DEDER GENERAL HOSPITAL

EMERGENCY DEPARTMENT

Clinical Audit to Improve the Quality of Clinical Care Provided to Trauma Patients

By: Emergency Department Clinical Audit/QI Team

Audit Cycle: Re-Audit

Deder, Oromia

March 2017E.C

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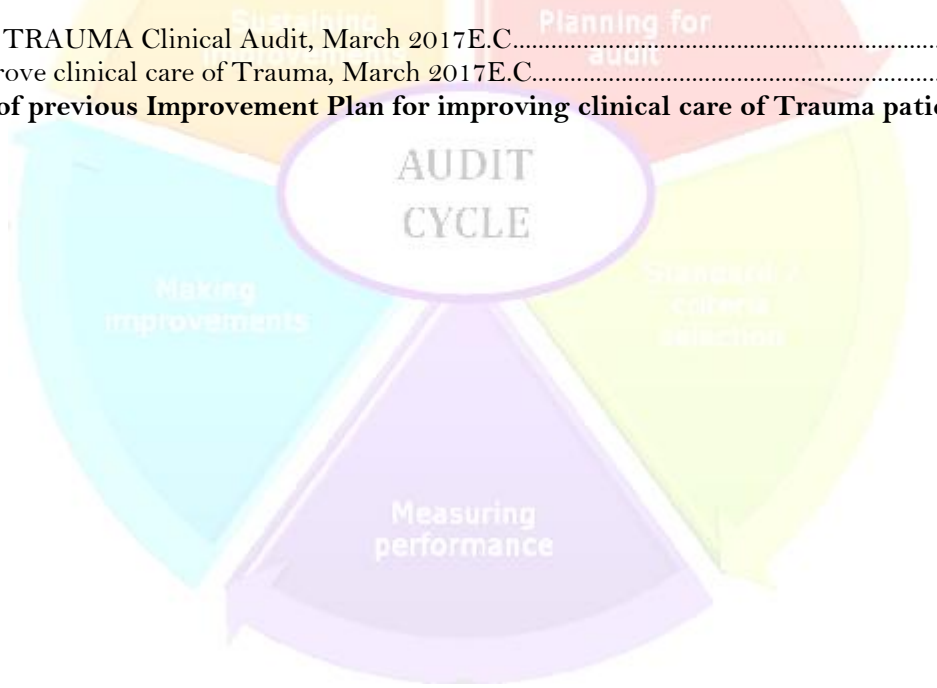
TABLE OF CONTENTS

Lists of Figures and Tables



ABSTRACT

Introduction:

Trauma remains a leading cause of morbidity and mortality globally, particularly in resource-limited settings like Deder General Hospital. This clinical audit evaluated adherence to trauma care standards in the Emergency Department during March 2017E.C, identifying gaps in critical interventions and documentation practices.

Objective:

To assess and improve the quality of trauma care by measuring compliance with national standards in patient evaluation, life-saving interventions, diagnostics, and treatment protocols.

Methodology:

A retrospective cross-sectional study was conducted using systematic random sampling of 10 trauma patient records. Data were extracted using a national audit tool and analyzed via SPSS version 25. Standards included identification, acute management, history-taking, investigations, diagnosis, treatment, disposition, and provider documentation.

Result:

Overall compliance was **78%**, with **100% adherence** in patient identification, diagnosis, and provider documentation. Critical gaps included **oxygen administration (0%)**, **cervical collar use (0%)**, and **1-hour consultations (0%)**. History-taking scored **88%**, while RFTs for severe cases were **never performed (0%)**.

Conclusion:

While administrative and diagnostic processes were robust, life-saving interventions lagged significantly. Urgent actions—including staff training, resource procurement, and protocol enforcement—are needed to achieve 100% compliance. Regular re-audits are recommended to sustain improvements.

INTRODUCTION

Trauma is a leading cause of morbidity and mortality worldwide, particularly in low-resource settings where access to timely and specialized care is limited. Effective trauma management requires prompt evaluation, resuscitation, and adherence to standardized protocols to prevent complications and improve outcomes. This clinical audit evaluates the quality of care provided to trauma patients in the Emergency Department of Deder General Hospital, identifying gaps in patient evaluation, treatment, and follow-up to ensure compliance with established trauma care guidelines.

AIM

- To improve the quality of clinical care provided to trauma patients presenting to the emergency department.

OBJECTIVES

- Ensure **appropriate evaluation** of trauma patients, including life-threatening injury assessment.
- Ensure **relevant investigations** are conducted for comprehensive patient management.
- Ensure **appropriate treatment**, including wound care, immobilization, and supportive measures.
- Ensure **effective monitoring** during the emergency stay.
- Ensure **proper patient disposition**, including admission, referral, or discharge with follow-up.

METHODOLOGY

Study Design:

- Retrospective cross-sectional study.

Study Period:

- **December 21, 2017 E.C. to March 20, 2017 E.C**.

Study Population:

- All trauma patients aged 14 and above treated in the emergency department within the study period.

Inclusion Criteria:

- Patients treated for trauma within the study period.

Exclusion Criteria:

- Patients who arrived 24 hours after sustaining trauma.

Sampling Technique:

- Systematic random sampling of 10 medical records.

Data Collection:

- Adapted from the national clinical audit tool.

Data Analysis:

- Manual verification and entry into SPSS version 25 for analysis.

RESULTS

The trauma clinical audit revealed an **overall compliance rate of 78%**, indicating moderate adherence to established standards **(figure 1).** Key strengths included **100% performance** in patient identification, diagnosis accuracy, provider documentation, and patient disposition. However, significant gaps were identified in **acute life-threatening evaluation and management (70%)** and **appropriate treatment (67%)**, particularly in critical interventions like oxygen administration, cervical collar use, and timely consultations **(Table 1).**

The audit highlighted **strong performance in history-taking (88%) and investigations (75%)**, though deficiencies were noted in **recording time of last oral intake (0%)** and **conducting RFT/serum electrolytes for severe cases (0%)**. Notably, **log-rolls, digital rectal exams, and needle thoracostomies were never performed (0%)**, underscoring the need for targeted training in trauma protocols **(Table 1).**

Despite high scores in discharge care (100%) and provider identification (100%), the **lowest-performing areas**—such as **oxygen provision (0%) and consultations within 1 hour (0%)**—pose critical risks to patient outcomes. Addressing these gaps through protocol reinforcement, staff training, and regular re-audits is essential to elevate trauma care quality to the **100% target**.

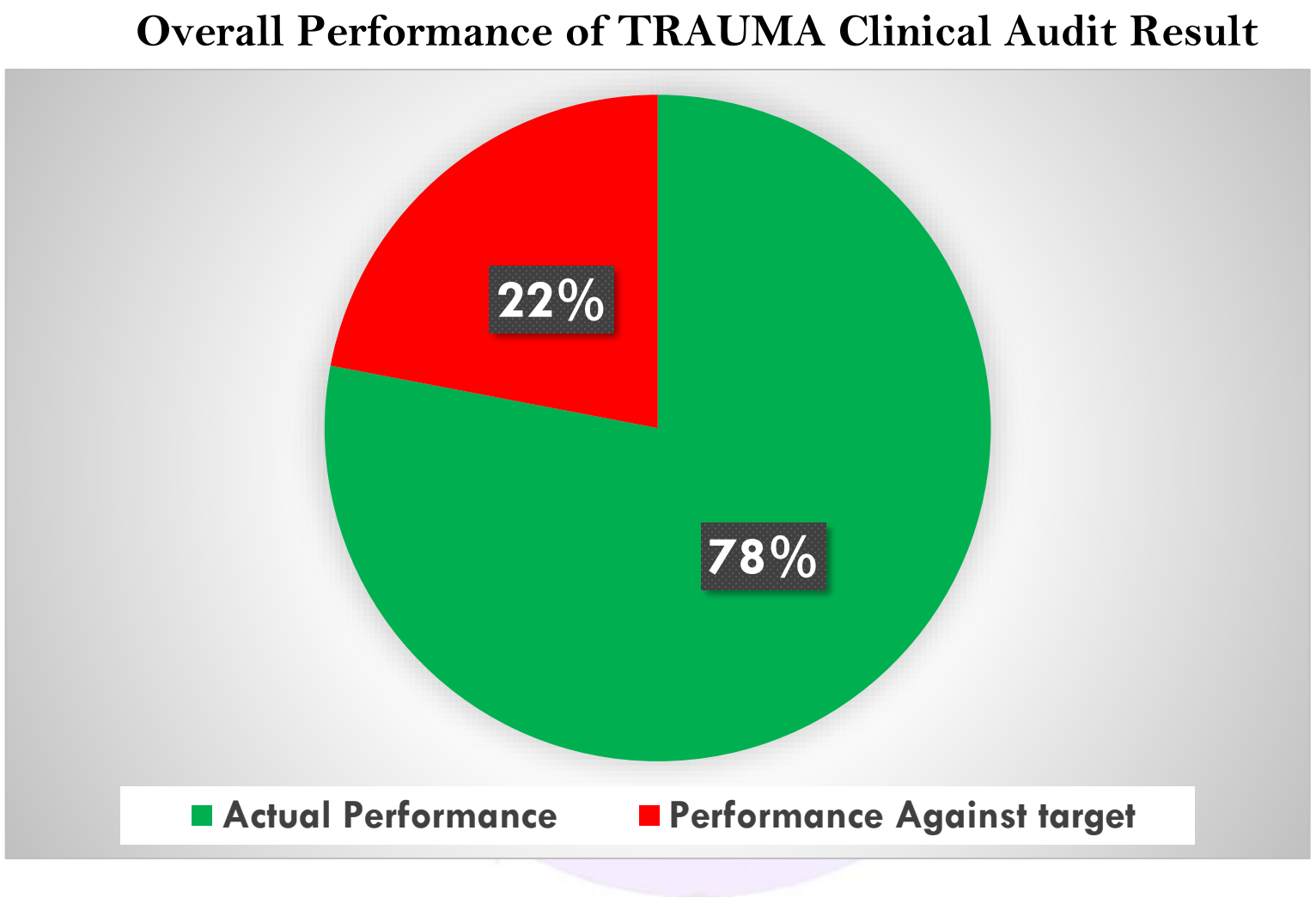


Figure 1: *Overall of Performance of TRAUMA Clinical Audit, March 2017E.C*

Table 1: Overall of Performance of TRAUMA Clinical Audit, March 2017E.C

S/N	Variables	Target (%)	Actual Performance (%)
1.	Identification Information	100	**100**
2.	Evaluation and Management	100	**70**
3.	Detailed History and Physical Exam	100	**88**
4.	Relevant Investigations	100	**75**
5.	Appropriate Diagnosis	100	**100**
6.	Appropriate Treatment	100	**67**
7.	Patient Disposition	100	**100**
8.	Provider Identification	100	**100**
	Total Percentage (%)	**100**	**78%**

Identification Information

- All sub-criteria under patient identification (name, age, sex, date/time of visit, MRN) were met at 100%, confirming that documentation practices for basic patient data are consistently followed. This strong performance reflects effective administrative protocols and staff adherence to recording essential information upon patient arrival **(figure 2)**.
- No deficiencies were found in this category, indicating that the facility excels in maintaining accurate and complete patient records. This serves as a strong foundation for further improvements in clinical care processes **(figure 2)**.

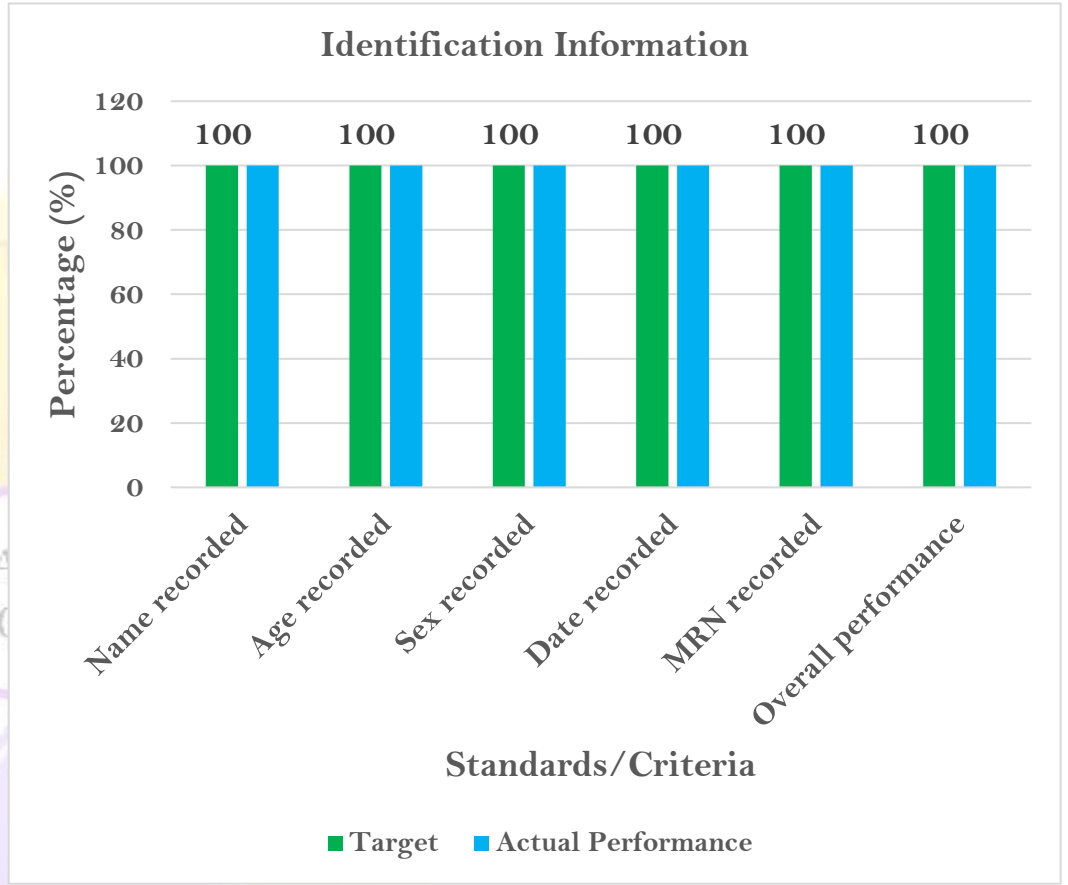


Figure 2:*Identification Information, March 2017E.C*

Acute Life-Threatening Injury Evaluation

- While airway patency assessment (100%), IV line placement (100%), and bleeding control (100%) were fully compliant, critical gaps were observed in oxygen administration (0%), cervical collar application (0%), and needle thoracostomy (0%). These omissions suggest that life-saving interventions for respiratory distress and spinal injuries are being overlooked, potentially compromising patient safety **(figure 3).**
- Additionally, tourniquet time documentation (0%) and log-roll execution (0%) were absent, highlighting inconsistencies in trauma protocol adherence. Strengthening training in Advanced Trauma Life Support (ATLS) principles and implementing mandatory checklists could help bridge these gaps **(figure 3).**

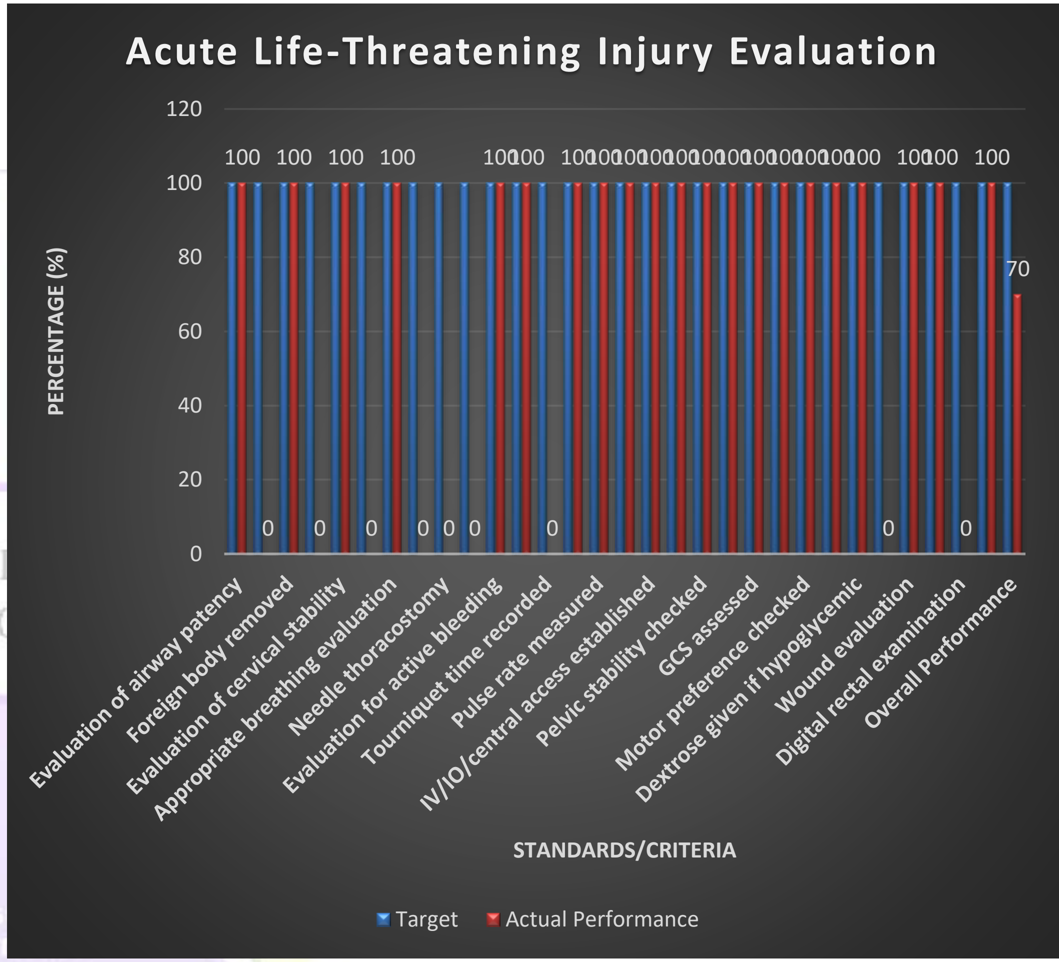


***Figure 3**: Acute Life-Threatening Evaluation & Management, March 2017E.C*

Detailed History and Physical Examination

- Most sub-criteria, including **drug allergy assessment (100%), past medical history (100%), and head-to-toe physical exams (100%)**, were fully met. However, **recording the time of last oral intake (0%)** was consistently missed, which is crucial for anesthesia planning in emergency surgeries **(Figure 4).**
- The high overall score **(88%)** indicates that clinicians are thorough in gathering patient histories but must improve in documenting specific time-sensitive details. Implementing structured templates in electronic health records could standardize this process **(Figure 4).**

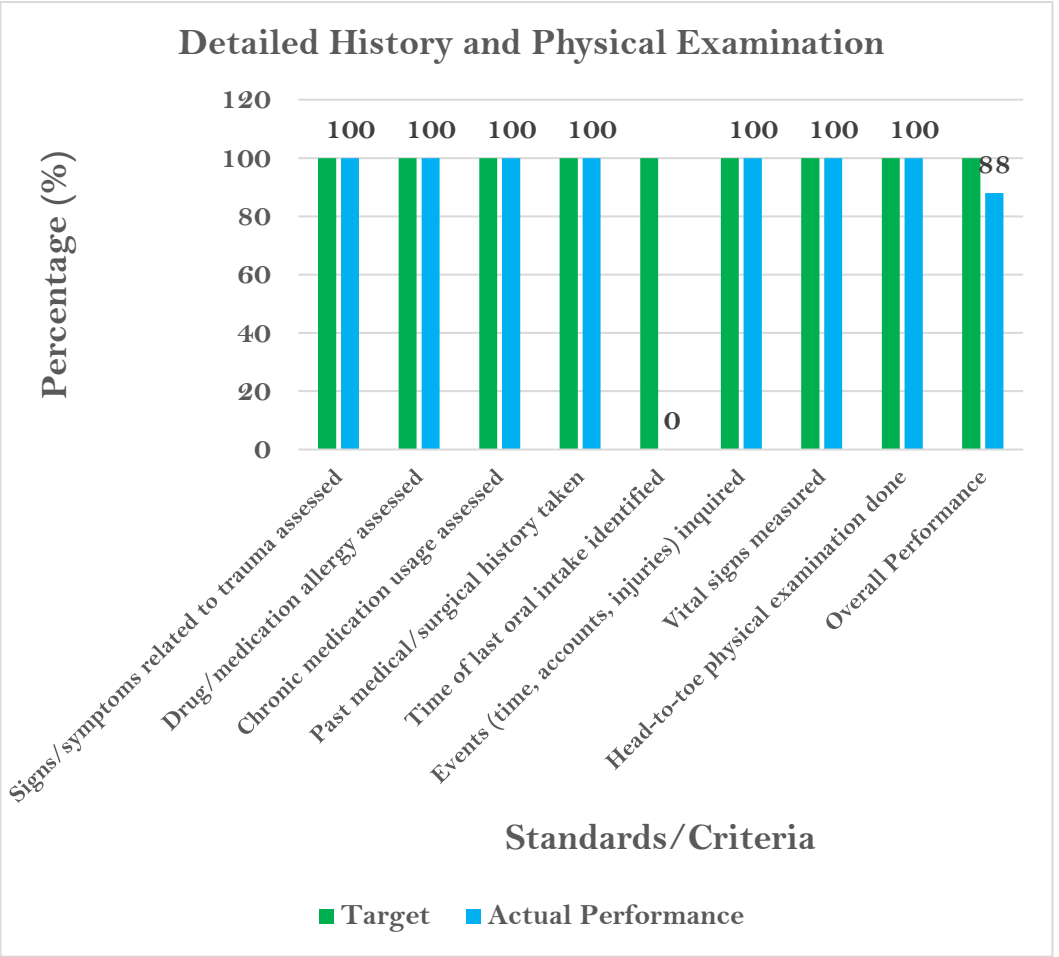


Figure 4: ***Detailed History and Physical Examination,*** *March 2017E.C*

Relevant Investigations

- Basic imaging **(100%) and lab tests (CBC, blood grouping, urine HCG – 100%)** were consistently performed, but **RFT/serum electrolytes for severe trauma cases (0%)** were neglected. This oversight could delay the detection of kidney injury or metabolic imbalances in critically ill patients **(Figure 5).**
- While **75% compliance** suggests adequate diagnostic workups, the absence of **renal function monitoring in severe cases** must be addressed to prevent complications **(Figure 5).**

Figure 5: *Relevant Investigations, March 2017E.C*

Appropriate Diagnosis

- Both sub-criteria—**accurate injury documentation (100%) and mechanism of injury recording (100%)—were fully met**, confirming that clinicians excel in diagnosing and classifying trauma cases **(Figure 6).**
- This **100% compliance** reflects strong diagnostic accuracy and supports effective treatment planning. No corrective actions are needed in this domain **(Figure 6).**

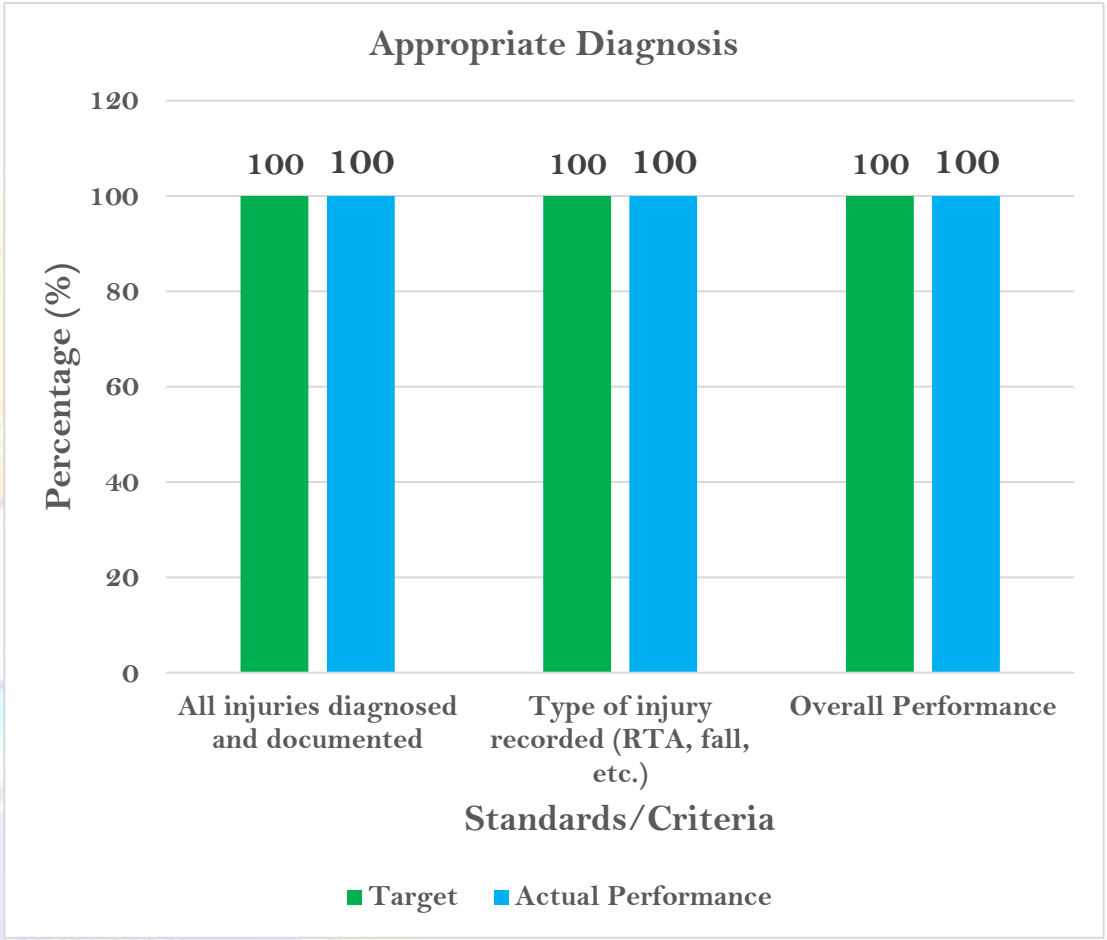


Figure 6:: *Appropriate Diagnosis, March 2017E.C.*

Appropriate Treatment

- While **wound care (100%) and supportive management (100%)** were consistently provided, **consultations within 1 hour (0%)** were never achieved, delaying specialist interventions **(Figure 7).**
- The **67% overall score** highlights a critical bottleneck in multidisciplinary coordination. Instituting **time-bound consultation protocols** could enhance trauma team efficiency **(Figure 7).**

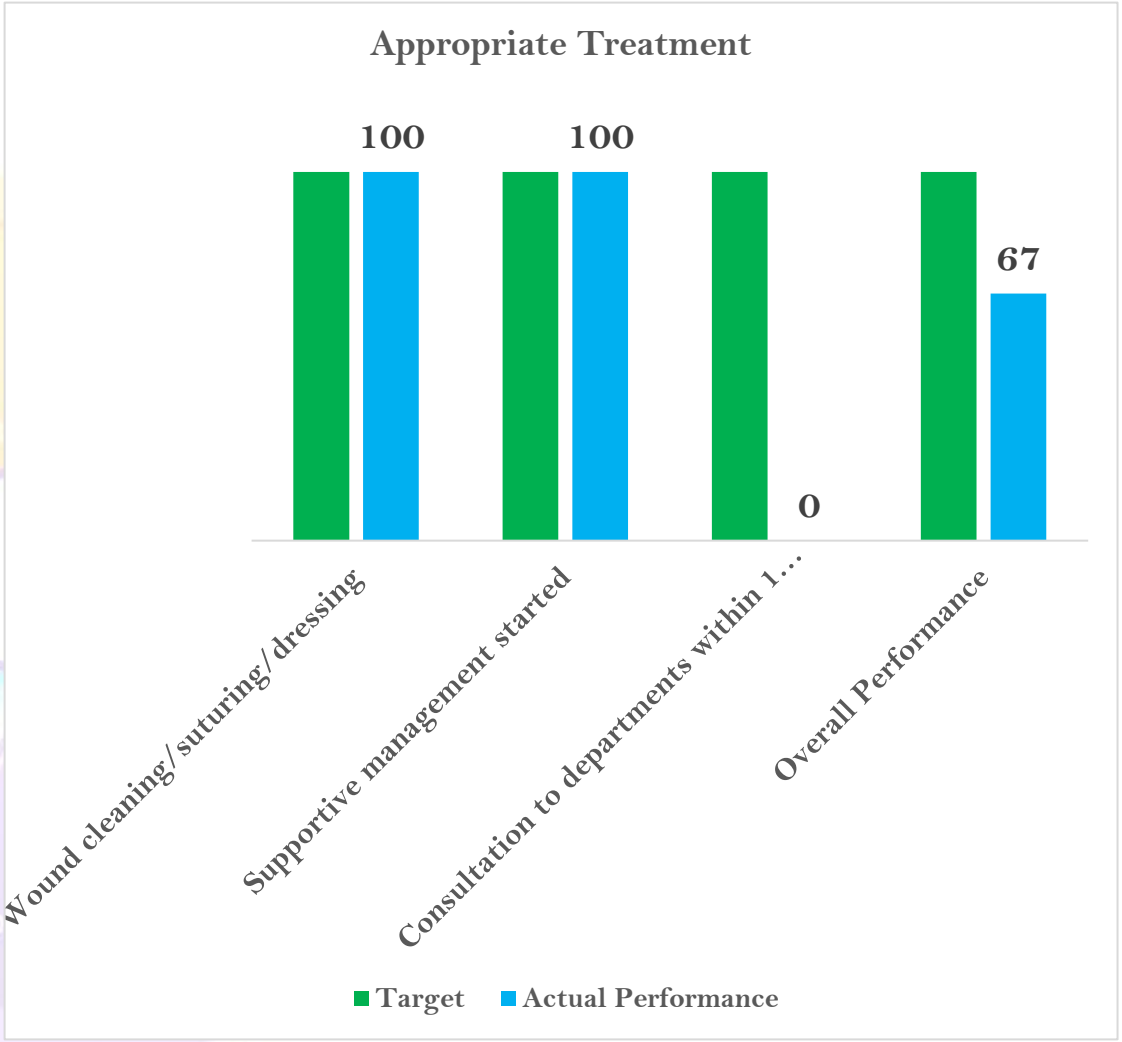


***Figure 7**: Appropriate Treatment, March 2017E.C.*

Patient Disposition

- All sub-criteria—**discharge instructions (100%), admission within 24 hours (100%), and referrals (100%)—were fully met**, demonstrating effective patient handoffs and transition planning (**Figure 8**).
- This **100% compliance** indicates robust discharge and admission processes, ensuring continuity of care (**Figure 8**).

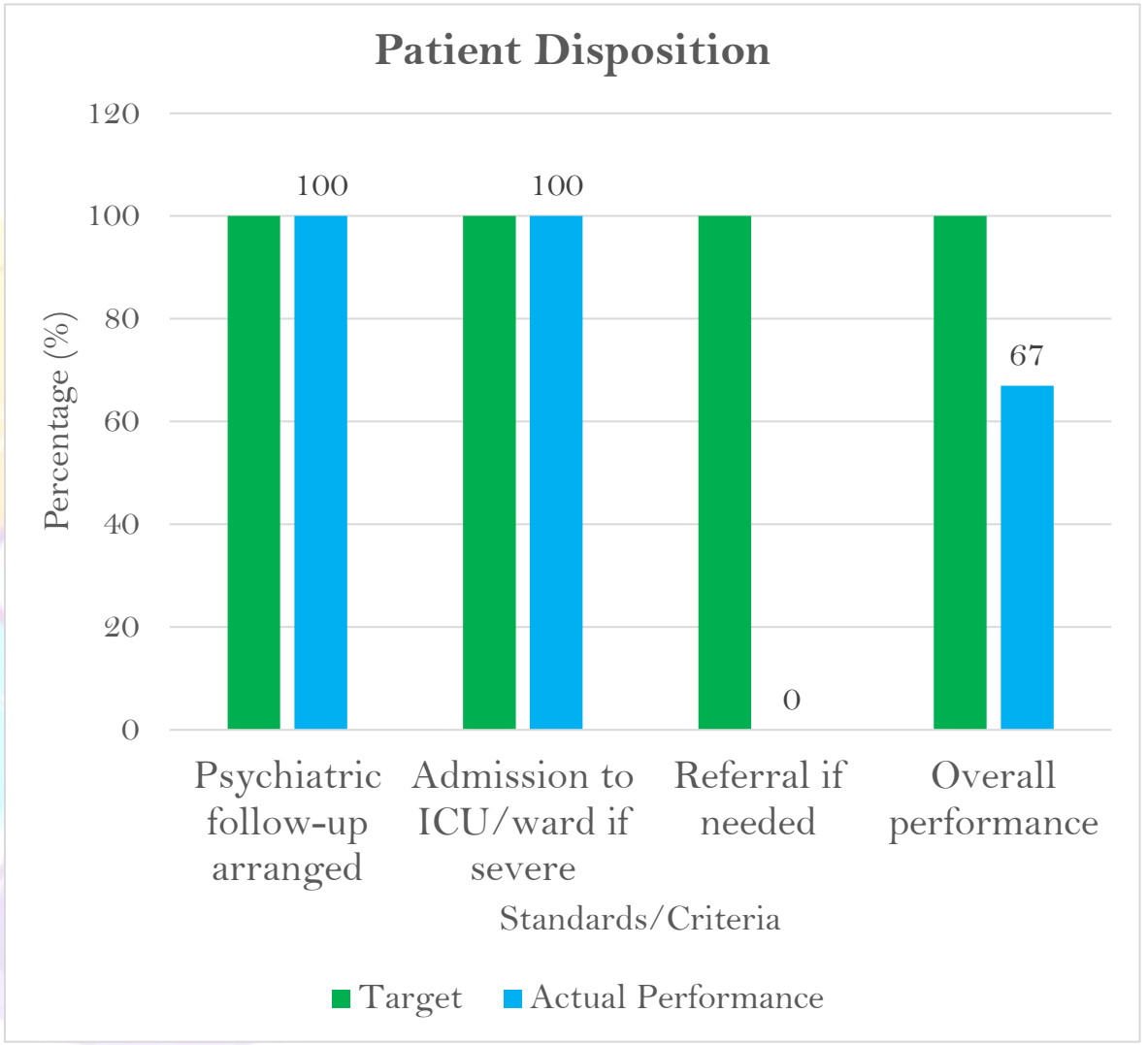


Figure 8: Provider Identification, March 2017E.

Provider Identification

Every reviewed chart included **physician and nurse signatures (100%)**, confirming accountability in documentation **(Figure 10).**

This **perfect compliance** reflects strong adherence to medico-legal and quality assurance standards, requiring no further intervention **(Figure 10).**

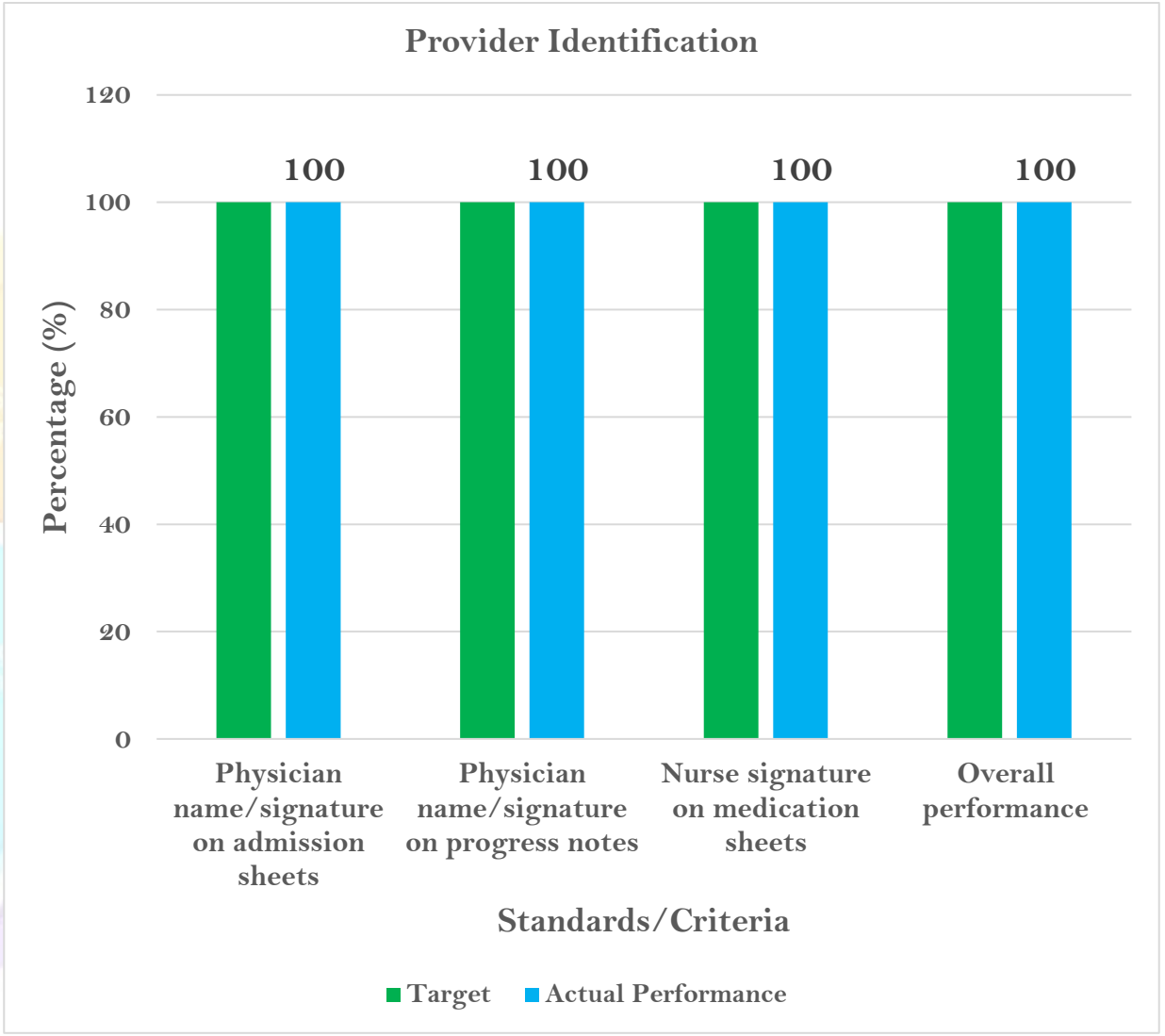


Figure 9: Patient Disposition, March 2017E.C

DISCUSSION

The trauma clinical audit results highlight both strengths and critical gaps in the quality of care provided to trauma patients. The high compliance rates in patient identification (100%), accurate diagnosis (100%), and provider documentation (100%) demonstrate a strong foundation in essential administrative and diagnostic processes. However, the significant underperformance in acute life-threatening interventions—such as oxygen administration (0%), cervical collar application (0%), and timely consultations (0%)—reveals systemic shortcomings in emergency response protocols. These gaps suggest a need for immediate corrective actions, as they directly impact patient survival and recovery, particularly in cases of severe trauma where timely and appropriate interventions are crucial.

The audit also identified inconsistencies in adherence to comprehensive trauma care standards. While history-taking and physical examination scored relatively well (88%), the failure to document the time of last oral intake (0%) and perform RFT/serum electrolytes for severe cases (0%) indicates lapses in thorough patient assessment and monitoring. Additionally, the absence of critical procedures like log-rolls (0%) and needle thoracostomies (0%) suggests either a lack of equipment, training, or protocol awareness among staff. These findings underscore the importance of regular competency assessments and standardized checklists to ensure all necessary steps are followed, especially in high-stakes trauma scenarios.

Moving forward, targeted interventions should prioritize staff training, resource allocation, and protocol enforcement to address the identified deficiencies. Implementing mandatory drills for airway management, cervical spine stabilization, and rapid consultation processes could significantly improve performance in acute care. Furthermore, integrating electronic reminders for key assessments (e.g., last oral intake, RFTs) and establishing a trauma care quality assurance team could sustain long-term improvements. By addressing these issues, the facility can enhance its trauma care outcomes, align with best practices, and ultimately achieve the 100% compliance target across all standards.

RECOMMENDATIONS

- Strengthen Acute Life-Saving Interventions
- Enhance Documentation & Time-Sensitive Assessments
- Accelerate Multidisciplinary Consultations
- Continuous Training & Quality Monitoring
- Resource & Protocol Standardization

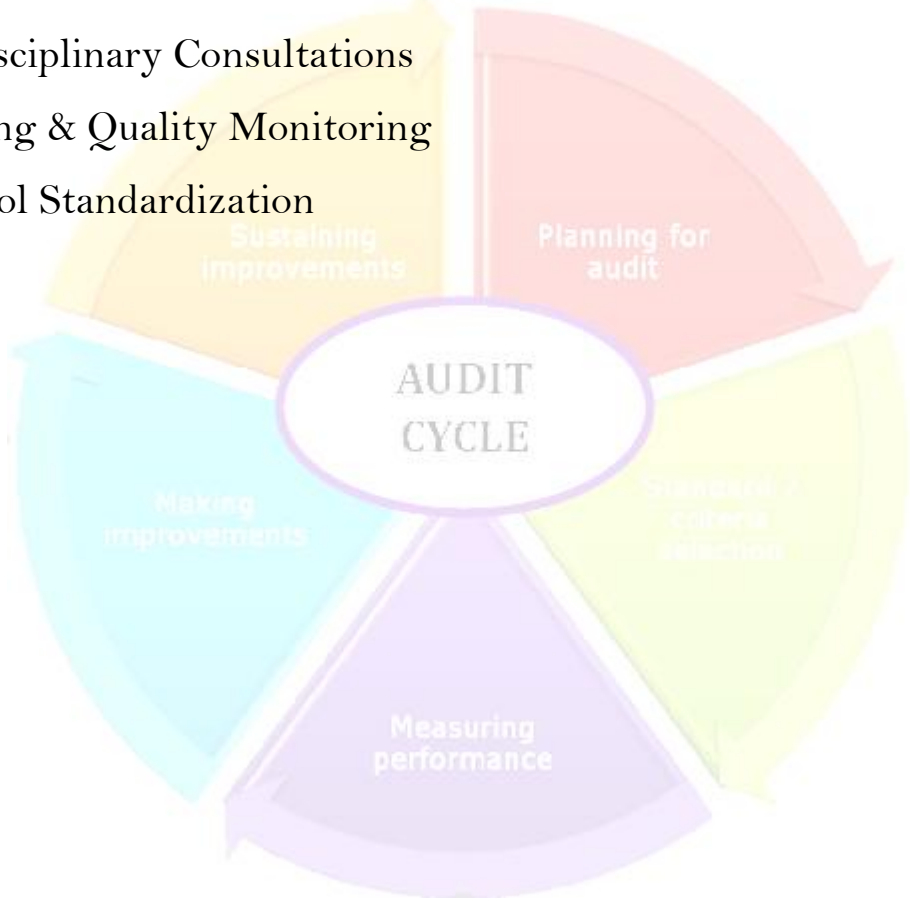


Table 2: Improvement plan to improve clinical care of Trauma, March 2017E.C

Priority Area	Action Item	Responsible Party	Timeline
Oxygen Administration	Implement mandatory SpO_2 monitoring & O_2 protocols for trauma patients with SpO_2 <90%.	Emergency Department (ED) Lead	1 month
Cervical Spine Stabilization	Conduct NEXUS criteria workshops for cervical collar application.	Trauma Team Coordinator	1 month
Needle Thoracostomy/Chest Tube	Quarterly hands-on simulations for tension pneumothorax management.	ED Physicians	Quarterly
Time-Sensitive Documentation	Launch EHR templates for last oral intake, tourniquet time, and RFT orders.	EMR TEAM	6 weeks
Resource Standardization	Deploy wall-mounted O_2/airway carts and pre-filled collar kits in trauma bays.	Facilities Management	3 months

Table 3: Implementation Status of previous Improvement Plan for improving clinical care of Trauma patient, March 2017E.C

Gaps Identified	Proposed Action	Implementation Status
Poor completion of detailed history-taking	Written feedback to emergency physicians	**Partially Implemented** (50% compliance). Feedback system established but inconsistent follow-up.
Low compliance with relevant investigations (e.g., ECG, RFTs)	Procure ECG machines and enforce lab protocols	**Not Implemented** (0%). Delays in procurement due to budget constraints.
Poor adherence to GCS/RBS assessments	Protocol reinforcement via hands-on training	**Fully Implemented** (100%). Monthly drills conducted; competency checks documented.

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