

**INITIAL ASSESSMENT DELAYS IN THE EMERGENCY DEPARTMENT: A STUDY
AT NH MMI NARAYANA SUPERSPECIALITY HOSPITAL, RAIPUR**

Dissertation Submitted to



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Master of Business Administration (MBA)

in

Hospital and Health Management

by

Mansi Gupta

Under the Supervision and Guidance of

Dr. Seema Mehta

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Date: 31/05/2025

TO WHOMSOEVER IT MAY CONCERN

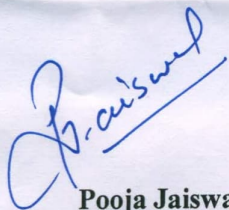
This is to certify that **Dr. Mansi Gupta** from IIHMR University, Jaipur (Rajasthan) has completed the Internship from the **Operations Department** at NH MMI Narayana Superspeciality Hospital, Dhamtari Road, Lalpur, Raipur (C.G.), from 10/03/2025 to 31/05/2025.

During the internship period, **Dr. Mansi** exhibited commendable dedication, a keen willingness to learn, and a proactive attitude in carrying out assigned responsibilities. She consistently displayed professionalism, strong work ethics, and team spirit throughout the tenure.

We especially acknowledge and appreciate her valuable insights and innovative ideas, which proved to be truly beneficial for the health and growth of our organization. The impact of her contributions will certainly continue to be felt beyond the internship period.

We extend our heartfelt thanks and wish **Dr. Mansi** all the best in her future academic and professional journey.

For, MMI Narayana Superspeciality Hospital, Raipur
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CERTIFICATE

This is to certify that dissertation titled **“Initial Assessment Delays in the Emergency Department: A Study at NH MMI Narayana Superspeciality Hospital, Raipur”** is a record of the research work undertaken by **Dr. Mansi Gupta** in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

A handwritten signature in blue ink that reads 'Seema Mehta'.

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **“Initial Assessment Delays in the Emergency Department: A Study at NH MMI Narayana Superspeciality Hospital, Raipur”** is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.


(Signature)

Dr. Mansi Gupta

Date: 12/06/25

ABSTRACT

TITLE: “Initial Assessment Delays in the Emergency Department: A Study at NH MMI Narayana Superspeciality Hospital, Raipur”

BACKGROUND:

In the Emergency Department (ED), conducting an initial assessment promptly is vital to diagnosis, triage, and management of care. Prompt assessments that fall within the protocol recommendations can also be correlated with improved patient outcomes, expedited treatment, and improved workflows. This study examined the initial assessments of practitioners and nurses at NH MMI Narayana Superspeciality Hospital in Raipur. The aim of this study was to measure the time it took for doctors and nurses to complete an initial assessment, obtain clarification for delays, and measure improvements after targeted interventions.

OBJECTIVES:

- To measure the time taken for initial assessments by doctors and nurses in the Emergency Department against the set benchmarks.
- To identify major causes of assessment delays.
- To observe the effect of suggested workflow modifications on assessment timeliness.
- To provide recommendations for improving ED assessment compliance and efficiency based on observed data and staff feedback.

METHODOLOGY:

A cross-sectional, prospective study was conducted using quantitative and qualitative data.

- Time-stamp records of 250 patient files were collected (130 baseline and 120 after observation). The benchmark compliance was measured at 15 minutes for doctor's assessments and 30 minutes for nursing assessments.
- For the questionnaire, a total of 24 ED nurses responded to a focused questionnaire regarding their challenges and perceptions regarding the timely completion of patient assessments.

KEY RESULTS:

The follow-up records showed an improvement in benchmark compliance for both groups of records. Doctor assessments had very high compliance for assessments, doctors were consistent in their adherence (81% prior to changes & 84% after changes). Nurse assessments showed a very high increase in the number of assessments completed in a timely manner (40% prior to changes & 65%

post changes). Nurses identified the most common contributors to delays as - critically ill patients in distress, pain management, and lack of system access. Nurses indicated that while they were aware of protocols, many perceived the benchmark timelines to be unrealistic given their workload, and most believed the system needed additional tools or staff resources.

KEY WORDS: Initial Assessment, Emergency Department, Compliance, Delay, Doctor assessment, Nursing assessment

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ABBREVIATIONS USED

1. IA- Initial Assessment
2. ED/ER – Emergency Department
3. EMR – Electronic Medical Records
4. TAT – Turn Around Time
5. ICU – Intensive Care Unit
6. HDU – High Dependency Unit

CHAPTER 1: INTRODUCTION

Emergency Departments (EDs) are the front door to hospitals where care is provided to patients who are considered critically ill or injured and require timely, accurate and appropriate medical care. The initial assessment (IA) which is a structured and time-constrained nurse and physician evaluation on presentation to the ED—provides information about the urgency of a patient's medical needs, existence of life-threatening conditions and advise the care pathway. Completion of the IA (whether by a nurse or physician) on time is crucial in the context of clinical decision-making, timely diagnosis and management interventions; it is also critical to achieve desirable clinical outcomes, guarantee patient safety, and optimize the delivery of emergency care. If the IA is not completed in a timely fashion, it is possible that this can lead to diagnostic errors and delays in treatment leading to a further reduction in satisfaction among patients during high volume and busy ED contexts.

The initial assessment in the ED establishes the groundwork for all subsequent care processes. The intent of the IA is to provide an organized and rapid assessment of the patient's condition when they arrive in the ED and to further determine how urgently care may be needed or prioritized, while preventing further clinical deterioration. In an emergency department, patient conditions may change without warning, and both nursing and medical staff rely on timely and accurate assessments to expedite any life-saving interventions for patients. The early documentation of vitals, chief complaints and pain assessment allows patients to acquire adequate care early based on acuity. No documentation, or delayed documentation, makes opportunities to misdiagnose or delay treatment and ultimately will lead into undesired patient outcomes.

Furthermore, the initial assessment is important for resource allocation, triage placement, initiating protocols such as trauma and sepsis alerts, as well as effective communication amongst the care team. An initial assessment can provide the nursing staff an opportunity to see what needs to be assessed or potential needs such as isolation (infection control), fall risk, or special care instructions.

This study was done to evaluate the measure of timeliness and determine the delays of the initial assessments (IA) by physician and nurses in the ED at NH MMI Narayana Superspeciality Hospital, Raipur and compliance to their institutional time standard (15 mins for doctors and 30 mins for nurses). The research will also examine some barriers that nursing staff encounter in completing timely assessments. Because a structured questionnaire was used for this segment of the study, we were able to observe common barriers in real-life settings and workflow constraints.

Purpose of the study: The overall significance of this study is how it might facilitate quality improvement. This study identifies bottlenecks from the initial assessment stage and evaluates behaviour-based interventions such as targeted reminders and documentation for vital signs, as possible solutions to improve or streamline the nursing assessment process. The end goal is to identify actionable outcomes to increase the efficiency of the nursing assessment process without jeopardizing the quality of patient care.

1.1 Objectives

- To measure the time taken for initial assessments by doctors and nurses in the Emergency Department against the set benchmarks.
- To identify major causes of assessment delays.
- To observe the effect of suggested workflow modifications on assessment timeliness.
- To provide recommendations for improving ED assessment compliance and efficiency based on observed data and staff feedback.

1.2 Triage

The triage system within the Emergency Department (ED) is an essential aspect of patient care that will determine when each patient is seen based on need. The primary importance of triage is in efficiently determining priorities of care, so that care can be prioritized for life-threatening illness or instability while equal care can be prioritized for those patients who need care less urgently.

Triage is effective in alleviating overcrowding as patient flow is considered and unnecessary delays are avoided. Triage from the outset assists in deploying finite medical resources (staff, equipment, time) where the care is most needed. Early identification of life threats by triage reduces morbidity and mortality levels.

Accurate triage will promote timely and appropriate interventions, pathways to diagnosis and treatment, and as a result, better patient outcomes. It also provides patients and families structure in anticipating their length of waiting time, to assist in setting realistic expectations. Triage also plays an especially vital role in the initial phase of disaster or mass casualty events, when a timely assessment and provider is required.

Triage Guidelines Department of Emergency Medicine				
NHMMI Narayana Multispecialty Hospital Unit of Narayana Health				
Important points to note Caveat: These are guidelines & not rules. Please use your clinical judgment during triaging & prioritization.				
- Triage should be completed in 2–3 minutes. - When in doubt, give higher priority/consult senior doctors. - Pediatric and pregnant patients are preferably given a higher priority. - Patients with abnormal vital signs should be Priority II or Priority I. - Only AVPU scale (Not GCS) should be carried out in Triage. - Pain response for AVPU scale should not be assessed in Triage, if response to verbal stimulus is negative.		AVPU Scale - The mnemonic AVPU refers to the basic scale of consciousness and identifies the following levels of consciousness: A – Patient is Awake or Alert. V – Respond to Verbal Stimulus. P – Respond to Painful stimulus. U – Unconscious and cannot be aroused by any stimulus.		
Priority - I Non - Trauma (ABC compromised) - Noisy breathing - RR < 12 or > 30/min - SpO₂ < 85% - HR < 50/min or > 140/min - Systolic BP < 90 mmHg / > 180 mmHg - Diastolic BP < 50 mmHg / > 120 mmHg - Altered sensorium - AVPU scale - P or U - Active seizures - Chest pain < 24 hours duration - Active Hemoptysis - Active Hematemesis/Melena - Acute CVA < 8 hours duration - Temperature ≥ 105°F - Acute onset fever (Temperature ≥ 100°F) with altered sensorium (AVPU scale - V/P/U). - All Poisoning < 24 hours duration - GRBS - ≤ 50 mg/dl - All Snake bite / Scorpion sting - Hb ≤ 5 gm/dl or Hb progressively dropping	Priority - II Non - Trauma (ABC not compromised) - RR 20–30/min - SaO₂ 85–94%, Use of accessory muscles, co-morbid conditions (COPD/Asthma/CKD etc.) - HR 50–60/min or 100–140/min - BP: Systolic 150–180 mm Hg, Diastolic 100–120 mm Hg - Palpitation with HR less than 140/min and hemodynamically stable - AVPU scale – V. (For the violent and combative Psych. Patient, 1 bystander is to be allowed inside) - GRBS 50–70 mg/dl with normal sensorium; GRBS ≥ 300mg/dl - Fever > 103°F - Fever with bleeding manifestation; hemodynamically stable. - No hematemesis/melena within 24 hours. - Active Epistaxis - Painful red eye. - Hiccough. - Acute gastro-enteritis with heart rate > 120/min - Severe headache. - Acute abdominal pain including hematuria and acute retention of urine. - Abdominal distension; not passing stools & flatus. - Scrotal pain ≤ 4 hours duration. - Any patient post-chemotherapy/radiotherapy with any complaints. - Hematological illness with active bleeding. - Poisoning of more than 24 hours delay. - Bee sting/unknown bite. - Cellulitis/DVT/Calf pain/acute leg swelling. - Giddiness. - Hyperemesis gravidarum. - Pregnant patient with bleeding PV/abdomen pain/spotting PV. - Altered laboratory investigations - RFT, LFT, CBC, Biochemistry.	Priority - I Trauma (ABC compromised) - Noisy breathing - Blood/vomitus in mouth - Severe maxillofacial injuries - RR < 12 or > 30/min - Penetrating chest/neck wound - Significant blunt injury to chest - HR < 50/min or > 140/min; Systolic BP < 90 mmHg; SpO₂ < 85% - Active bleeding - Abdominal & Pelvic Injuries - Limb injuries with peripheral pulse absent - Altered sensorium - AVPU scale - P or U - Quadruplegia. - Hanging - Drowning - Active seizures - Penetrating ocular trauma. - Corrosive splash to eyes. - Burns with ABC compromise.	Priority - II Trauma (ABC not compromised) - RR 12–30/min - SaO₂ > 90% - AVPU scale – V. - Any case of severe pain. - All dislocations. - H/O LOC/Vomiting/Seizures/ENT bleed. - All long bone fractures (e.g. humerus, femur, both bones leg) without vascular compromise. - Open fractures. - Compartment syndrome. - Vision impairment. - Abdomen and pelvic injuries with stable vitals. - Pregnant women with stable vitals. - Any active bleed with stable vitals. - H/O fall from height with stable vitals. - Post trauma C/O neck pain/back pain. - Crush injury/significant lacerated injury to hands & feet. - Cracker burst injury to hands. - Total/Near total amputation of any finger. - Closed head injury. - Scalp lacerations.	Priority - III Non - Trauma - Stable vital signs. - BP < 150/100 mmHg and > 100/60 mmHg - Mild abdominal pain, passing stool and flatus. - Acute gastro-enteritis. - Fever < 103°F with stable vitals. - Isolated facial palsy. - Dog bite. - Pain & Palliative patient. - Foreign body in ear, nose & throat. Priority - III Trauma - AVPU scale – A, with stable vitals and no H/O Vomiting/LOC/Seizure/ENT bleed. - Isolated closed forearm fractures, without neurovascular deficit. - Laceration with no active bleed. - Closed ankle and foot injuries. - Burns < 9% and peripheral in location. - Acute back pain - ? IVDP.

FIGURE 1.1: Given image depicts the Triage assessment board at the Emergency Department of NH MMI Narayana Hospital, Raipur.

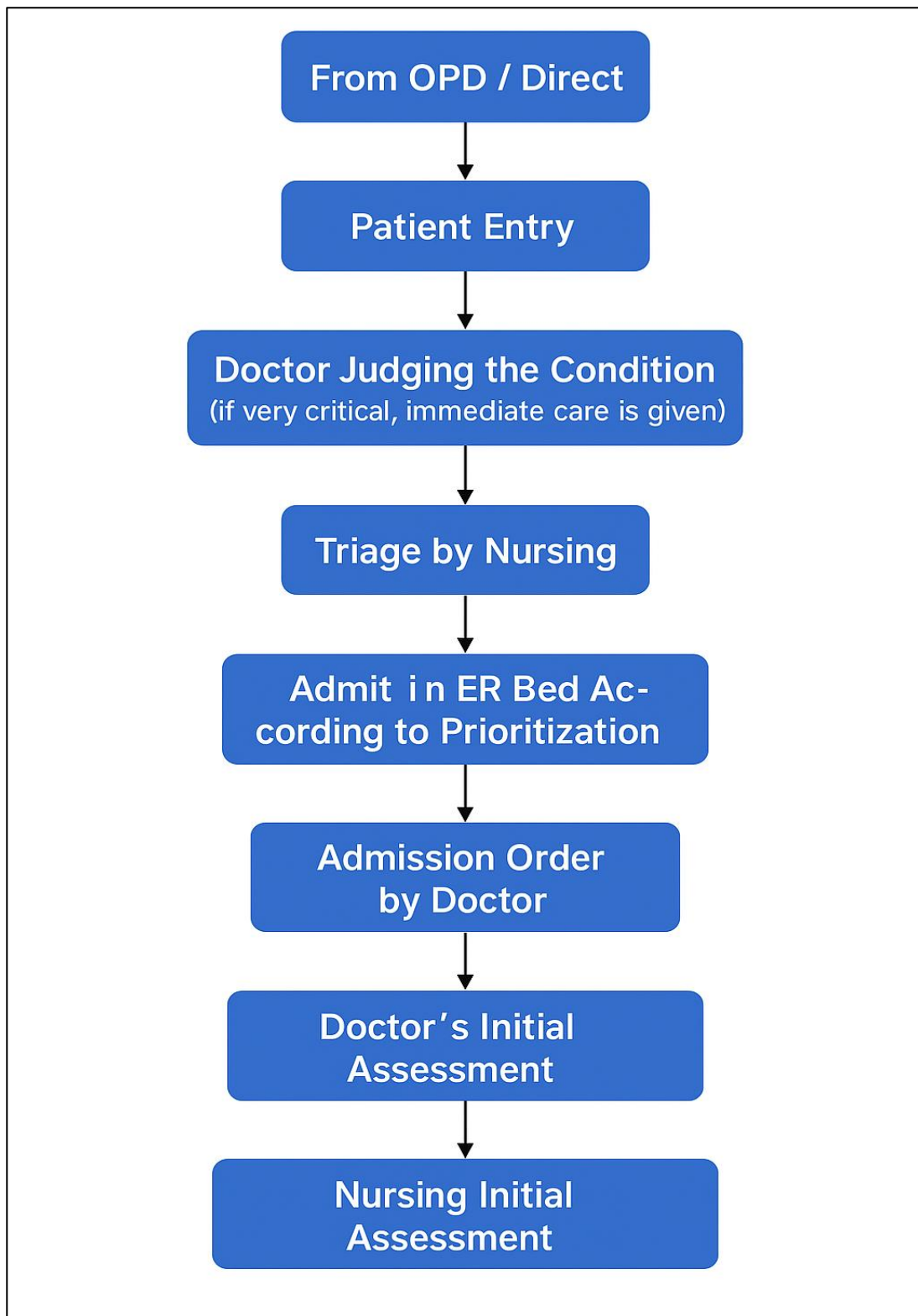


FIGURE 1.2: Workflow in ED

CHAPTER – 2: LITERATURE REVIEW

TABLE 2.1 – LITERATURE REVIEW

Authors (Year)	Study Location	Sample Size	Sampling Techniques	Salient Features
Kayuni J. et al (2024)	British Columbia, Canada	167 patients	Consecutive convenience sampling	Notable delays within the ED were related to tests to physician re-evaluation (median = 65 minutes), physician to imaging (median = 52 minutes), and nurse to physician evaluation (median = 45 minutes). Regardless of the delays noted, the majority of respondents rated courtesy as good to very good (74.7% of respondents), and 59.9% would recommend the ED to friends and family. Suggested operational changes involved offering point-of-care testing and Lean methodology to minimize the delays found.
Kenneth A. et al (2024)	United States	795 Emergency Departments	Retrospective observational cohort study	Discovered that lower-volume pediatric EDs had significantly higher rates of delayed diagnosis across 23 serious conditions. Greater volume of ED was associated with lower rates of diagnostic delay.

Barwise A. et al (2021)	USA (4 hospitals across Midwest and Southeast)	64 clinicians across 11 focus groups	Purposive sampling	Identified that diagnostic errors and delays are influenced by a combination of organizational factors (e.g., infrastructure limitations, EMR usability), interactional factors (e.g., communication breakdowns, coordination issues), individual clinician factors (e.g., cognitive biases, fatigue), and patient-related factors (e.g., health literacy, language barriers). Emphasized the need for system-level interventions to address these multifaceted contributors.
Car LT. et al(2016)	Northwest London, UK	113 clinicians (Phase 1); 66 clinicians (Phase 2)	An open-ended questionnaire followed by scoring of synthesized items	Created the PRIORITIZE method to discover and rank diagnosis delay problems and solutions in primary care. The highest ranked problems were poor communication and the inverse care law between primary and secondary care. The best-ranked solutions included robust systems for communicating abnormal results, a direct hotline to a specialty, and better education for GPs. The project highlighted how many problems could be solved with relatively small inputs.

Wiseman T. et al(2024)	Australia	10 primary research studies	Scoping literature review	Determined that comprehensive, structured, evidence-based nursing assessment frameworks focusing on the patient in their entirety are not accessible in general inpatient wards. Most of the available tools focus on specific patient cohorts or an emergency clinical environments. Advised a move toward continuous systematic nursing assessments to improve outcomes to reduce the deterioration of patients.
Madhwal S. (2024)	Dehradun, India	Not specified	Observational study with patient interviews	Identified root causes for delayed initial assessments in the ED, including heavy patient footfall, unavailability of beds and emergency staff, and lack of coordination among the emergency team. Suggested remedies such as improved communication, better resource allocation, and streamlined triage procedures to reduce delays and enhance patient satisfaction.

CHAPTER - 3 METHODOLOGY

3.1 Research Questions:

The study considered two primary research questions which focused on the timing and causes of delays in initial assessments within the Emergency Department (ED):

1. What was the average time spent by doctors and nurses to complete the initial assessment of patients in the Emergency Department compared with defined benchmarks?
2. What were the key drivers associated with delays in completing the initial assessments, and how effective were interventions in improving timeliness in the follow-up period?

3.2 Research Design:

The study followed a cross-sectional observational design. After baseline data collection, workflow improvements were introduced based on the root causes observed, and a second round of data collection was conducted to monitor any trends in improvement. Convenience sampling was used in timestamp data collection and purposive sampling was used in nursing questionnaire. The impact of interventions was observed on turnaround time by comparing baseline and follow up data of 250 cases (130 baseline, 120 follow-up) and identification of opportunities for improvement were done.

3.3 Study Setting:

The research was conducted in the Emergency Department (ED) of NH MMI Narayana Superspeciality Hospital in Raipur, Chhattisgarh. The Emergency Department was selected as the study setting based on volume. Since the ED experiences high patient volume, it offered an opportunity to investigate delayed assessments of patients that were waiting for immediate medical attention in a real-time environment, which reflects the conditions that ED personnel face while managing time-sensitive assessments.

3.4 Study Duration: The study was conducted for 2 months:

- March 2025 – Baseline data collection.
- April 2025 – Follow-up after introducing workflow improvements.

17/03/2025 to 31/03/2025 – Baseline data collection and questionnaire preparation.

1/04/2025 – 4/04/2025 – Questionnaire distribution and filling by the staff. The main reasons for delay were analyzed through responses to the questionnaire.

5/04/2025 – 30/04/25 – Changes were implemented and follow up data collection.

3.5 Study Population:

The study period involved a total of 250 cases seen in the emergency department, with 130 baseline cases and 120 follow up cases.

Inclusion: The participating patients were those who were admitted in the ER, requiring an immediate assessment.

Exclusion: Patients admitted in other departments such as ICU, HDU.

3.6 Methods of data collection:

Quantitative data collection:

The data was collected through patient records and focused on two time stamps - the time when a patient was admitted to the ED, and the time when doctors and nursing staff initially assessed each patient. The interval of these events was measured for TAT. The TAT was compared against escalation of timely care benchmarks established by the hospital to identify delays.

Qualitative data collection:

The nursing staff was provided with a structured questionnaire for a field study focused on qualitative information on the causes of delays in patient assessments. The survey aimed to identify perceived barriers to reporting, barriers to assessment, and solicit ideas from the nursing staff on how to improve the timeliness of care. The qualitative data was beneficial as it provided context to the quantitative data and aided in identifying and recording barriers to timely assessment of patients.

3.7 Data analysis:

- The quantitative data was analyzed through an average evaluation of turnaround times that further investigates the baseline and follow up results.
- Analyzing the qualitative data obtained from the nursing staff questionnaires, on the other hand, was analyzed using the comparative method for each option of different questions.

The critical combination of working with both quantitative and qualitative data provided a comprehensive overview of contributing factors that influenced initial assessment delays, as well as, evaluating the outcome of the interventions towards improved timeliness.

CHAPTER – 4 RESULTS & ANALYSIS

This study used both quantitative time-stamp data and qualitative feedback from nursing staff to better understand the time and experience of initial assessments in the Emergency Department at NH MMI Narayana Superspeciality Hospital, Raipur. The data was divided into two sets (baseline and follow-up).

4.1 OBJECTIVE 1: Compliance with Initial Assessment Timelines

Time-Stamp Analysis of Doctor and Nursing Assessments: The quantitative data analysed time stamps for doctor assessments and nursing assessments, which allowed for compliance calculation against defined benchmarks (doctors 15 minutes; nurses 30 minutes).

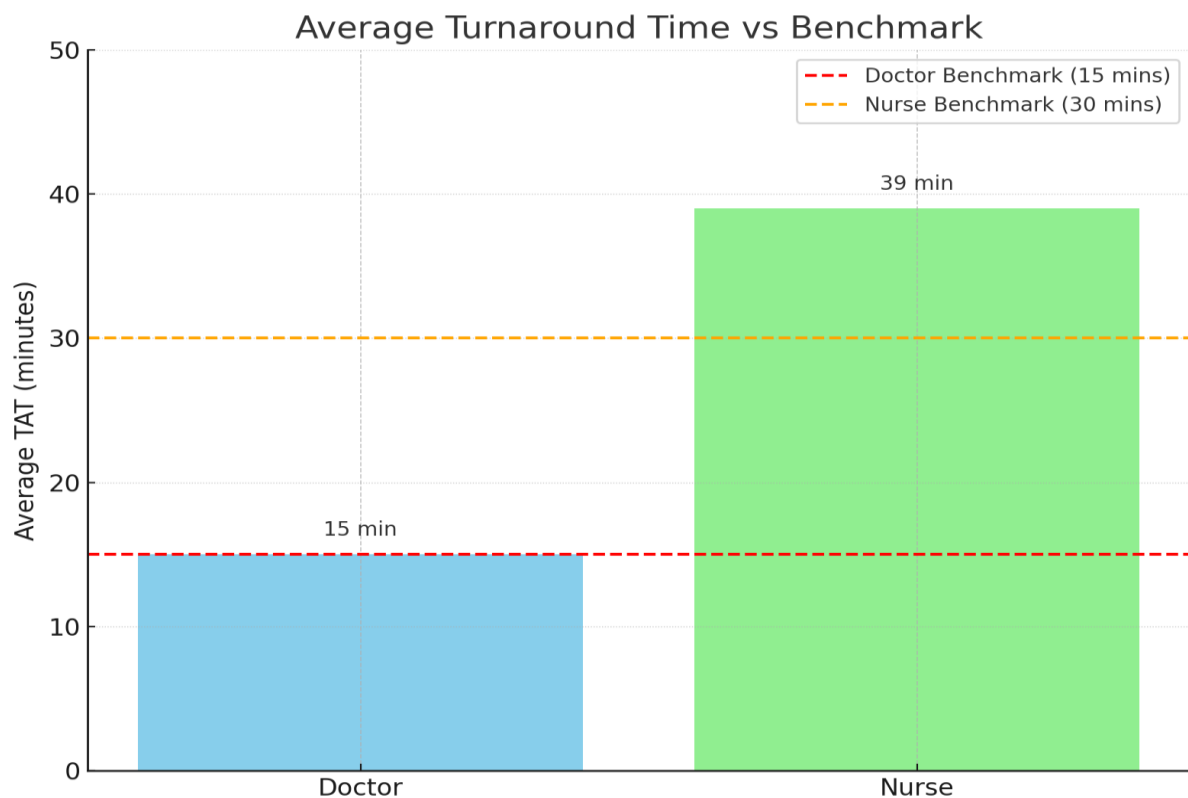


FIGURE 4.1: Average TAT vs Benchmark

TABLE 4.1: Compliance Rates

COMPLIANCE RATES	
Doctor	81.5% (106 out of 130 cases)
Nursing	40% (52 out of 130 cases)

4.1.1 Doctors' Compliance:

Before the introduction of workflow improvements, 106 out of 130 (81.5%) of the cases met the benchmark. Also, the average TAT met the benchmark which is of 15 minutes.

4.1.2 Nurses' Compliance:

Nurses had a low compliance rate of 40%, which meant only 52 cases out of 130 had an assessment time of 30 or less than 30 minutes. The average TAT was 9 minutes higher than the benchmark being at 39 minutes.

4.2 OBJECTIVE 2: Reasons for Delays in Initial Assessment

To identify specific reasons for the delays in completing the initial assessment of patients in the Emergency Department, the cases were categorized, and the reasons for delays were counted. A total of **130** delayed assessment cases were outlined and counted. **The graph below illustrates the identified causes of delay and their frequency.**

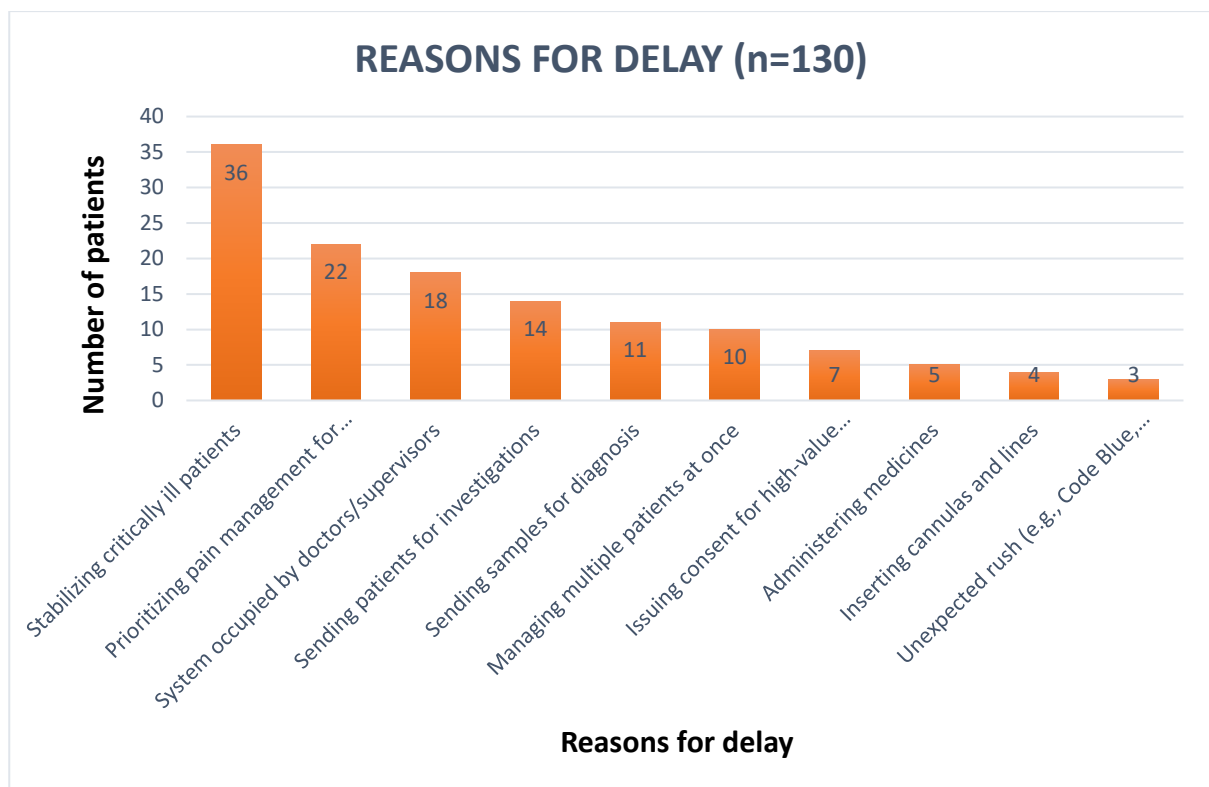


FIGURE 4.2: REASONS FOR DELAY IN INITIAL ASSESSMENT

In all cases, the reason that took the most time was taken into consideration (as most of the time, there were multiple reasons for the same case).

The most common reason for delay was the stabilization of acutely ill patients (at more than 25% of total documented delays). Other reasons for delays were focused on pain management, the system was either not available due to being occupied by a doctor/supervisor, or the time taken to send a patient for diagnostic investigations. Fewer common issues were contributing to delays where consent for procedures was completed, medication was administered, or management of an unexpected influx of patients. These causes allowed to identify the main causes of delays and work towards overcoming the delays by implementing specific interventions.

4.3 OBJECTIVE 3: Effect of Suggested Workflow Changes

4.3.1 Suggested Modifications:

Multiple changes were implemented to work towards improving the delays with initial assessments in the ED. These included:

1. **Intentional target tightening or "internal buffer"** target of 15 mins for the initial assessments instead of the standard 30 mins. The objective of this intervention was to limit the time taken to complete assessments by emphasizing tighter, but achievable targets for ED staff.
2. **Reinforcing through continuous reminders or prompt-based reminders**, because we wanted to emphasize urgency and to keep staff focused on treating patients per timelines.
3. **Patient category**: during periods of high patient load, patients would be triaged, to address urgent critical patients first, and subsequently start conducting initial assessments for patients that did not require urgent care.
4. **Additional staff during low flare periods**: During periods of low patient traffic, added staff were responsible for conducting initial assessments, and the assigned staff continued to provide urgent care and facilitate patient stabilization, thereby providing faster response times during busy periods.

After these steps, follow up data was collected to determine whether improvement occurred in the assessments.

4.3.2 Doctors’ Compliance:

Before the intervention, 106 out of 130 (81.5%) of the cases met the benchmark. After the intervention, 101 out of 120 (84.2%) of the cases met the benchmark. This shows a small change of approximately 2.7 percentage points in compliance. Since there was already high compliance, and as such, doctors were already close to meeting the expectations, this may be attributed to the maintenance of this trend in compliance with the intervention.

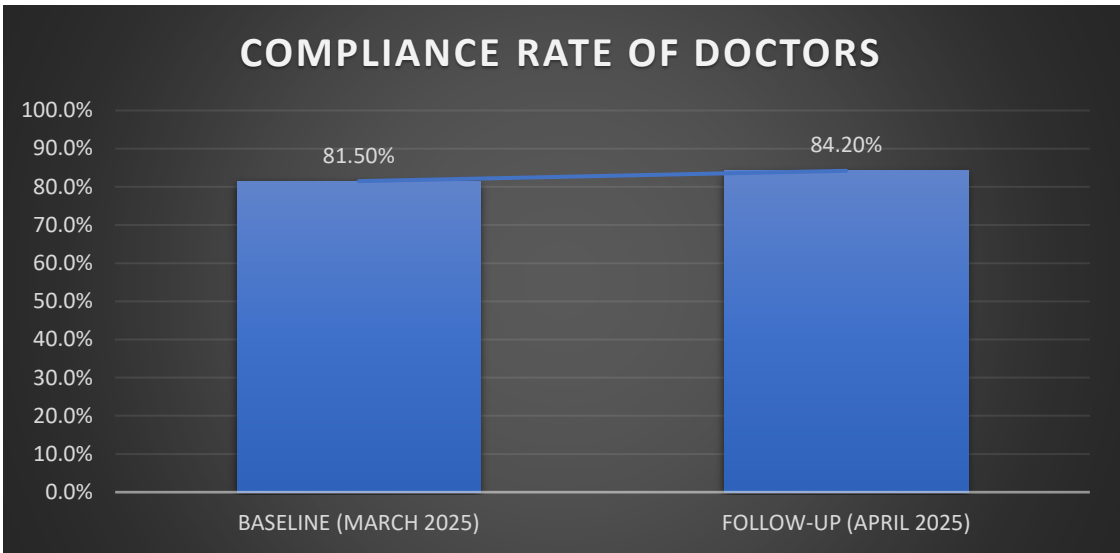


FIGURE 4.3: COMPLIANCE RATE OF DOCTORS - TREND

TABLE 4.2: COMPLIANCE COMPARISON OF DOCTORS

COMPARISON OF COMPLIANCE	
BASELINE	106 out of 130 cases
FOLLOW UP	101 out of 120 cases

4.3.3 Nurses’ Compliance:

Nurses’ compliance trended quite more positively. Before the intervention, there had been only 52 of the 130 cases (40%) within the 30-minute assessment window. After the intervention, in the time following the intervention, 78 of 120 cases (65%) were compliant, resulting in an increase of 25 percentage points. The increase indicates a favorable response to the action brought about by the project, i.e., encouraging compliance, recording vital signs in a timely manner, and reinforcing expectations of time.

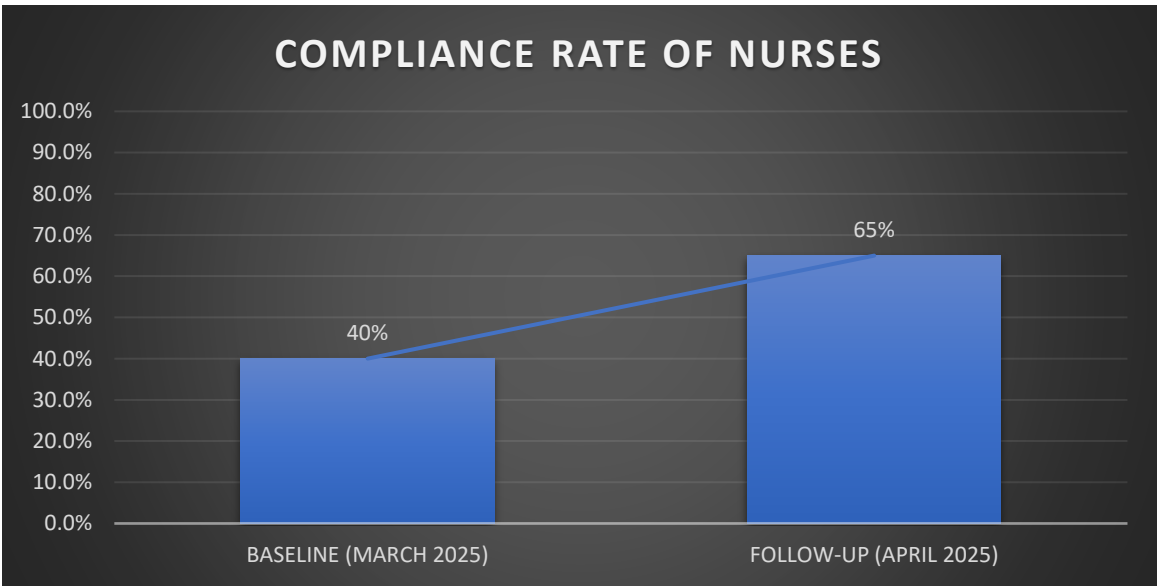


FIGURE 4.4: COMPLIANCE RATE OF NURSES - TREND

TABLE 4.3 COMPLIANCE COMPARISON OF NURSES

COMPARISON OF COMPLIANCE	
BASELINE	52 out of 130 cases
FOLLOW UP	78 out of 120 cases

4.4 OBJECTIVE 4: Staff Feedback and Inputs for Recommendations

A structured questionnaire was developed for 26 emergency department nurses (out of which 24 nurses responded) to discover their views on feasibility, barriers and activities related to prompt initial assessments.

Nursing Survey: Questions and Response Distribution

4.4.1 Training and Awareness:

Q1. Have you received proper training on the hospital's protocol for initial nursing assessment in the ED?

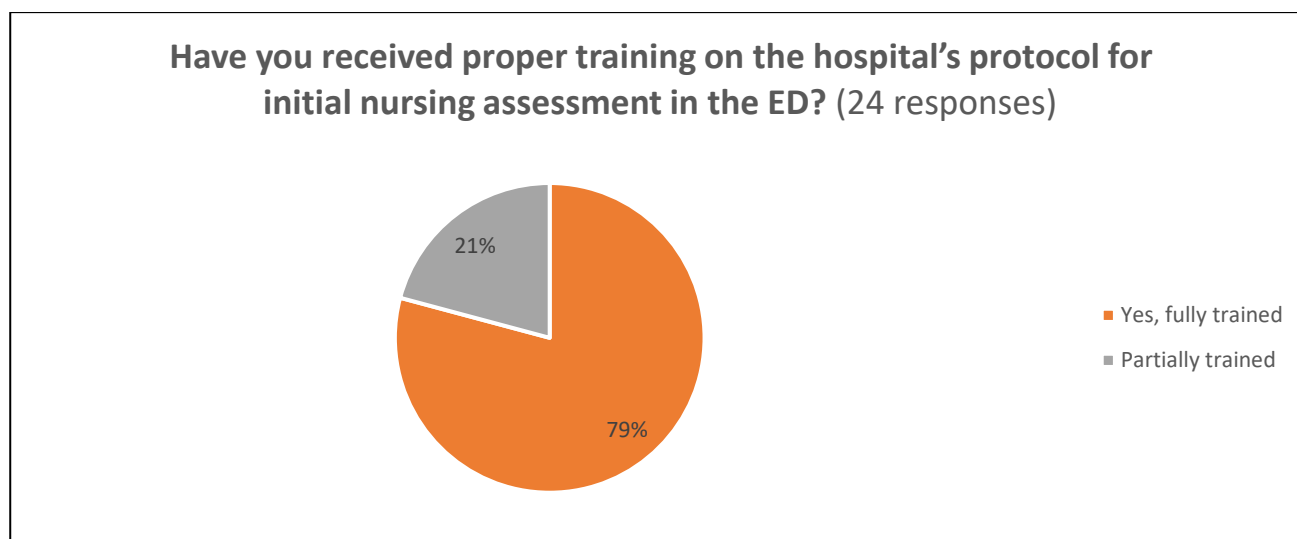


FIGURE 4.5: Training on Initial Assessment Protocol

This investigated the connection between knowledge and formal education with compliance. By knowing how many staff members had received training, the project could connect non-compliance issues either to capability gaps, or issues with external workload, assimilating this evidence base to improve future training activities.

Q2. Do you routinely complete the nursing initial assessment within 15 minutes of patients arrival in the ED?

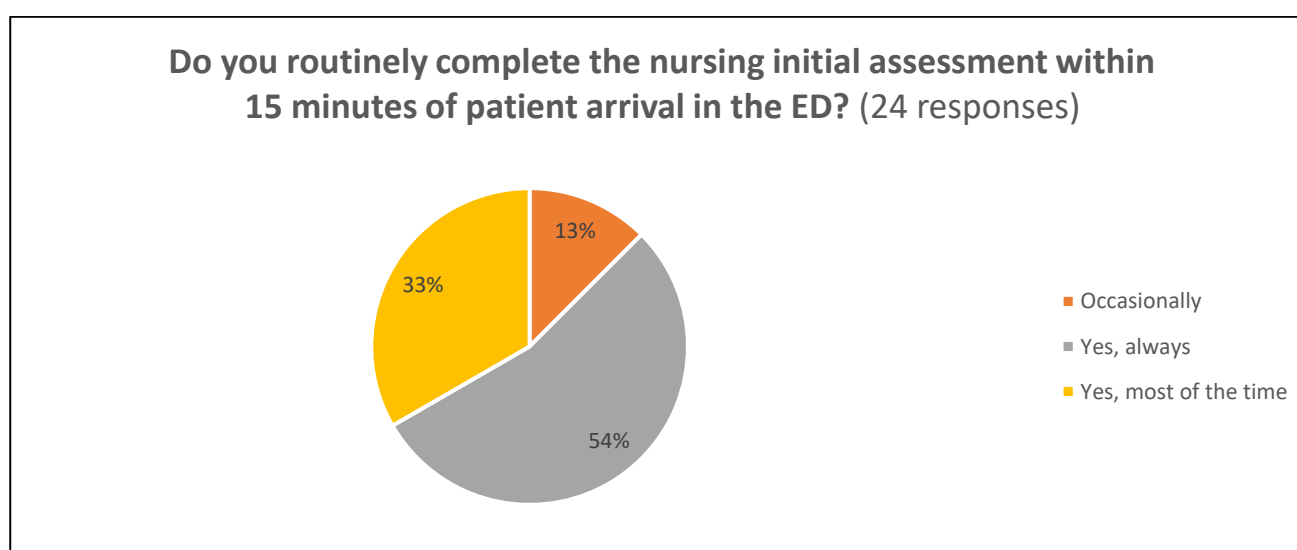


FIGURE 4.6: Self-Reported Timeliness of Nursing Assessments

This question gauged nurses' self-reported adherence to the intended assessment timeline. By contrasting self-reported time with time-stamped data, the study provided a richer perspective on willingness vs. actual compliance, and whether the delays were related to the narrative of awareness, effort, or systemic limitations.

Q3. Do you feel the 15-minute benchmark for initial assessment is realistic in your current work environment?

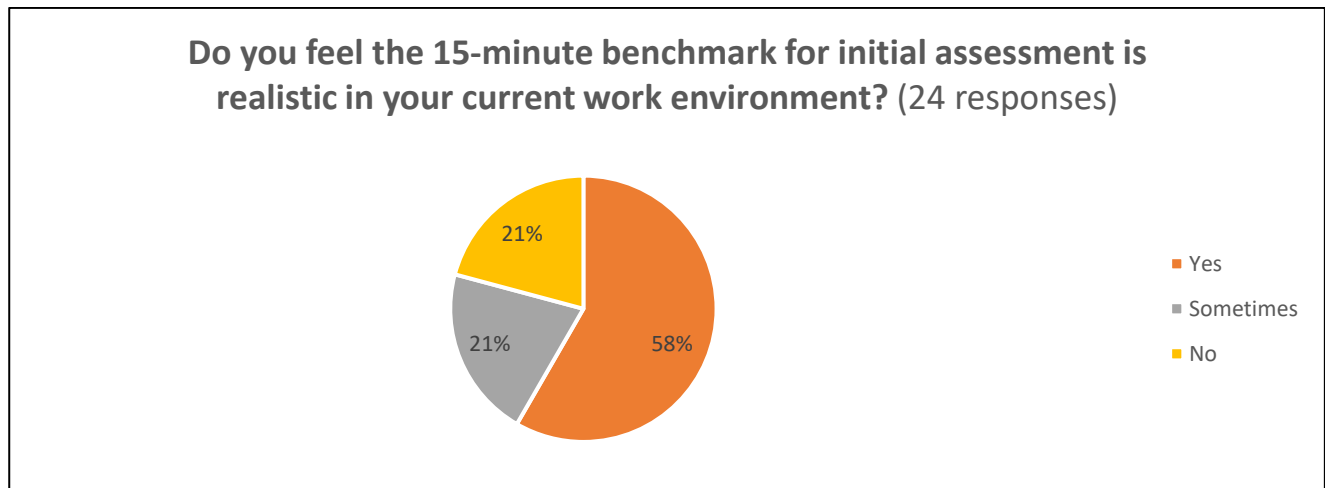


FIGURE 4.7: Nurses' Perception of Benchmark Feasibility

This also evaluated whether expectations provided by the hospital were seen as achievable by the frontline staff. It's also provided a glimpse into staff morale and the viability of policies in an actual emergency context. This information contributed to the future recommendations or possible timeline changes or support.

4.4.2 Process and Behavior:

Q4. Which components of the initial assessment do you complete during the first encounter?

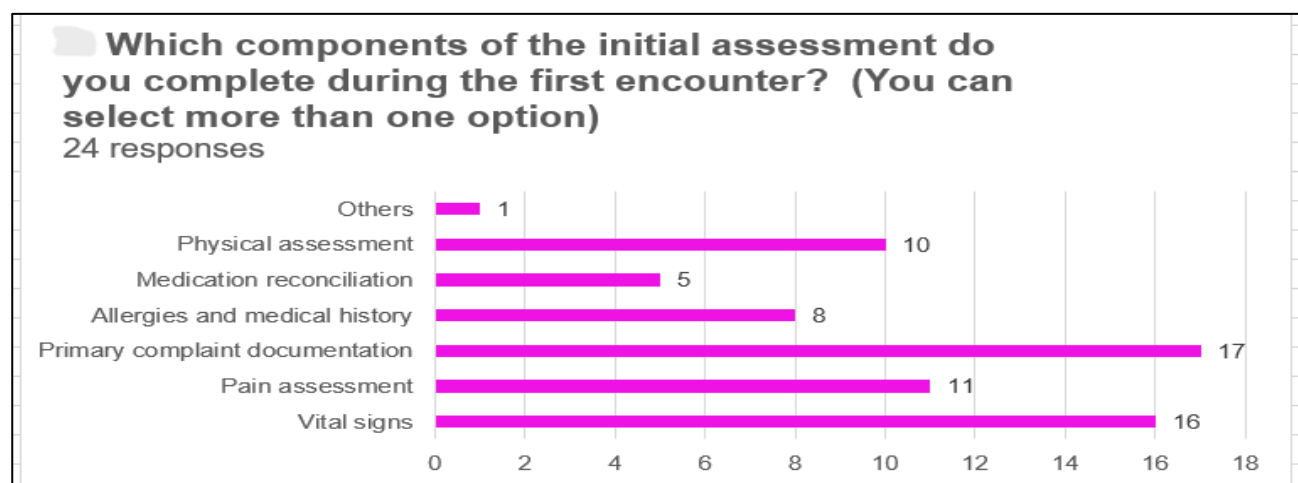


FIGURE 4.8: Initial Assessment Components Completed at First Encounter

This established which elements of the assessment are targeted first under time constraints. It revolved around asking the question of whether vital signs, pain assessment, or medication could each be reliably addressed at the beginning of the assessment, which gives insight into behavioral trends, including gaps of content that may lead to incomplete or delayed documentation.

Q5. What are the most common barriers to completing timely nursing initial assessments?

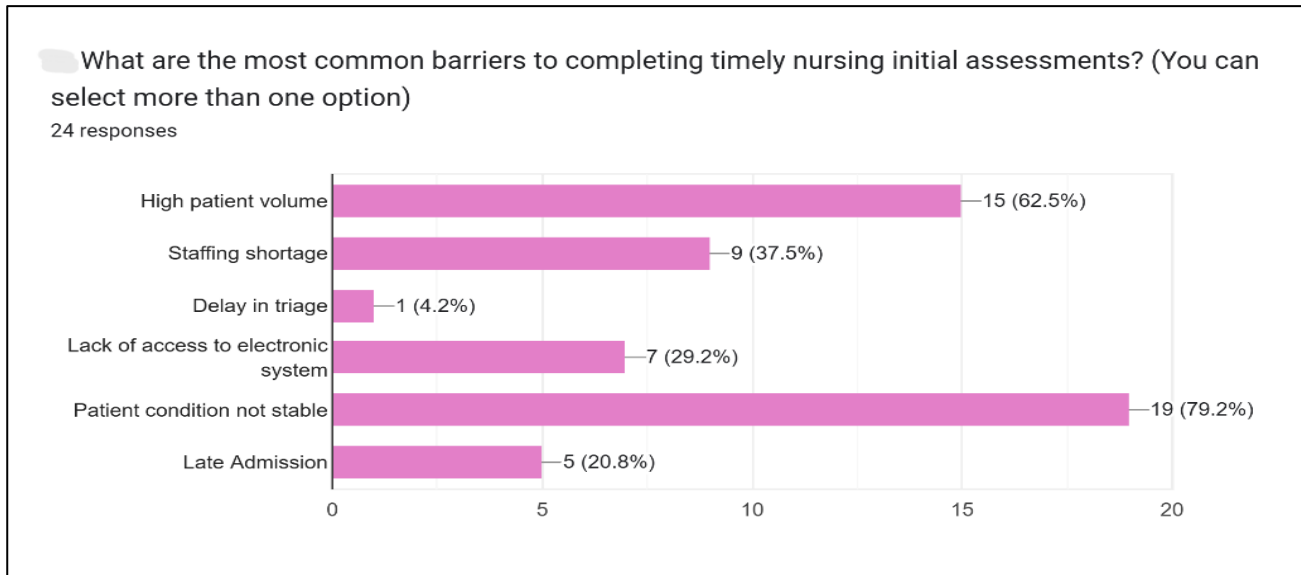


FIGURE 4.9: Barriers to Timely Completion of Nursing Assessments

This also supported inquiry into delay causes. It corroborated the observational data with frontline voices, identifying actual barriers to complying like workload, patients in critical condition, or a lack of resources.

Q6. Have you ever had to delay an assessment because a patient needed urgent care or procedures first?

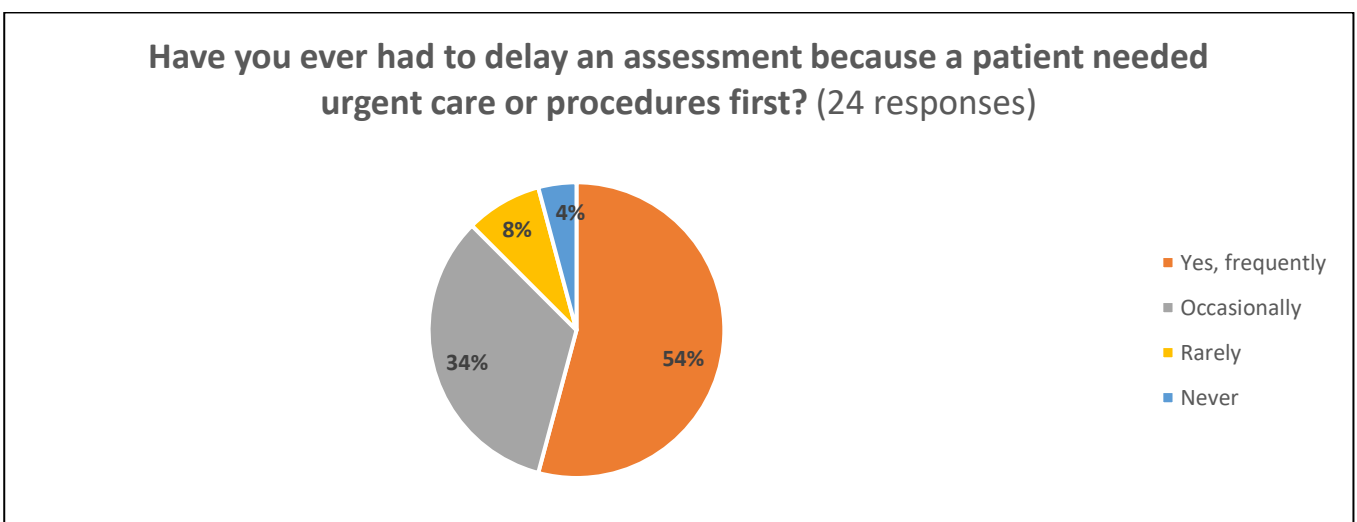


FIGURE 4.10: Delays Due to Urgent Care Needs

This brought clinical relativity to the delay. It reminded everyone that sometimes timely care is sacrificed for life-saving care, and it will help explain exceptions and improve understanding of the complexity of the assessment environment.

4.4.3 Systemic and Technical Factors:

Q7. Do you face any technical issues while documenting the initial assessment in the system?

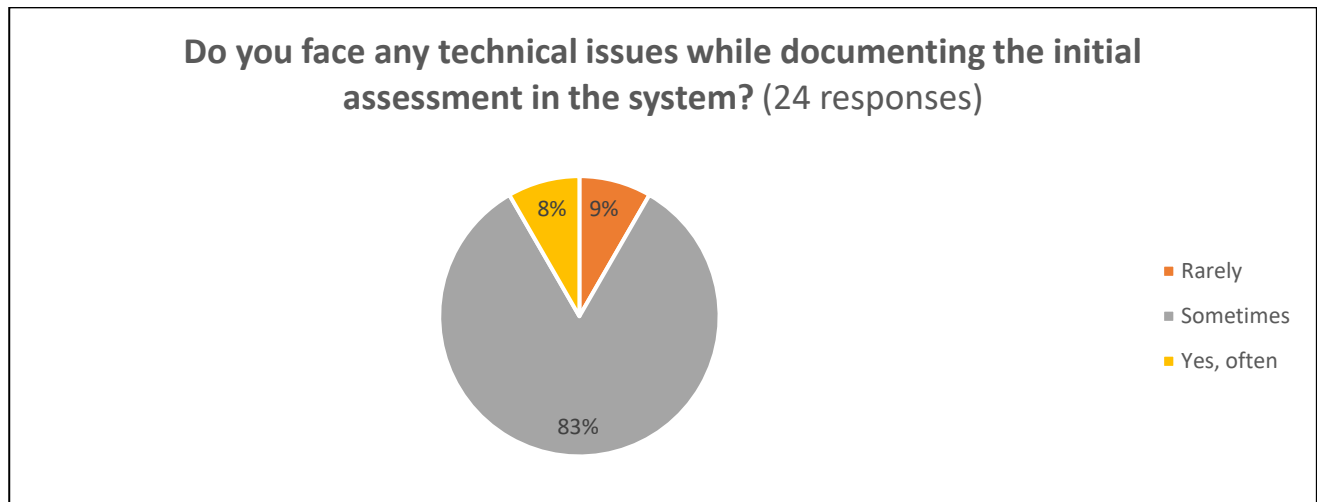


FIGURE 4.11: Technical Challenges in Documentation

This question was primarily concerned with outlining the IT and documentation infrastructure. Recognizing other challenges, such as lags in the system or shared devices not being available, provided important information about the way in which technology may enable or inhibit the timely entry of data.

Q8. How would you rate communication between nurses and doctors during the initial assessment process?

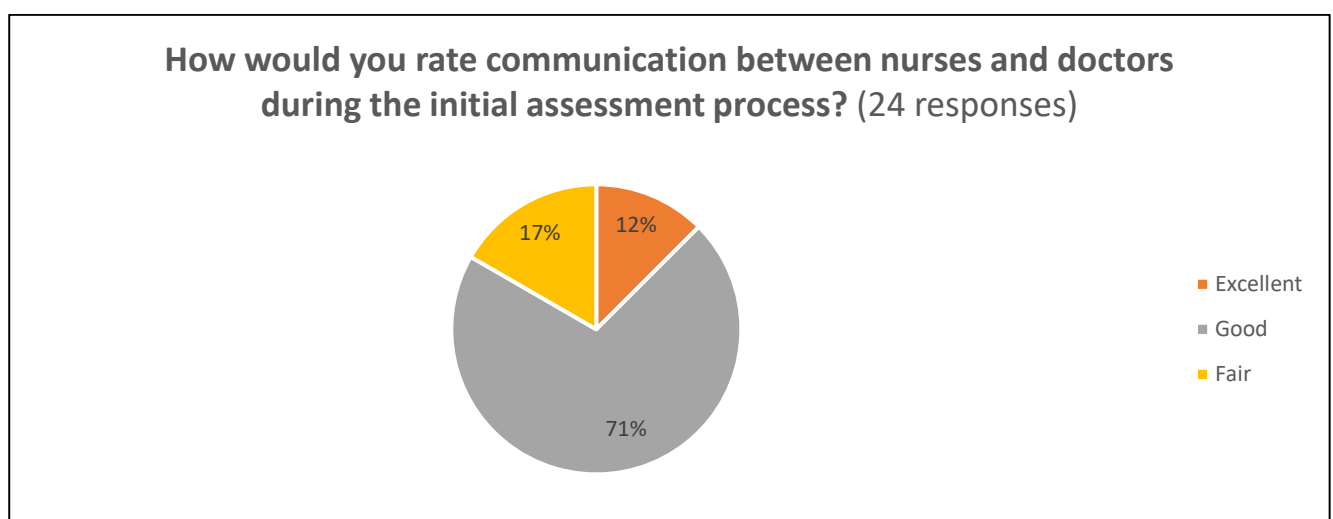


FIGURE 4.12: Interdisciplinary Communication Rating

This was important to investigate understanding interdisciplinary coordination. This could create lag to the documentation or assessments, and this question explored collaborative workflows, or lack thereof, and can affect efficiency.

4.4.4 Support and External Factors:

Q9. Do you think more support staff or tools (like portable vitals machines, tablets, etc.) would help improve initial assessments?

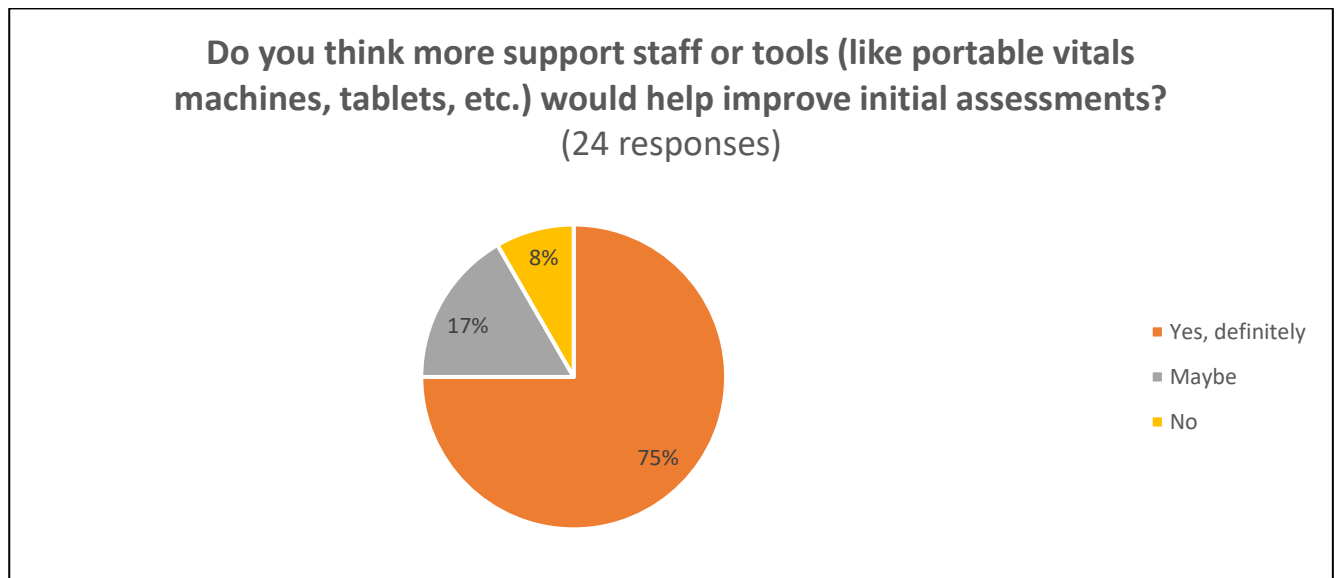


FIGURE 4.13: Perceived Impact of Additional Support or Tools

This also provided avenues for realistic solutions. It steered the project, and the team decisions, toward recommendations for operational and equipment improvements that could easily reduce assessment delays, as these were solutions that could form the basis for the recommendations.

Q10. Do patients or their families cooperate well during the assessment?

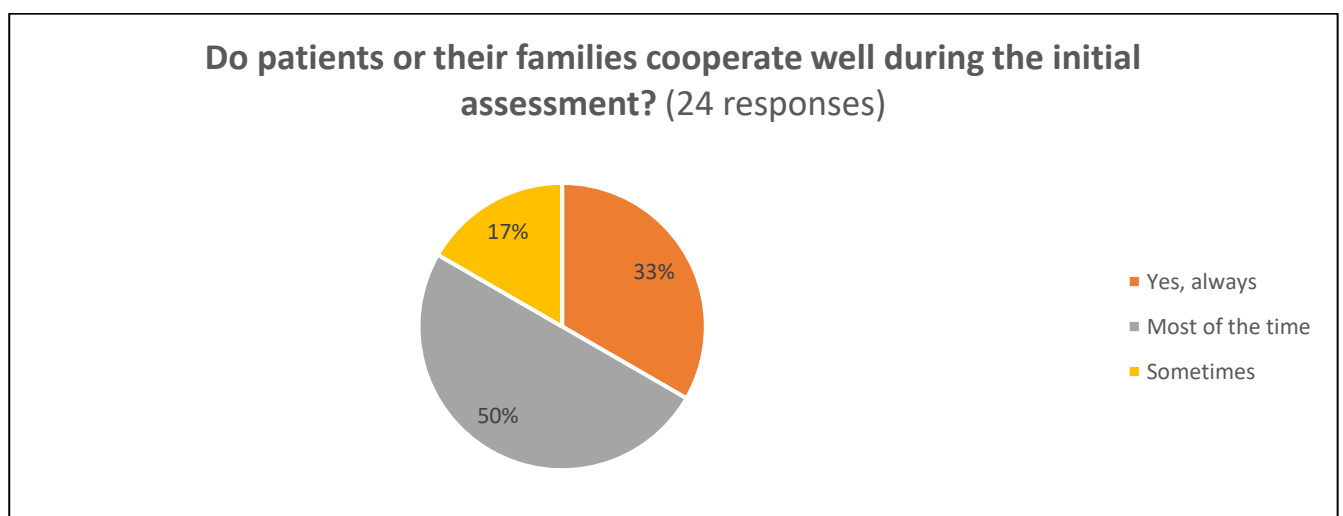


FIGURE 4.14: Perceived Cooperation from Patients and Families

This investigated patient-side factors that can delay care. Resistive or challenging encounters impact assessments, and awareness of that makes accounting easier.

CHAPTER 5 - DISCUSSION

This study endeavored to evaluate the completion of the initial assessment by the physicians and nurses in the ED of NH MMI Narayana Superspeciality Hospital, Raipur. The study aimed to evaluate the compliance rates of leverage points, to identify commonly reported causes of delay and to capture the perspective of the staff utilizing a questionnaire. The results demonstrated an area of improvement: overall physician compliance demonstrated a high rate of compliance (81.5% vs. 84.2%), whereas the nursing disciplines compliance improved from 40% to 65% after the follow up.

5.1 COMPARISON OF AVERAGE TAT WITH BENCHMARK:

Figure 4.1 illustrates the average turnaround time (TAT) for assessments made by a doctor or a nurse in relation to the benchmarks expected of them. Doctors met their benchmark spot on with a TAT of 15 minutes; nurses, however, exceeded the expected benchmark of 30 minutes with an average TAT of 39 minutes. While doctors were seen as timely in their assessments, nursing assessments were expectedly delayed by an average of 9 minutes. The graphic demonstrates a need for some focused workflow improvements in nursing assessments to meet the apparent expectations and performance management, leading to improved operational efficiency in the Emergency Department. The differences in TAT underscore the unique operational challenges experienced more so by nursing staff.

5.2 ANALYSIS OF KEY REASONS BEHIND DELAY ASSESSMENTS

The coded reasons for delays in nurses' initial assessments were broken down into ten categories by frequency. The leading contributing factor was - stabilizing of critically ill patients, which accounted for 27.7% of the total responses (36 of 130). This reason is consistent with the safety level of clinical care that critical life-saving interventions should be viewed as a priority over documentation to clinical responsibilities.

The next completed reason for delays was pain management, which represented 16.9%, indicating that the compassionate priority of providing pain relief to patients is significant. System unavailability (13.8%) indicates barriers that relate to limitations of the system, working practices that are sometimes due to shared equipment such as computers or staff login issues, which potentially increase time in completing assessments but are often overlooked by nurses in their patient care pathway.

Perceptions of other contributing factors were attributed to elements such as sending patients for investigations (10.8%), which included follow-up communications and waiting for analysis or sending a sample to a laboratory for diagnostic clarification (8.5%) - both factors are an exertion of coordinating a service outside the control of nursing. A large factor from the responses indicated bottlenecks from operational issues described by nurses reporting managing multiple patients (7.7%) and issuing consent (5.4%). Other contributing aspects are also related to the more specific clinical responsibility of administering medicines (3.8%) and more unavoidable bedside duty, such as inserting cannulas and lines (3.1%), respectively.

The least frequently cited but still important category was unexpected rush (2.3%), which included emergency situations awaiting an intervention in scenarios such as Code Blue events or aggressive patients, showcasing the unforgiving, uncontrollable nature of ED settings that impact following protocols.

The analysis in Figure 4.2 indicates that delays are related less to intentional negligence and are related more to the competing expectations placed on ED nurses within fluctuating clinical contexts.

The most common reasons for delays - stabilizing critically ill patients, pain management, and system unavailability due to shared use - show the complicated and unpredictable nature of emergency care. This evidence is consistent with work, including that of Car et al. (2024), which pointed to patient acuity and competing clinical demands driving delays in emergency assessment. Similarly, J Adv Nurs (2024) noted that the heavy nature of workloads and technical barriers to documentation delay the timely flow of documentation, which aligns with the system-based delays found in this study.

5.3 INTERPRETATION OF COMPLIANCE RATES

The evidence suggests an unequal impact of the modifications between physicians and nursing staff. In the case of physicians, the observed compliance rate prior to the modifications was reasonably high at 81.5%, indicating a strong baseline of compliance with the fifteen-minute initial assessment. The follow-up compliance rate improved to 84.2%; while not a big change, the slight upward trajectory is notable, and this indicates that reminding physicians of expectations, and increasing awareness may allow for awareness build upon already existing good practice. The small degree of net improvement may also suggest that physicians were largely consistent in their approaches due to experienced clinical autonomy and comfort in managing time limited considerations in the ED.

In contrast, the nursing staff had a far greater improvement following the changes. The nursing staff compliance rate improved from 40% to 65% (25 percentage points). This indicates that the modifications were impactful in shifting nursing workflows.

Several systemic and operational barriers may have contributed to the initial lack of compliance. The positive outcome of the compliance measure after the interventions suggests those barriers were at least addressed, facilitating the nurses' ability to incorporate practices according to the protocols.

5.4 ANALYSIS OF NURSE FEEDBACK FROM QUESTIONNAIRE

The responses to the questionnaire provided more information when considered with the interviews. The administered questionnaire, answered by twenty-four of the ED nursing staff clarified the nuances of achieving the hourly goal, as well as revealing staff's perspectives on the hurdles of performing nursing initial assessments on time. Although 88% of respondents claimed they always or mostly achieved the assessment within the standard 30 minutes, only 58.3% felt that the benchmark of 30 minutes was achievable in their current work environment. This noted gap highlights the contradictory expectations and tensions in reaching targets that may not reflect some clinical realities.

When asked about the components most commonly completed in the first interaction, in addition to vital signs, pain and the reason for visit, medication reconciliation and allergy history were typically not completed until later. This was reflective of prioritizing the immediate essential/intended needs before an attempt at a full collection of data.

In terms of barriers, 79.2% identified fluctuations in patient conditions as a recurring impediment, with 62.5% citing a heavy patient volume and 37.5% indicating insufficient staff. These results demonstrate the extent to which environmental and workload factors influence timeliness. This supports the earlier finding of Papachristou et al. (2022) when emergency nurses prioritized urgent care over administrative needs.

Almost all nurses (79.2%) indicated proper training on protocol, but 83.3% indicated they were experiencing technical difficulties with documentation; it seems clear there is work to be done in improving system infrastructure. The encouraging finding was that 75% agreed that adding support staff or mobile tools could have a positive effect on their efficiency—willingness towards improving the system. Disappointingly, while most nurses (70.8%) reported “good” interdisciplinary communication, only 12.5% described “excellent”

interdisciplinary communication, suggesting team communication and coordination can be enhanced.

As a result of this questionnaire, it can be safely concluded that while nurses are willing and aware of standards, clinical and organizational barriers remain significant obstacles to timely completion.

There are some limitations to this study:

- The questionnaire sample size (24 responses).
- Observer bias from reviewing data (files).
- The single-site study, which may limit generalizability.
- Some staff may have responded more favorably because they were aware they were being observed (i.e., Hawthorne effect).

5.5 RECOMMENDATIONS BASED ON ANALYSIS

- **Improve System Infrastructure and Documentation Access:** A large number of nurses (83.3%) indicated that they experienced technical difficulties when documenting the assessment. To reduce the wait time, the hospital could improve the trustworthiness of the EMR system, increase the number of access points, and explore the use of mobile documentation (e.g., tablets or bedside type devices) to facilitate rapid and efficient entry of patient information.
- **Review the goals on assessment times:** The majority of nurses felt they were able to complete the initial assessment in 30 minutes, but only 58.3% were reporting if this benchmark was realistic in their current ED culture. It is asked that they revise this view of the ED culture with frontline staff, particularly during high-acuity work-shifts, so the standard truly reflects challenging aspects of clinical practice.
- **Provide addition support during busy times:** High volume (62.5%) and low-staffing (37.5%) were cited as the primary blocks to timely assessments. The use of added support staff, such as float or task-based aides at busy times, can ease some of the burdens of the primary nursing staff for the timely completion of assessments.
- **Enhance Communication Between Nurses and Doctors:** While most of the nurses responding to the survey rated the quality of interdisciplinary communication as "good," only 12.5% (often a good portion of nurses in hospitals) rated it as "excellent." To further foster interdisciplinary communication and collaboration, structured communication protocols (e.g., SBAR, shift huddles, brief interdisciplinary check-in

time) can be used when especially during patient intake to ensure clarity of role and better team work.

- **Emphasize Required Components in the Training on Assessment:** The nurses reported that they often complete vital signs and pain assessment promptly but when it comes to completing medication history and allergies they have a delayed approach and places less priority on them. Training should focus on practical strategies to prioritize those vital clinical patient assessments - what absolutely needs to be done first vs. what can be done after but should still align with the protocols.
- **Additional tools and Resources:** Seventy-five percent of respondents said they support additional tools (e.g., portable vitals machines, better staffing or resources), thus use try to help better equip the department to have those additional tools available, even in times of too many patients or equipment bottlenecks, would be valuable to fostering collaboration and interdisciplinary communication.

CHAPTER 6 - CONCLUSION

This research project was conducted at NH MMI Narayana Superspeciality Hospital, Raipur to determine the timing of the initial assessments made by doctors and nursing staff in the Emergency Department (ED), ascertain the major delays, and analyze the effect of interventions. The analysis was aimed at analyzing the before and after effects and capturing live feedback from staff by a structured questionnaire.

The initial assessment in the ED needs to be timely for triage, faster clinical interventions and care prioritization. Although it is known that both doctors and nurses are tasked with implementing initial assessments in a specific timeframe, the nature of emergency care which comprises of high number of patients, critical patients and with operations on the ward have a tendency to delays. The study showed that in timeliness behavior, doctors tended to be consistent, whereas knowledge and adherence of the nursing assessments improved significantly as an outcome of the interventions, especially where nurses were reminded of the expectation and instructed to make sure the minimum was completed in documentation for vital signs as soon as the patient was admitted or presented to them.

The reasons for delays were both clinical and systemic. Clinical factors included critically ill patients needing urgent stabilization and patients presenting with high levels of pain that needed immediate attention. Operational barriers such as units being unavailable, staffing, and overlapping roles within shifts were additional barriers that compounded the nursing staff's ability to conduct assessments within the expected timeframe. The staff questionnaire further validated this data and indicated that while there is good awareness of protocols, the majority of nurses still felt that the expectations were challenging to meet within the current context.

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ANNEXURE

1. Sample of Data Collection Worksheet

#	Triage Time	Admission Order	Doctor Assessment	Gap (min)	Doctor Compliance	Nurse Assessment	Gap (min)	Nurse Compliance

2. Google Form: <https://forms.gle/GuC7ufRnpC4NsdhKZ7>

Initial Nursing Assessment in Emergency Department – Feedback Form

This questionnaire is designed to gather feedback from nursing staff on the current process of initial assessments in the Emergency Department. Your responses will help identify gaps and opportunities for improvement.

guptamansi0599@gmail.com [Switch account](#)

Not shared

* Indicates required question

Your name *

Your answer

1. Do you routinely complete the nursing initial assessment within 15 minutes of patient arrival in the ED? *

- ☐ Yes, always
- ☐ Yes, most of the time
- ☐ Occasionally
- ☐ Rarely
- ☐ Never

2. Which components of the initial assessment do you complete during the first encounter? (You can select more than one option) *

- ☐ Vital signs
- ☐ Pain assessment
- ☐ Primary complaint documentation
- ☐ Allergies and medical history
- ☐ Medication reconciliation
- ☐ Physical assessment
- ☐ Other: _____

3. What are the most common barriers to completing timely nursing initial assessments? (You can select more than one option) *

- ☐ High patient volume
- ☐ Staffing shortage
- ☐ Delay in triage

- ☐ Lack of access to electronic system
- ☐ Patient condition not stable
- ☐ Late Admission
- ☐ Other: _____

4. Do you feel the 15-minute benchmark for initial assessment is realistic in your current work environment? *

- ☐ Yes
- ☐ No
- ☐ Sometimes

5. Have you received proper training on the hospital's protocol for initial nursing assessment in the ED? *

- ☐ Yes, fully trained
- ☐ Partially trained
- ☐ No formal training received

6. How would you rate communication between nurses and doctors during the initial assessment process? *

- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Very poor

7. Do you face any technical issues while documenting the initial assessment in the system? *

- ☐ Yes, often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

8. Do you think more support staff or tools (like portable vitals machines, tablets, etc.) would help improve initial assessments? *

- ☐ Yes, definitely
- ☐ Maybe

7. Do you face any technical issues while documenting the initial assessment in the system? *

- ☐ Yes, often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

8. Do you think more support staff or tools (like portable vitals machines, tablets, etc.) would help improve initial assessments? *

- ☐ Yes, definitely
- ☐ Maybe
- ☐ No
- ☐ Not sure

9. Do patients or their families cooperate well during the initial assessment? *

- ☐ Yes, always
- ☐ Most of the time
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

10. Have you ever had to delay an assessment because a patient needed urgent care or procedures first? *

- ☐ Yes, frequently
- ☐ Occasionally
- ☐ Rarely
- ☐ Never

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