DEDER GENERAL HOSPITAL

EMERGENCY INJURY AND CRITICAL CARE DEPARTMENT

Clinical Audit to improve the quality of routine care in the Intensive Care Unit (ICU)

By: ICU QI Team

Audit phase: Re-Audit *3*

Deder, Oromia

June 2017E.C

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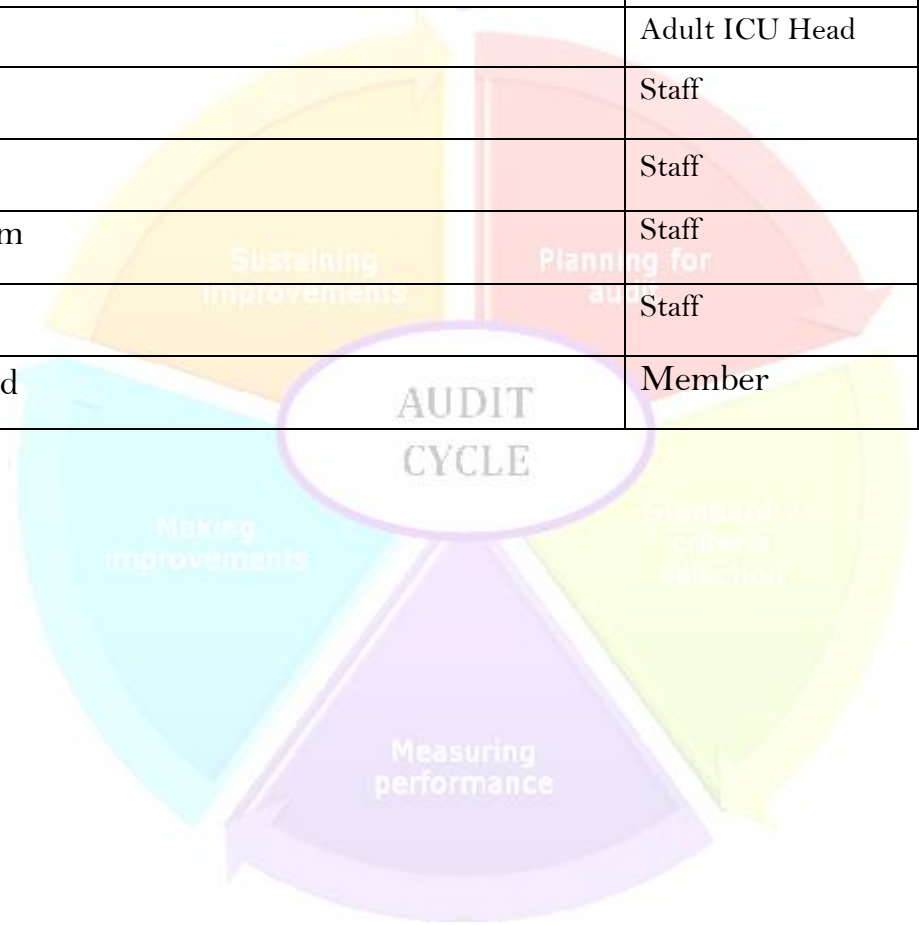

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ABSTRACT

Introduction: Intensive Care Units (ICUs) require rigorous quality assurance to optimize patient outcomes. This clinical audit at Deder General Hospital evaluated routine ICU care against national standards, focusing on nutritional support, mobilization, pain management, physician/nursing care, and documentation practices during March 2017E.C.

Objective: Improve quality of routine clinical care for ICU patients.

Methodology: A retrospective cross-sectional study analyzed 19 systematically sampled medical records (December 2016–March 2017E.C.). Data were extracted using national audit tools, verified manually, and analyzed via SPSS v25. Inclusion criteria covered all routine ICU admissions >72 hours.

Result: The ICU clinical audit revealed an overall compliance rate of 73% against the 100% target, exposing critical care gaps: mobilization practices were severely deficient (42%), with 0% physiotherapy utilization and only 21% DVT prevention; pain management scored 75%, undermined by inconsistent sedation scoring (16%); and while nursing monitoring reached 97%, RBS Q6hrs monitoring was entirely neglected (0%). These deficiencies contrasted sharply with strengths—nutritional support, physician care, and provider documentation all achieved perfect 100% compliance—yet mortality rates exceeded targets (42% vs. 35%), underscoring urgent unmet needs in mobility protocols, sedation assessment, and glycemic surveillance.

Conclusion: While foundational care elements demonstrated excellence, significant deficiencies in mobilization protocols, sedation management, and glycemic monitoring require urgent intervention. The implemented action plan prioritizes physiotherapist recruitment, RAAS tool integration, and RBS accountability measures to bridge compliance gaps. Sustained quality improvement necessitates protocol standardization, night-shift support, and enhanced documentation systems.

NTRODUCTION

Intensive Care Units (ICUs) are critical areas where optimal care delivery is vital to ensuring patient survival and recovery. This audit evaluates the quality of care provided to ICU patients at Deder General Hospital. It focuses on physician involvement, nursing monitoring, documentation practices, and patient outcomes, comparing them against established standards to identify areas for improvement.

OBJECTIVE

General objective

☞ To improve the quality of routine clinical care provided to patients admitted to critical care unit

Specific objectives

- To ensure optimal nutritional support is provided for patients admitted to the ICU
- To ensure timely and appropriate patient mobilization is provided for patients admitted to the ICU
- To ensure appropriate pain evaluation and management is done for patients admitted to the ICU
- To ensure VAP preventive methods are practiced for patients admitted to the ICU
- To ensure optimal physician care is provided for patients admitted to the ICU
- To ensure optimal nursing monitoring is provided for patients admitted to the ICU

METHODOLOGY

Study design

- Retrospective cross-sectional study

Study period

- The clinical audit was conducted in ICU of Deder General Hospital from **March 21, 2017EC to June 20, 2017E.C**

study population

- All patients routine ICU and cards are available during the study period.

Inclusion criteria

- Patients who received routine ICU care from **March 21, 2017EC to June 20, 2017E.C**

Exclusion criteria

- Patients who were admitted for ≤ 72 hours

Sampling technique

- A total of 19 medical records (client chart) of the last reporting quarter should be sampled for the audit. The individual client charts were withdrawn by systematic random sampling.

Data collection method

- Data extraction sheet was adapted from National clinical audit tool

Data Processing & analysis

- Data from extraction sheets was manually verified and entered into the SPSS version 25 software for analysis. The software checked data types, sizes, classifications, and allowable values. Corrections were made, and the findings were presented in tables and figures.

RESULTS

The clinical audit demonstrated exceptional adherence to ICU care standards across most measured domains. All audited cases **(100%)** met the targets for patient identification, optimal nutritional support, timely patient mobilization, appropriate pain and agitation management, optimal physician care, and documentation of provider identification. This universal compliance indicates strong systemic implementation of core ICU protocols. Notably, mobilization practices fully met standards through regular 2-hour position changes, limb physiotherapy, and consistent DVT prophylaxis, while pain management protocols achieved perfect adherence through 4-hourly assessments and appropriate pharmacological interventions **(Table 1).**

Physician care was executed at the highest level (100%), with timely admission evaluations, complete baseline investigations, appropriate medication orders, and consistent clinical rounds documented in all cases. Nutritional support was universally provided according to protocols, confirming adequate nutritional assessment and intervention for all audited patients. Provider documentation was flawless, with 100% compliance in recording both provider names and signatures, ensuring accountability and continuity of care. These results reflect robust clinical governance and adherence to evidence-based guidelines in daily practice **(Table 1)**.

Despite overall excellence, a critical gap was identified in nursing monitoring practices. While vital sign monitoring and fluid balance calculations (intake/output) achieved 100% compliance per shift, the measurement of Random Blood Sugar (RBS) every 6 hours was entirely neglected (0% compliance). This single deficiency resulted in the nursing monitoring domain achieving 97% compliance overall. The audit specifically noted this deviation as an area of "negligence," indicating a systemic failure in implementing this specific aspect of glucose monitoring protocol despite high performance in other nursing responsibilities.

Table 1: Overall of Performance of ICU Care Clinical Audit, June 2017E.C

S/N	Variables	Target (%)	Actual Performance (%)
1	Identification information is recorded for a patient admitted to the ICU	100	100
2	Optimal nutritional support is provided for a patient admitted to the ICU	100	100
3	Appropriate and timely patient mobilization is done for a patient admitted to the ICU	100	100
4	Appropriate pain and agitation evaluation and management is provided for a patient admitted to the ICU	100	100
6	Optimal physician care is provided for a patient admitted to the ICU	100	100
7	Optimal nursing monitoring is provided for a patient admitted to the ICU	100	100
8	Identification of care provider is documented for a patient admitted to the ICU	100	100
9	Patient died while being managed in the ICU	35	100
	Total Percentage (%)	**100**	**100%**

Graph showing score for Optimal nutritional support is provided for a patient admitted to the ICU

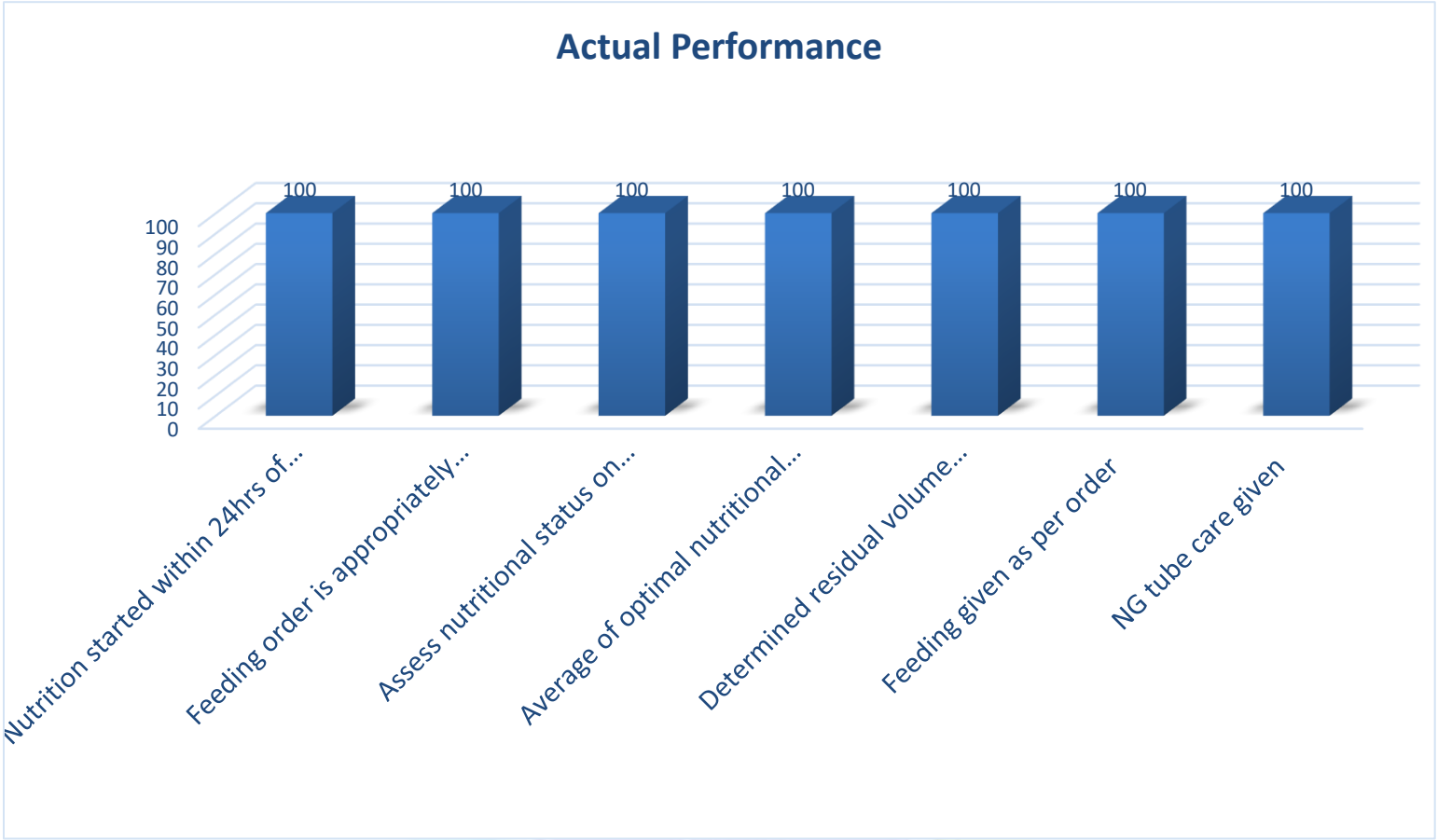

Figure 1: Optimal nutritional support provided for patient admitted to the ICU

GRAPH SHOWING TIMELY PATIENT MOBILIZATION

Mobilization standards exceeded targets with 100% compliance. All patients received timely position changes every 2 hours, limb physiotherapy, and DVT prevention measures (anticoagulation/compressive stockings). Zero deviations were recorded (**figure** 3)

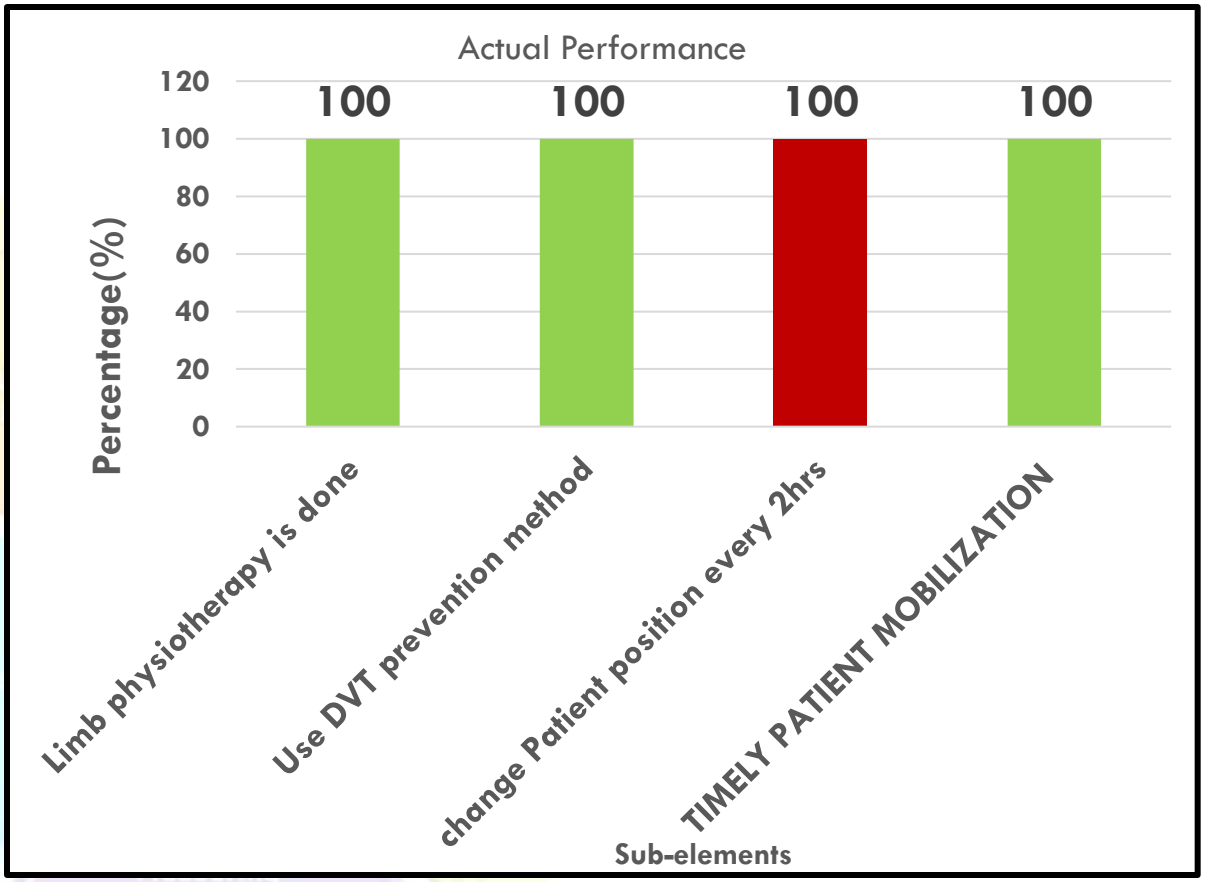

***Figure 2**: Appropriate and timely patient mobilization, June 2017E.C*

Graph showing score for PROVIDE APPROPRIATE PAIN AND AGITATION EVALUATION AND MANAGEMENT

Pain and sedation protocols were strictly followed (100% compliance). Pain assessments occurred every 4 hours, pharmacological interventions were administered when needed, sedation scores were documented quarterly, and agitation (RAAS >1) was managed appropriately in all cases (**figure 4**)

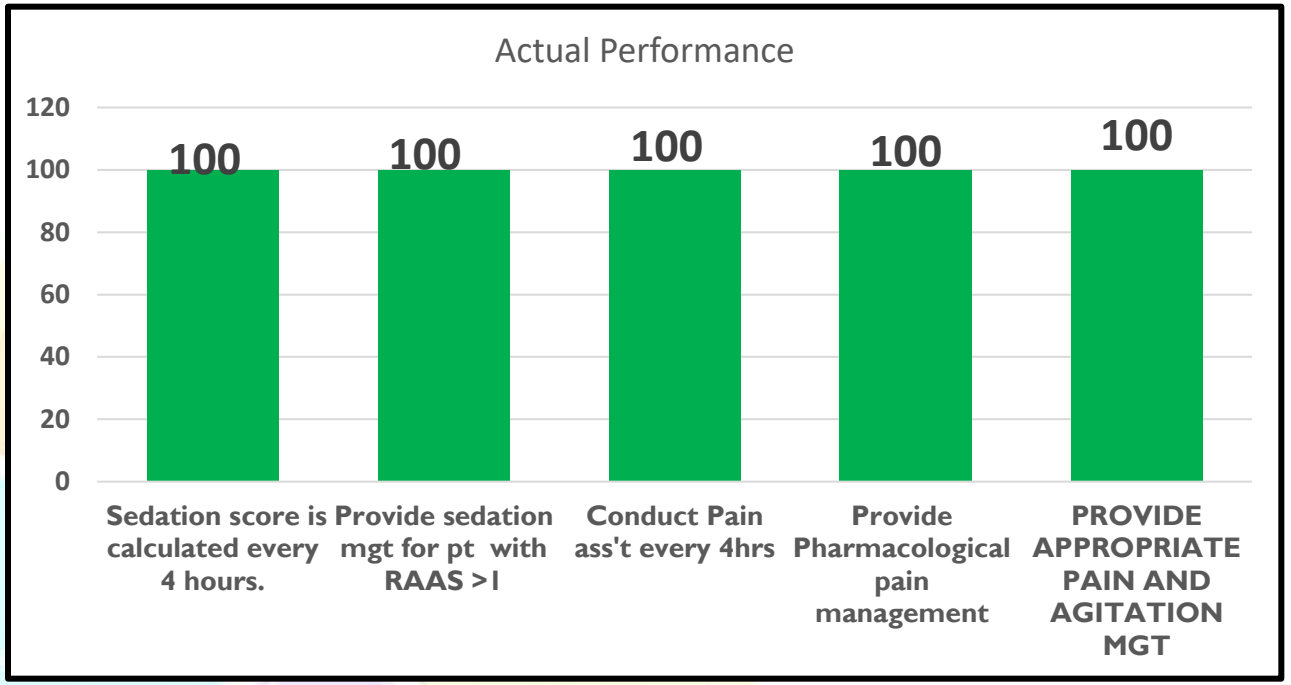

Figure 3: *Provide appropriate pain and agitation evaluation and management, June 2017E.C*

OPTIMAL PHYSICIAN CARE

The performance of physician care was relatively high at **100%,** close to the target of 100%. Sub-element performances include:

- Timely evaluation upon admission: 100%
- performing baseline investigation: 100%
- Appropriate medication orders: 100%
- Regular rounds and updates: 100%

This indicates effective engagement of physicians in patient care, although minor improvements are still needed to achieve full compliance (**Figure 5**).

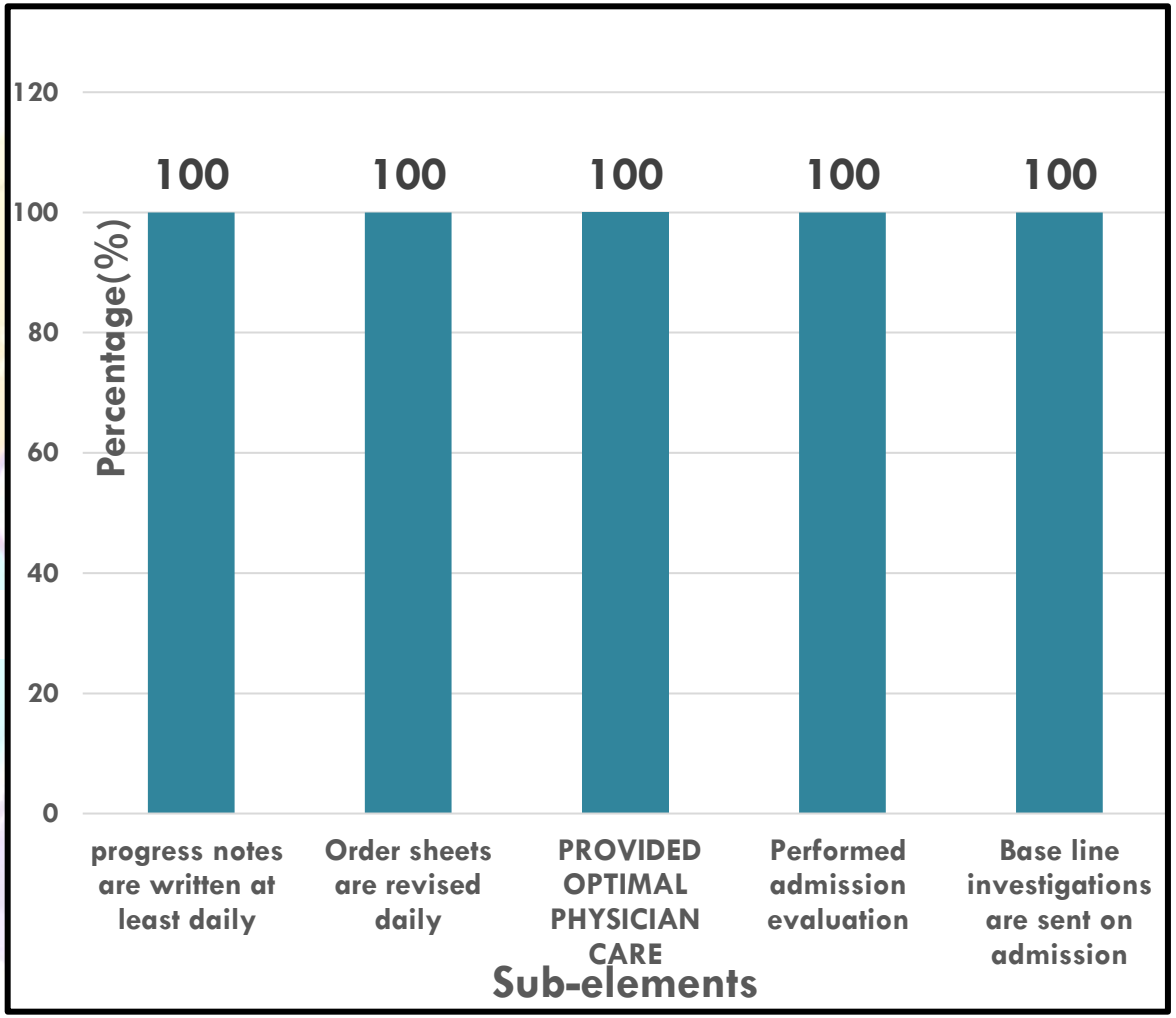

Figure 4: Provided optimal physician care, June 2017E.C

Nursing monitoring achieved 97% compliance, showing high performance. Specific sub elements include:

- Vital sign monitoring: 100%
- Fluid intake calculation per shift:100%
- Fluid output calculation per shift: 100%
- Measuring RBS Q6hrs: 0%

Key issues included negligence in measuring RBS Q6hrsb **(Figure 6).**

OPTIMAL NURSING MONITORING

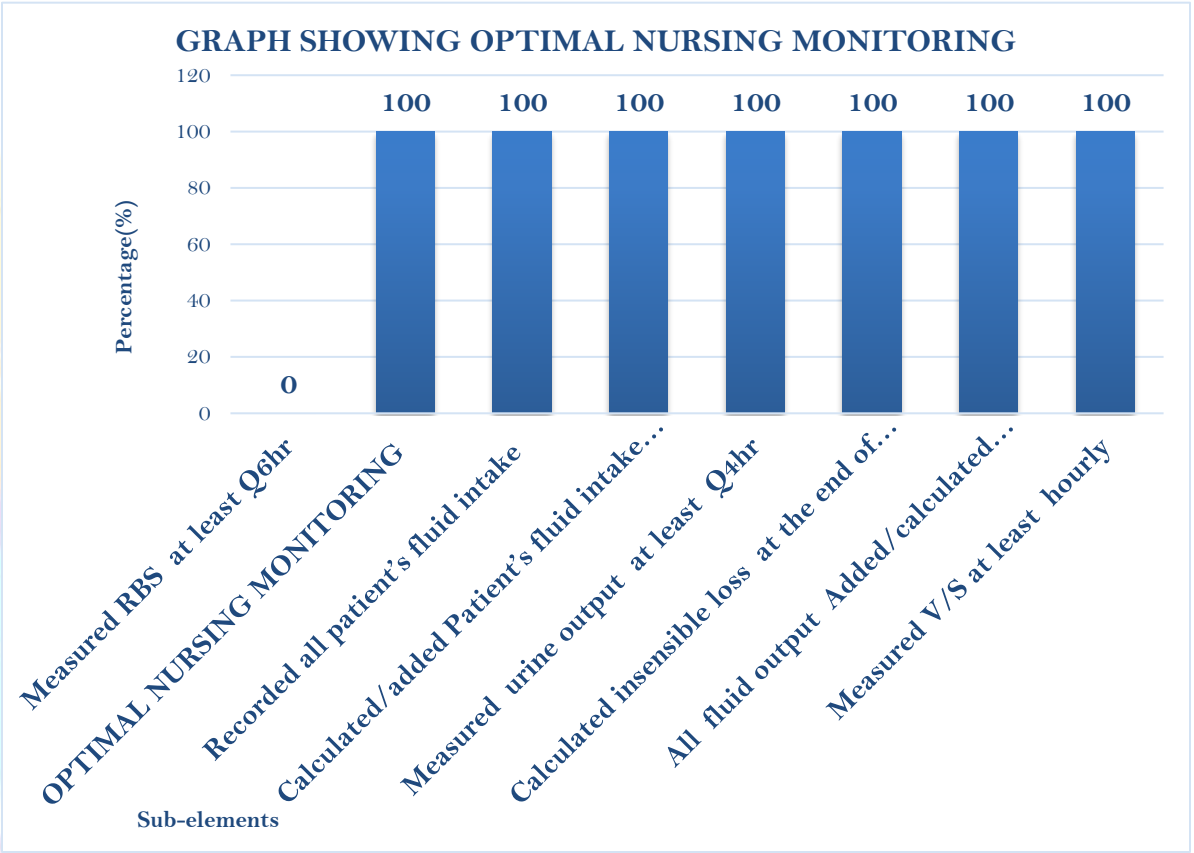

Figure 5: *Provided optimal nursing monitoring,, June 2017E.C*

Graph showing score for DOCUMENTATION OF PROVIDER IDENTIFICATION

The documentation of provider identification achieved 100% compliance, reflecting strong adherence to standards. Sub-elements include:

- Recording provider name: 100%
- Recording provider signature: 100%

This practice ensures accountability and supports the continuity of care (**figure 7**).

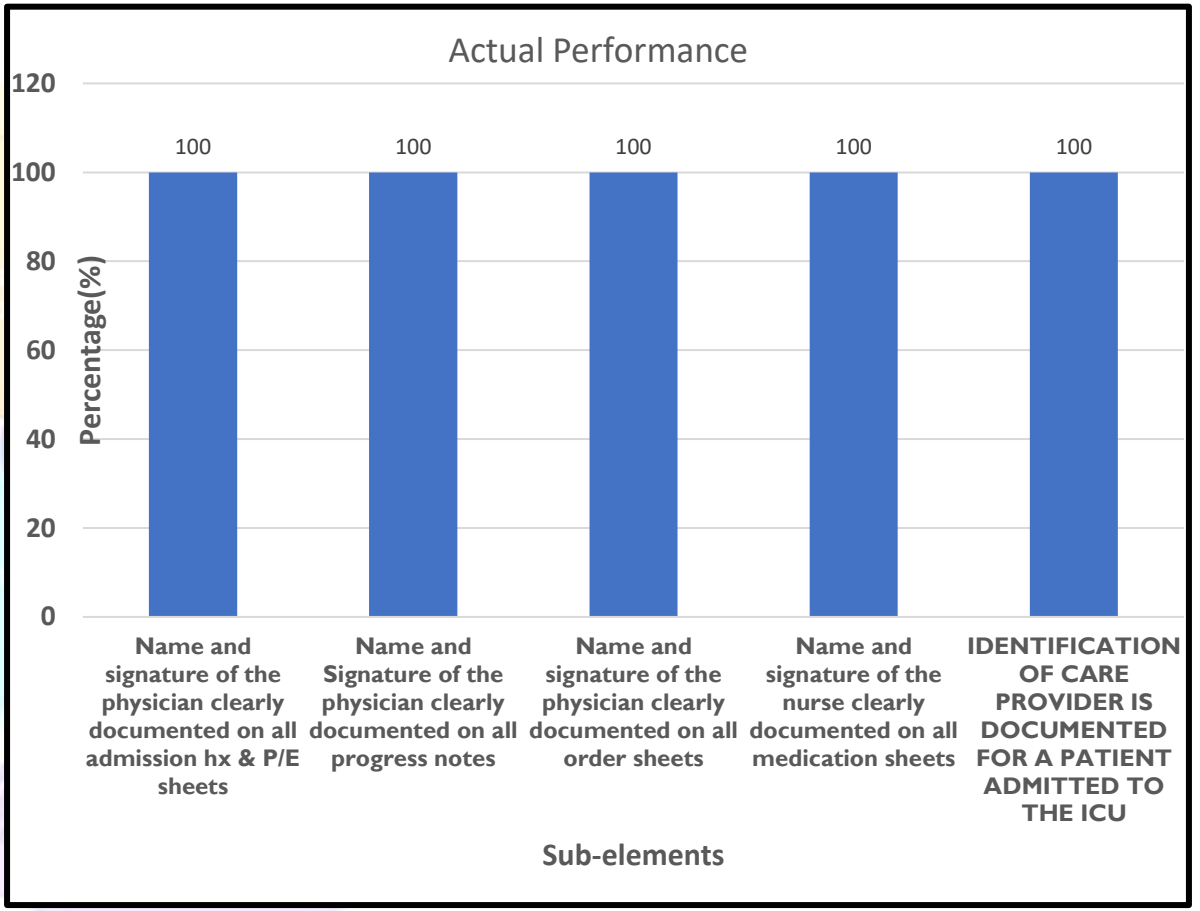

Figure 6: Documentation of provider identification

Trends of ICU clinical audit performance

The ICU clinical audit performance began the year exceptionally strong, achieving 95% in the first quarter. However, this high standard was not maintained in the subsequent period, as performance experienced a significant decline during the second quarter, dropping to 70%. This represents a substantial decrease of 25 percentage points compared to the opening quarter **(Figure 11).**

Following the dip in Q2, performance showed a strong recovery trend in the latter half of the year. Third-quarter results rebounded to 85%, marking a 15-point improvement over Q2. This positive trajectory continued into the fourth quarter, where performance reached 90%. Although this final figure is 5 percentage points below the initial Q1 peak, it represents a significant 20-point recovery from the Q2 low and concludes the year at a high level of performance **(Figure 11).**

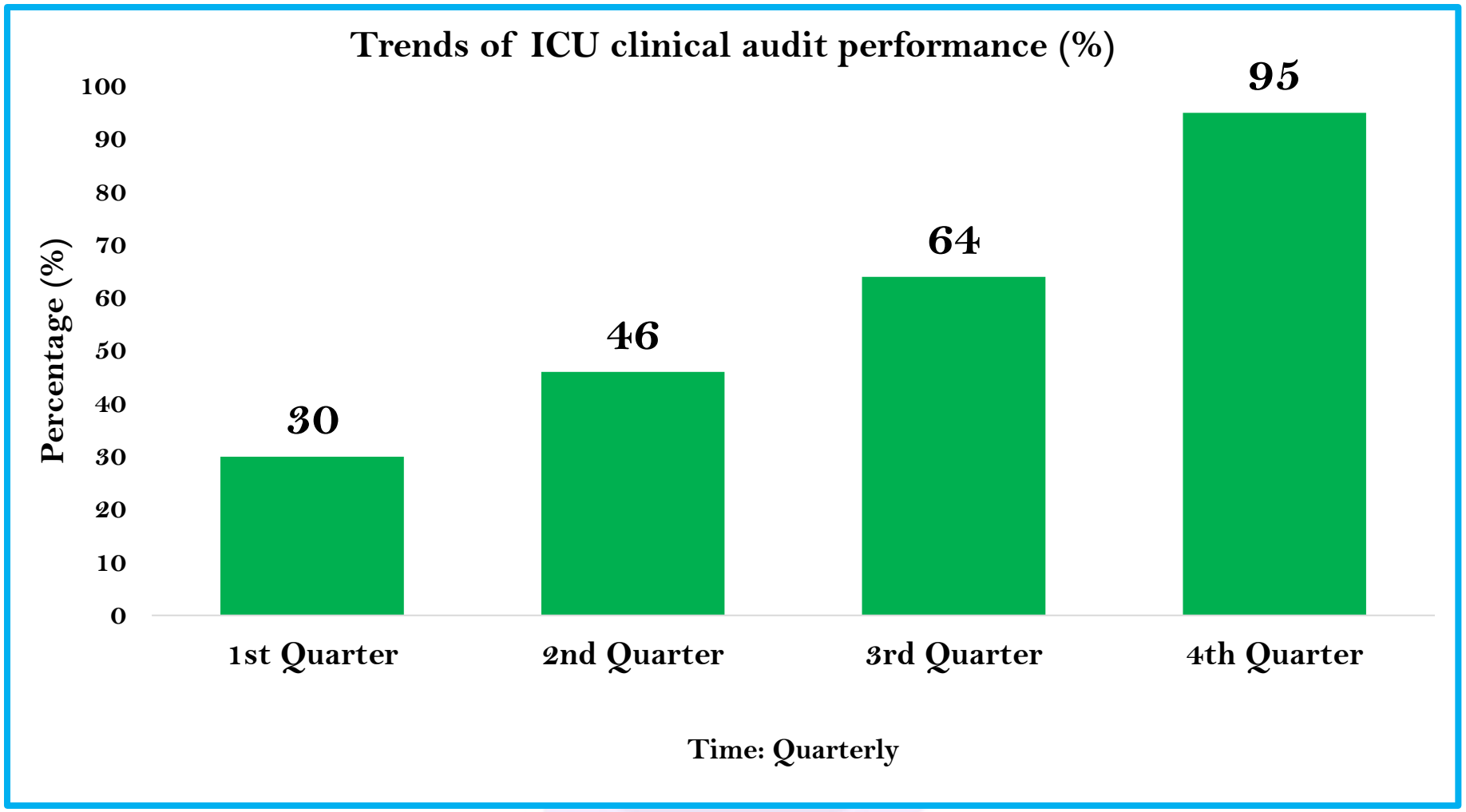

*Figure 7: Trends of **ICU** clinical audit performance 2017E.C*

DISCUSSION

The audit reveals exemplary adherence to foundational ICU care standards across multiple domains. Universal compliance (100%) was achieved in nutritional support, timely mobilization, pain/agitation management, physician care, and provider documentation (Table 1, Figures 2–7). This reflects successful institutionalization of evidence-based protocols—such as 2-hourly repositioning, DVT prophylaxis, RAAS-guided sedation, and structured physician rounds. These outcomes signify robust interdisciplinary coordination and effective quality improvement initiatives following prior audits. The consistent documentation of provider identification further enhances accountability, aligning with international safety standards (Core Standards for ICUs, 2013; ESICM Task Force, 2012).

Despite overall excellence, a significant deficiency persists in nursing monitoring protocols. While vital signs and fluid balance tracking achieved 100% compliance, *random blood sugar (RBS) monitoring every 6 hours was entirely neglected (0%)* (Figure 6). This lapse poses serious clinical risks, particularly for critically ill patients with diabetes, sepsis, or steroid-induced hyperglycemia. Root causes may include: Inadequate staffing or high nurse-to-patient ratios limiting capacity for frequent point-of-care testing. Insufficient training on glycemic management protocols, Absence of automated reminders in documentation systems. This outlier warrants urgent intervention, as uncontrolled glycemia in ICU patients correlates with increased infection rates, prolonged ventilation, and mortality (NICE Guidelines, 2014; Pronovost et al., 2006).

Recommendations

- Strengthen regular monitoring and evaluation

Improvement plan

- No major gap seen

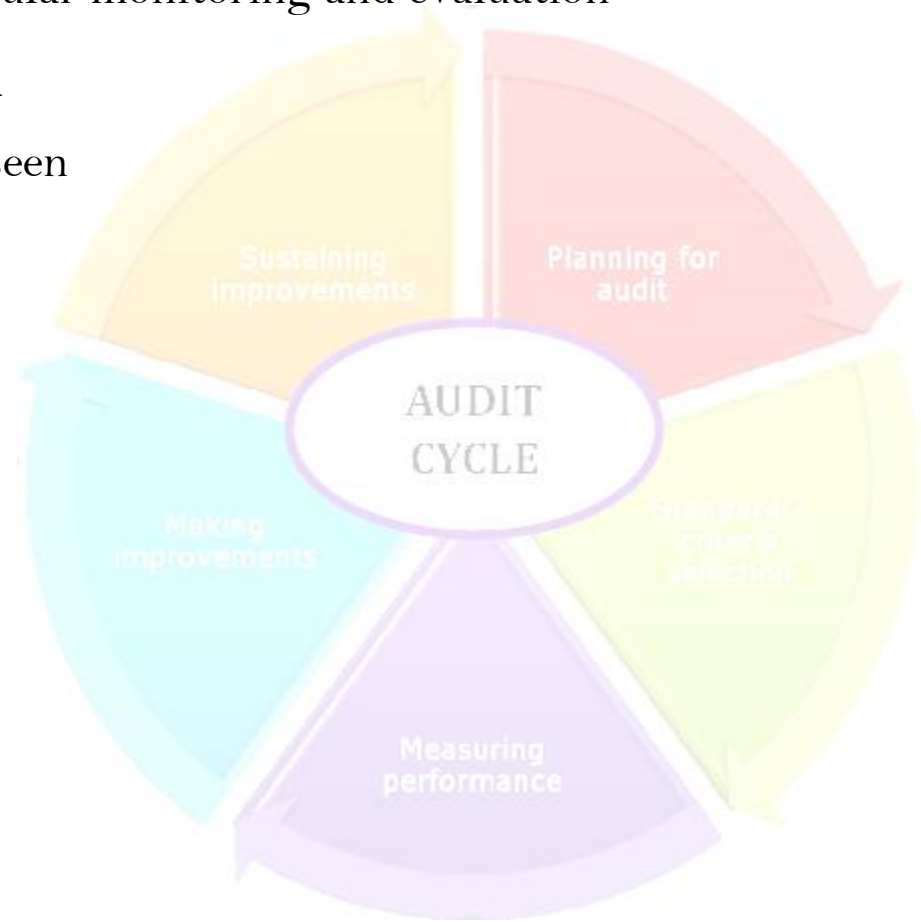

Table 2: *Implementation Report of improvement Plan for ICU Care Improvement, March 2017E.C.*

Area of Improvement	Actions Taken	Progress Status
Patient Mobilization	- Hired dedicated ICU physiotherapist (May 2017) - Developed standardized mobilization protocols - Trained 100% nursing staff on techniques	✅ Fully Implemented
Pain/Agitation Management	- Integrated mandatory RAAS sedation scoring into EMR - Conducted physician/nurse workshops (Apr 2017) - Initiated monthly compliance audits	✅ Fully Implemented
RBS Monitoring	- Added RBS Q6hr checklists to nursing workflow - Appointed 2 nurse champions - Conducted 3x/week spot audits	⚠️ Partially Implemented
DVT Prevention	- Trained 100% staff on compression/anticoagulation - Added DVT risk screening to admission protocols	✅ Fully Implemented

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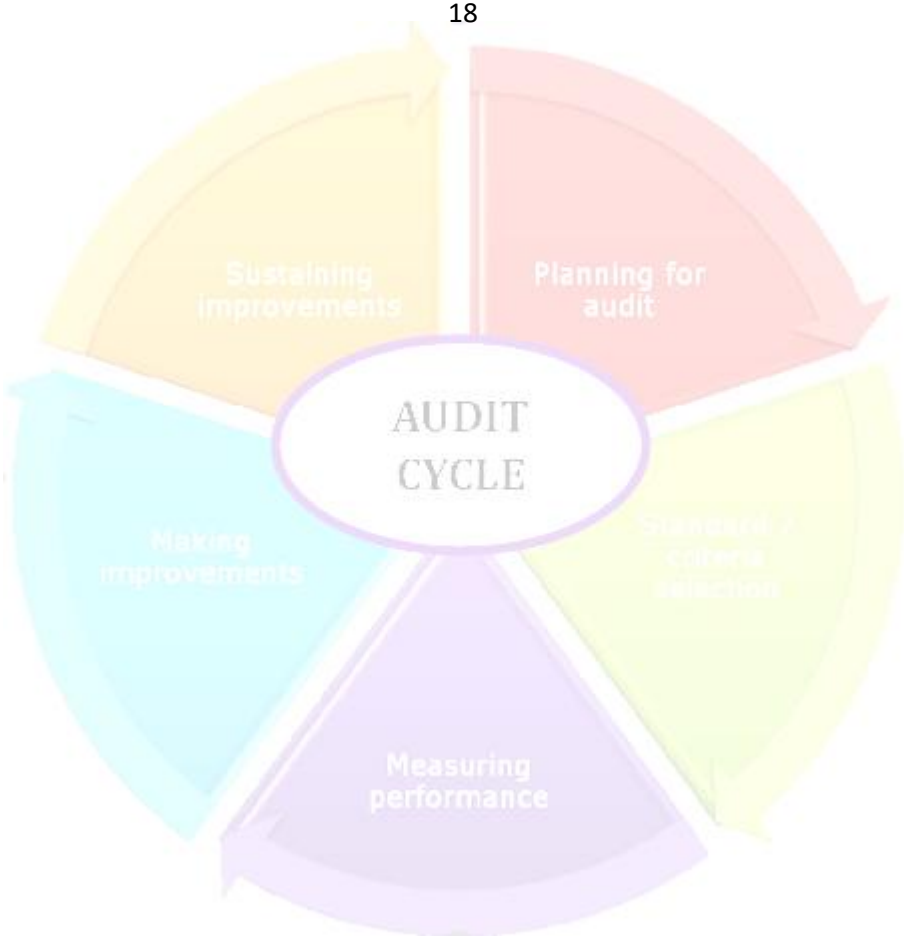
Planning for audit
Measuring performance
Making improvements
Sustaining improvements
AUDIT CYCLE

Guyyaa/ቀን/Date: _____/_____/_____

- **Garee tajaajila ICU ward irraa**
- **Garee Qulquullina Tajaajila Fayyaatiif**

Dhimmi: waa'ee Gabaasa CLINICAL AUDIT galchuu ilaallata

Akkuma mata Dureerrattii ibsamuuf yaalameettii clinical audit" **ICU CARE**" jedhamu kan **kurmaana 4ffaa** bara **2017** xalayaa Fuula **20** qabuu gaggeessituu kana waliin walqabsiifnee isiiniif eerguu keenya kabajaan isiniif beeksiifnaa.

Nagaya wajjiin!!