as NABH guidelines. During the audit, it was found that 1 (3%) cases were handled / mismanaged and 1 (4%) was filled with barrels as shown in Figure-13.

**Figure-13: Percentage distribution of Bio-Medical waste separation and handling in Emergency Department during Covid-19**

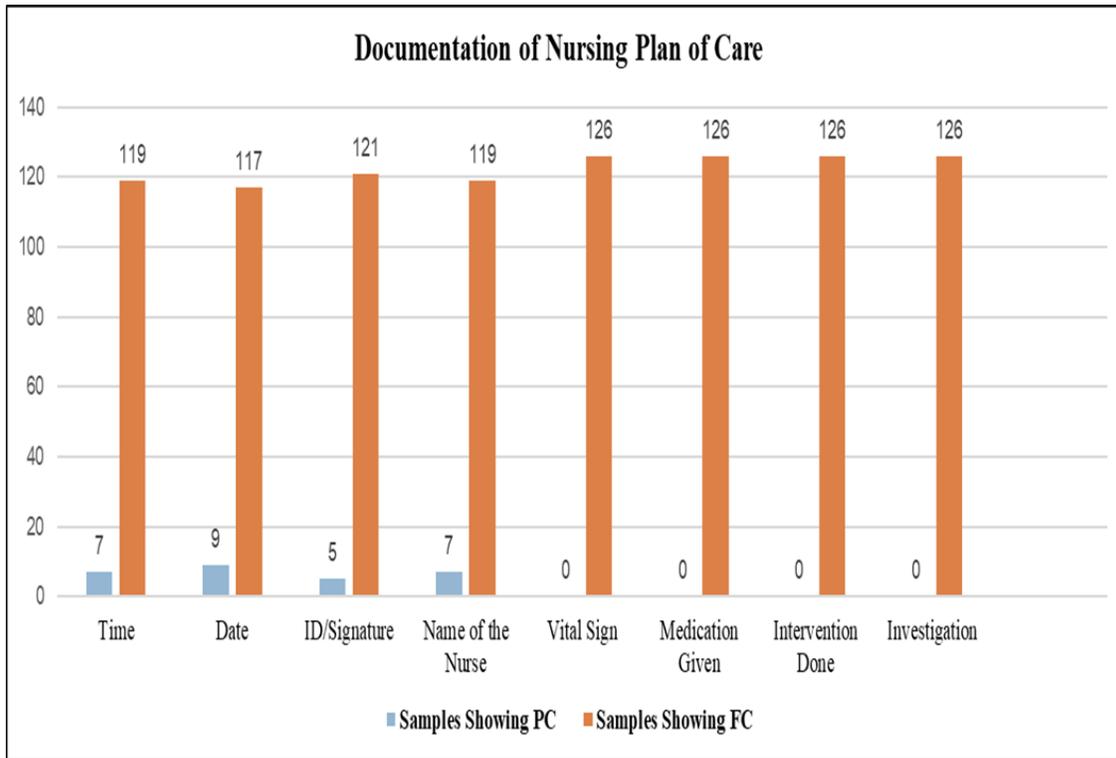


6.10 **Standard 4: Documentation of Nursing Plan of Care.** Of the 126 patient files surveyed, the nurses' care system in 19 (17%) files was incorrect and showed non-compliance which meant that the Nursing plan documents for the care form were not completed correctly and in a few samples the time, date, ID / nurse name of the nurse was not available. hospital and NABH guidelines.

6.11 The Figure-14 represents the compliance standard for the various nursing system document documents, in which 126 files were detected, of 9 (7%) attributes of time, date, nurse's name on the job and signature / registration id. of the nurse showed partial compliance compared to other qualifications.

**Figure-14: Distribution of a percentage of different nursing care in Emergency**

**Department during Covid-19**



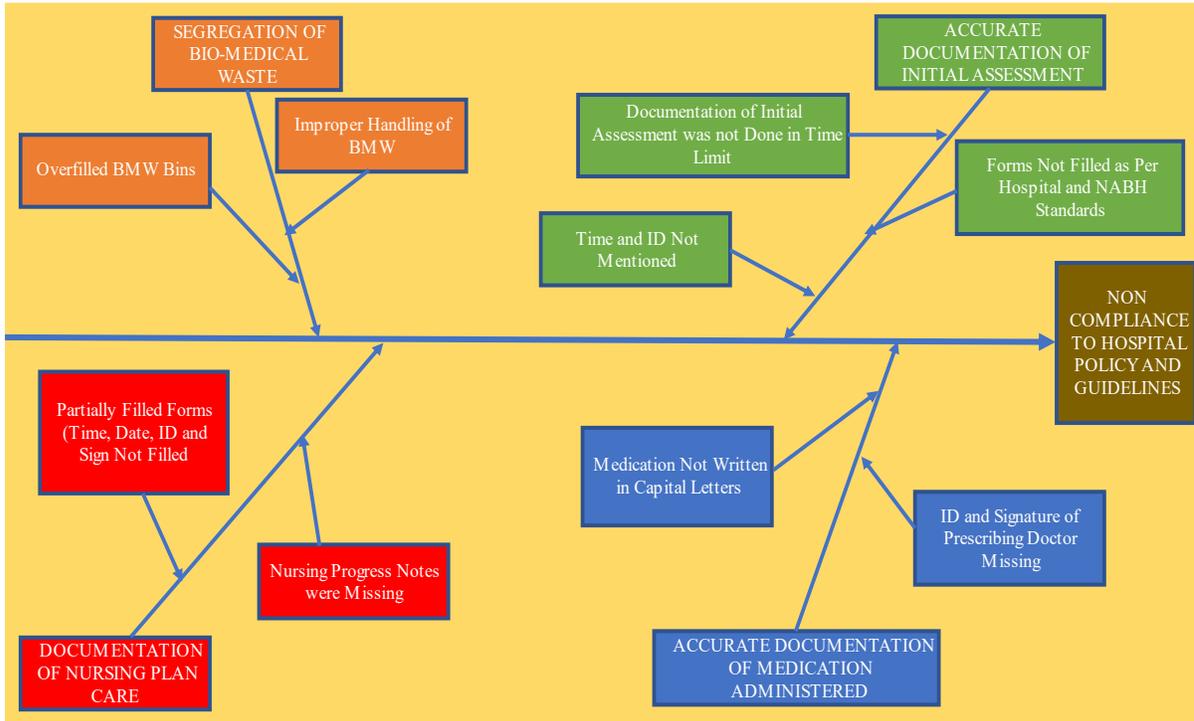
6.12 Although the Hospital Patient Procedure was in line with the NABH standard, when there is a change in shift, or someone new joining staff, or due to overcrowding it is sometimes difficult to ensure that important information is not lost in the mix. According to the Department of Emergencies, the factors that make it easier and preventative (Table 1) of the current standard of building quality standards and procedures are:

6.13 **Table 1: Enabling and Impeding Factors**

<b>Enabling Factors</b>	<b>Impeding Factors</b>
Preliminary pre-trial evaluations in terms of hospital policies	Improper management and Waste Management
Periodic patient monitoring during and after the procedure	Incomplete transcripts of the nursing care program
Adequate availability of PPE, soap and antibiotics	Managed medicines are not capitalized
Properly expressed protocols for CPR	Incomplete medical records
Safe pharmaceutical practices for changing the timely policy of initial trial	Literature were not followed
A well-planned and effective disaster management plan for the emergency department	Reports on the progress of the nursing program were not available in some cases
Well-equipped crash cart	Over filled BMW bins

6.14 Figure-15 represents a process that helps to identify a particular problem by identifying the basic reasons for a particular issue. The problem related to compliance with NABH standards in the Department of Emergencies is listed in the right-hand column of the main fish drawing. To the left runs its spine, which has bones-like bones that point to the major causes followed by the underlying causes.

**Figure-15: Fish Bone Diagram Showing Root Cause and its Effect**



**Discussion**

6.15 According to a survey, high percentage of compliance was observed at the emergency department level according to the hospital's prescribed guidelines. During the study it was found that the cause of the identified problems remained the same in most tertiary care hospitals, and according to NABH standards, 70% compliance was a good indicator of quality health care. Partial non-compliance should be considered when making changes to maintain continuous quality assurance and efficiency. Venkateshwar hospital has a well-organized system in place which ensures right triaging, documentation, faster treatment and disposal of the patient arriving at the hospital.

## **Recommendations**

6.16 The following recommendations needs considerations :-

- (i) Regular internal audit needs to be conducted to identify areas of concern.
- (j) Mock Drills to be organized to ensure correct protocols followed in letter and spirit.
- (k) Bio-medical waste is an area of concern and thus need to be regularly audited and disposal procedures needs to rehearsed.
- (l) Pandemic or epidemic stretches the resources of any healthcare organizations which needs to be factored in while planning the infrastructure, processes and the outcomes.
- (m) Training of the staff a must to brief them on patient safety, their own protection and for maintaining quality of services.

## **Conclusion**

6.17 This study reveals that the hospital's quality assurance guidelines were well documented and complied with the hospital guidelines and policies. There is a desirability to continuously monitor the quality aspects of the emergency department of the hospital to live up to the standards set by the NABH for ensuring absolute care of the patients arriving at the ED as it is the show window of all hospitals. The reflection of the treatment in the ED is the barometer for measuring the overall performance of the healthcare organization.

Venkateshwar hospital has a very efficient Emergency Department with equally competent workforce to treat the patient from his/her arrival at the reception of the ED to the triaging, treatment, and disposal of the patient.

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