AUDITING COMPLIANCE TO CABG CLINICAL PATHWAY PARAMETERS USING MRD FILES AT MEDANTA HOSPITAL,GURGAON

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MBA-HM 28

INTRODUCTION-
CABG PATHWAY DOCUMENTATION

- **Coronary Artery Disease (CAD)** is a leading cause of death in India, with rising demand for **CABG surgeries** in tertiary care hospitals like Medanta.
- **CABG (Coronary Artery Bypass Grafting)** is a complex, high-risk procedure that demands **team coordination** and strict **perioperative protocols**.
- To **standardize care**, hospitals use **clinical pathways** — structured care plans that improve outcomes, ensure compliance, and meet **NABH/JCI standards**.
- However, in practice, **documentation gaps** exist. Clinical pathways are often seen as an **administrative task**, leading to **incomplete forms** and missed data.
- This study retrospectively audits CABG cases at **Medanta in March 2025** to:

-Assess documentation across **15 clinical parameters**
-Identify **non-compliance trends**
-Recommend actionable improvements

Medical Records Department (MRD)

The Medical Records Department at Medanta plays a critical role in ensuring comprehensive, accurate, and timely documentation of every patient's clinical journey.
It acts as the central hub for storage, retrieval, compliance auditing, and legal reference for all patient files.

Functions:

-Compilation and archiving of Inpatient & Outpatient records
-Verification of documentation completeness (discharge summaries, consent forms, reports)
-Support during medico-legal cases, audits, and accreditation (NABH/JCI)
-Mortality and morbidity file review coordination
-Facilitating retrospective research and quality analysis

OBJECTIVES

1.Assess compliance with 15 CABG clinical parameters-

A-Name of the Surgery Performed
– Verifies that the specific procedure (e.g., CABG) is clearly mentioned.

B-Admitting Consultant Name
– Ensures accountability by recording the responsible senior consultant.

C-Date of Admission
– Critical for mapping the patient's clinical journey timeline.

D-Date of Surgery
– Indicates when the CABG procedure was actually performed.

E-Date & Time of Extubation
– Tracks how soon the patient was extubated post-surgery — an important quality marker.

F-Date of Discharge or Death
– Marks the end of the hospital stay for outcome documentation.

G-Status on Discharge (Alive/Deceased)
– Clarifies survival status at the end of care episode.

H-Documentation in the Pathway Form (Complete/Incomplete)
– Evaluates whether the hospital's CABG pathway form was fully filled.

I-If No - Specify What Was Not Documented
– Captures missing components for partial/incomplete forms.
J-Spirometry Done Prior to Surgery
– Assesses if pre-operative lung function evaluation was performed.
K-Beta Blockers Prescribed on Post-Operative Day 1
– Key evidence-based medication that should be started early post-op.
L-Re-exploration Documented (If Yes – Mention Date)
– Notes whether a second surgical intervention was needed and when.
M-Reason for Re-exploration
– Identifies the clinical justification (e.g., bleeding, graft failure).
N-Re-intubation Within 48 Hours of Surgery (If Yes – Date & Time)
– Indicates post-op complications such as respiratory failure.
O-Ejection Fraction (EF) Value Documented
– Critical cardiac function metric that guides pre-op risk stratification.

2.Identify missed documentation areas

3.Recommend improvements

METHODOLOGY

Study Design:

A **retrospective, cross-sectional observational audit** conducted at Medanta – The Medicity, Gurugram.

The objective was to assess **compliance with documentation** standards in the CABG clinical pathway.

Audit focused on **15 predefined clinical parameters** as per Medanta's CABG protocol.

Study Duration & Setting:

Audit Period: April 1–30, 2025

Files Reviewed: CABG surgeries performed in **March 2025**

Setting: Cardiothoracic and Vascular Surgery (CTVS) unit and Medical Records Department (MRD)

Medanta is a **NABH & JCI accredited tertiary care hospital** with a high CABG volume and structured care pathways.

Sampling, Tools & Data Collection:

Study Population & Sample-
Sample Size: 55 CABG MRD files
Inclusion Criteria:
- Patients who underwent CABG at Medanta in March 2025
- Available CABG pathway form in the file
- Complete surgical and post-op documentation

Exclusion Criteria:
- Other cardiac surgeries (e.g., valve replacement)
- Missing or incomplete MRD files

Sampling Technique: Convenience sampling of all available eligible files

Study Tools-
A **structured checklist** based on 15 CABG pathway parameters:
- *Surgery name, consultant name, admission/surgery dates*
- *EF value, extubation timing, POD(Post-Operative Day) I beta blockers*
- *Documentation completeness, re-exploration, re-intubation status, etc.*

Entries marked as: **"Yes"**, **"No"**, or **"Missing"**

Data Analysis & Ethics:

Data Collection:

-Files manually reviewed in MRD with departmental permission
-Each file took approximately **15–20 minutes** to audit
-Observations were compiled into **Microsoft Excel** for analysis

Data Analysis:

-Used **descriptive statistics** (percentages) to evaluate compliance
-Created **pie charts** to visualize:
    Overall adherence
    Parameter-wise compliance
    Areas with frequent lapses

Ethical Considerations:

-No patient identifiers were collected
-Internal audit approvals were taken
-Data was used solely for quality improvement; **confidentiality maintained**

RESULTS

Compliance Summary:

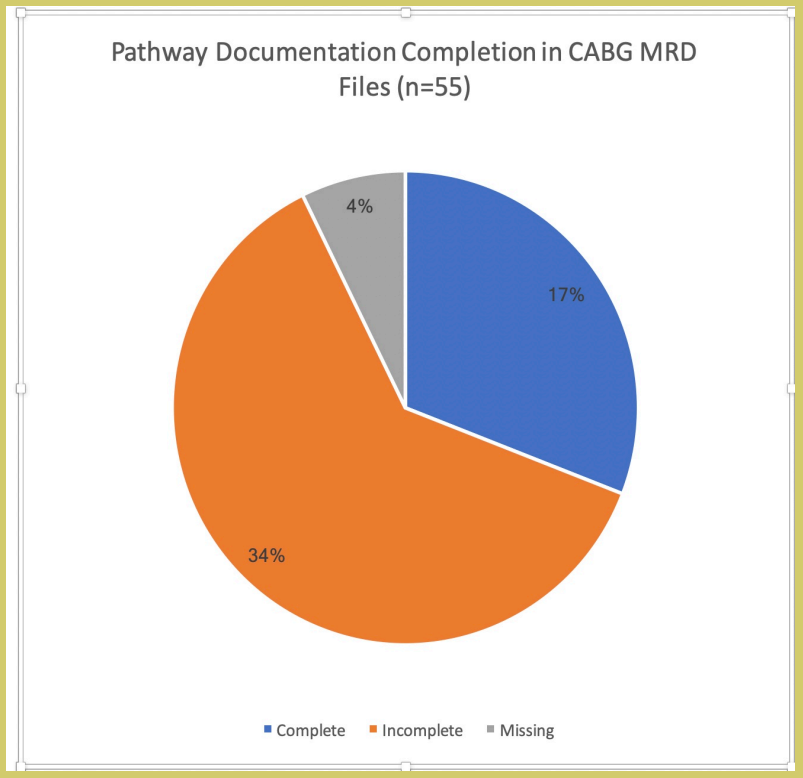
S. No.	Parameter	Yes	No	Missing	Compliance
1.	Pathway documentation complete	17	34	4	33.33%
2.	Spirometry done prior to surgery	53	0	2	100%
3.	Beta blocker prescribed on POD 1	30	23	2	56.60%
4.	Patient underwent re-exploration	1	52	2	1.89%
5.	Re-intubated within 48 hours post-surgery	1	52	2	1.89%

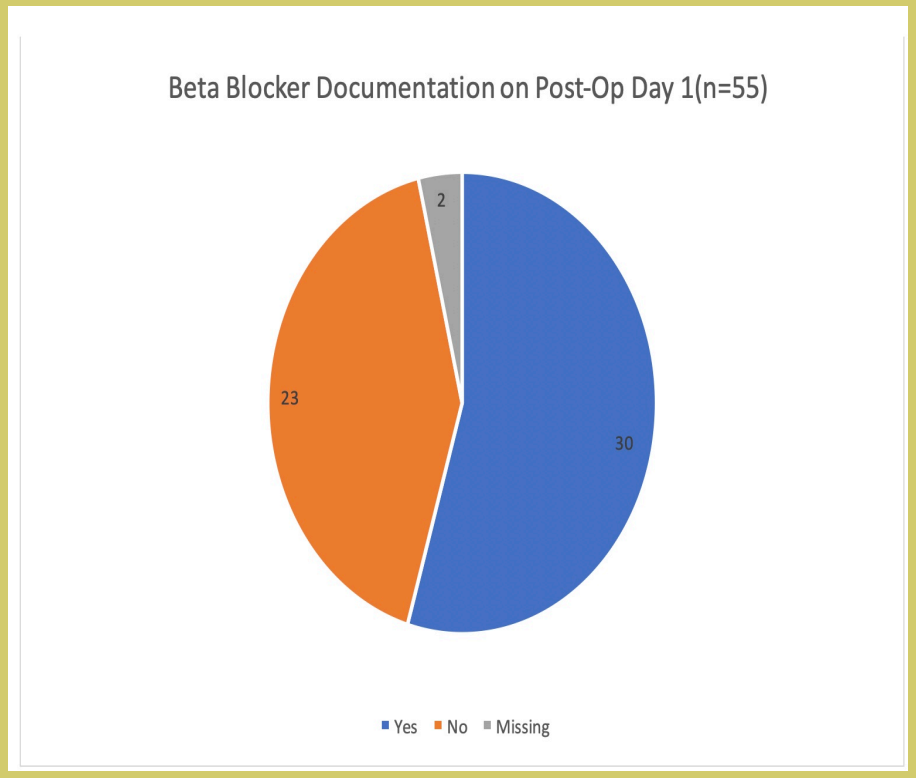
Chart Title

Note: Other parameters like name of surgery, date of surgery, date of extubation, and EF value were consistently recorded across all files and not shown in this table due to 100% documentation.

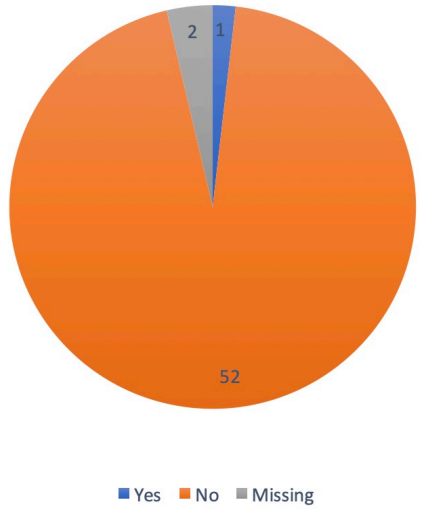
Most Common Gaps Identified:

1. Missing documentation in pathway form (e.g., beta blocker notes, re-exploration status)
2. Inconsistent entries of extubation time
3. Pathway forms present but left blank or partially filled

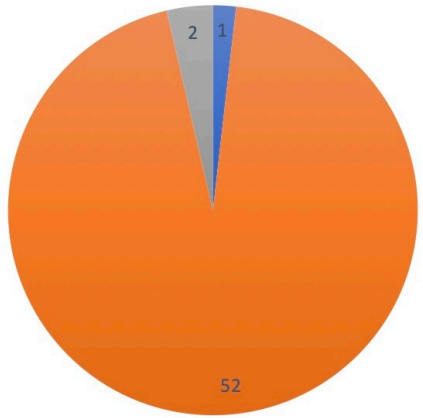




Re-exploration recorded in CABG Patients(n=55)



Re-intubation Within 48 Hours of CABG Surgery (n=55)



Key Observations:

High Compliance-
Spirometry prior to surgery had the highest documentation compliance (100%), indicating strong adherence to preoperative respiratory assessment protocols.

Moderate Compliance-
Administration of beta blockers on post-operative day 1 was documented in 56.6% of cases. The remainder lacked documentation or were contraindicated, though the reasons were not always recorded in the medication administration record

Low Compliance-
Pathway documentation was fully completed in only 33.3% of files, revealing a significant documentation gap in the use of structured forms.

Rare but Well-Documented Events-
Re-exploration and re-intubation were rare, each occurring in only 1 case (1.89%). These events were documented adequately in the respective files.

The audit revealed considerable variation in the documentation of CABG clinical pathway parameters:

High Compliance was observed in preoperative spirometry (100%), indicating that tasks managed by allied departments such as physiotherapy are consistently completed and documented, likely due to standard operating procedures.

Moderate Compliance was noted in the documentation of beta blocker administration on postoperative day 1 (56.6%). This inconsistency could stem from a lack of awareness, variations in individual clinical judgment, or simply poor documentation of clinical decisions.

Low Compliance was found in overall CABG pathway form completion (33.3%), suggesting a lack of integration between clinical care and documentation systems. Despite the form being available, its completion was often neglected, which may compromise the ability to monitor quality indicators.

Rare but Adequately Documented Events such as re-exploration and re-intubation (1.89% each) suggest that serious complications are more likely to be documented accurately, possibly due to their medico-legal importance.

ROOT CAUSES OF NON-COMPLIANCE

1. People

-Lack of Awareness: Junior doctors and rotating residents are often unfamiliar with the documentation requirements of the CABG pathway.

-High Turnover: Frequent staff changes lead to inconsistent documentation practices.

-Low Accountability: No clear responsibility assigned for completing the pathway form.

-Overburdened Staff: Time constraints during night shifts or emergencies result in skipped documentation steps.

2. Process

-Manual Paper-Based Workflow: Dependency on physical forms increases risk of misplacement and human error.

-Non-integrated Systems: EMR and pathway forms are not synchronized, leading to duplication or oversight.

-Lack of Audit Trail: No real-time notification system for incomplete forms.

3. Policy

-Documentation Not Mandatory: Pathway completion is not enforced as a prerequisite for discharge or file closure.

-Weak Penalty Mechanism: No escalation process or accountability loop for missed documentation.

-Lack of Orientation: New doctors/nurses not trained in pathway protocols during induction.

4. Place

-**No Dedicated Form Filing Area:** Pathway forms get misplaced in voluminous files.

Strengths and Limitations of the Study

Strengths:

-Focused audit on a specific high-risk surgical pathway in a high-volume tertiary care setting.
-Manual file review enhanced the accuracy of compliance measurements.
-Practical and policy-relevant findings.

Limitations:

-Small sample size (n=55), limited to one calendar month.
-Observational design, without an intervention component.
-Did not assess clinical outcomes, only documentation status.

LEARNINGS FROM THE STUDY

Documentation compliance is not solely dependent on clinical competence but on **workflow design**, **system prompts**, and **organizational culture**.
EMR integration, regular audits, and departmental ownership significantly improve adherence to clinical pathways.
Even highly competent clinical teams may struggle with documentation unless prompted and supported by system-level changes.

RECOMMENDATIONS

Based on the findings, the following recommendations are proposed to enhance documentation compliance and optimize pathway adherence:

A. Clinical Process & Documentation Practices
Enforce Pathway Usage Before MRD Closure:
Make completion of the CABG pathway form a checklist item for MRD file finalization.
Introduce Mandatory Checkpoints:
Develop time-point reminders (e.g., on POD 1 for beta blocker initiation) for residents and nurses during daily rounds.

B. Training & Awareness

Regular Sensitization Sessions:

Conduct mandatory training for interns, junior doctors, and nursing staff on pathway documentation protocols.

Feedback Mechanism:

Share quarterly audit results with the cardiothoracic team and use data for quality improvement meetings.

C. Digital Integration

Integrate Pathway into EMR System:

Digitize the CABG clinical pathway form within the hospital EMR to enable real-time documentation and auto-prompts.

Enable Auto-Population of Routine Entries:

Reduce manual work by auto-filling common fields (e.g., pre-op tests, medication orders) based on clinical actions taken.

D. Quality Assurance & Monitoring

Monthly Internal Audits:

Institutionalize routine audits of CABG files as part of hospital quality and patient safety protocols.

Incorporate Compliance in Performance Dashboards:

Make pathway adherence a quality indicator for the cardiothoracic unit and link it to departmental KPIs.

THANKYOU!