Evaluating TAT in Blood Transfusion: A Quality Improvement Study at FMRI

Faculty Mentor - Dr. Mamta Chauhan

Presented by - Pravesh Kumar (2035) MBA - HM

Organisation Mentor - Dr. Monika Patni

Brief History and Description:

- Fortis Memorial Research Institute (FMRI), Gurugram, was established in 2013 as a multi-specialty quaternary care hospital.
- Spread over 11 acres, it features advanced medical technology and world-class infrastructure.
- The hospital has 330 beds, including 99 ICU beds and 25 emergency beds, with 15 modern operation theatres.
- FMRI holds JCI, NABH, and NABL accreditations, ensuring global standards in care and diagnostics.
- It is known for excellence in critical care, oncology, transplants, and robotic surgery.

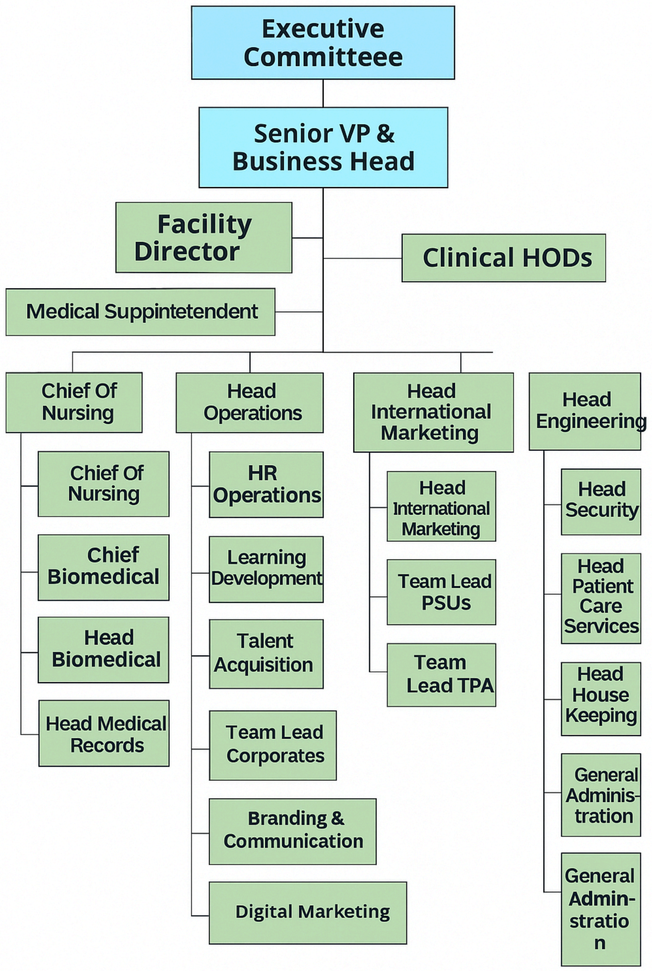
Vision:

"To create a world-class integrated healthcare delivery system in India, entailing the finest medical skills combined with compassionate patient care."

Mission:

"To be a globally respected healthcare organization known for clinical excellence and distinctive patient care."

Organization Structure:



Internship Project:

Project Title: Blood Transfusion Audit
Internship Site: Fortis Memorial Research Institute , Gurugram
Duration: June – July 2025
Department - Quality Department

Objectives:

- To assess the compliance of blood transfusion practices with NABH and internal hospital guidelines.
- To identify gaps in documentation, monitoring, and patient safety during transfusions.
- To evaluate the effectiveness of communication between departments involved in the transfusion process.
- To provide actionable insights for improving quality and safety in blood transfusion services.

Key Findings:

- Post-audit phase showed improved compliance in consent, vitals, and timing records.
- Staff awareness and understanding of transfusion protocols improved after targeted training sessions.
- Regular audits, digital monitoring, and interdepartmental coordination are essential to ensure patient safety.

Recommendations:

- Mandatory timestamping for blood request, issue, and transfusion
- Ensure all consent forms have patient and doctor signatures
- Barcode system to match patient ID and blood bag
- Use a digital tool or app to monitor TAT and alert delays
- Regular staff training and sensitization to transfusion protocol

Methodology:

- Study Design: A before-after audit study was conducted to evaluate compliance and turnaround time TAT in blood transfusion practices.
- Setting: Department of Transfusion Quality, Fortis Memorial Research Institute, Gurugram.
- Study Duration: 15 June to 21 July 2025 (37 days)
- Study Population: All IPD patients (wards and ICUs) 150 patients who received blood transfusions during the study period.

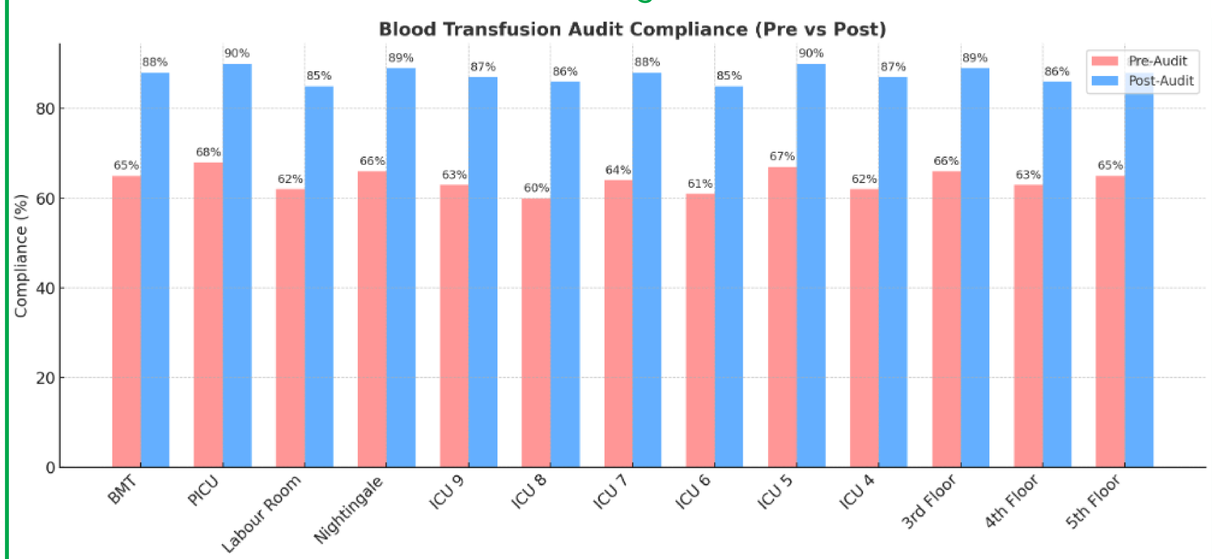
Pre-Audit Phase
- Period: 15 June to 25 June 2025
- Sample Size: 75 transfusion cases
- Method: Random sampling of IPD cases to assess baseline compliance (consent forms, timing, vitals)

Intervention Phase
- Period: 26 June to 30 June 2025
- A 5-day improvement initiative was carried out for nursing and clinical teams, focusing on correct documentation, transfusion timing, and checklist use.

Post-Audit Phase
- Period: 1 July to 21 July 2025
- Sample Size: 75 transfusion cases
- Method: Random sampling of IPD cases to measure improvement in compliance and reduction in TAT

Selection Criteria
- Inclusion: All IPD patients (wards, ICUs) who underwent blood transfusion
- Exclusion: OPD and intra-operative transfusion cases

Visual Insights:



Challenges Faced:

- Transfusion time often missing in records, especially in ICU and night shifts
- Consent forms often incomplete or missing signatures
- Difficulty in retrieving old records post-discharge
- Staff hesitancy in providing full details during real-time checks
- No baseline TAT data available for benchmarking

Major Learnings:

- Gained hands-on experience in conducting a clinical audit aligned with NABH and hospital quality standards.
- Understood the end-to-end blood transfusion process, including request initiation, cross-matching, issuance, and post-transfusion monitoring

Practical Exposure and Theory

Practical
- Observed the complete blood transfusion process in real hospital settings.
- Identified documentation gaps and worked with staff to improve compliance.
- Collaborated with nursing and quality teams during the audit process.

Theory
- Learned transfusion protocols, NABH standards, and audit procedures.
- Understood the role of communication and coordination in patient safety.

Suggestions for Improvement

- Implement a digital TAT tracking tool integrated with HIS
- Create a central transfusion dashboard for real-time compliance
- Include TAT audits in monthly department-wise CQI indicators
- Design SOP for night staff to ensure round-the-clock compliance
- Introduce a transfusion audit checklist for nurses