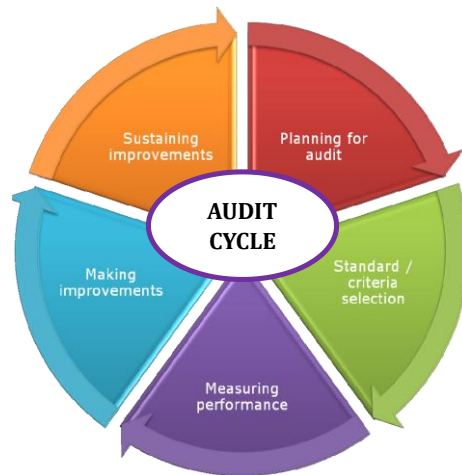




**DEDER GENERAL HOSPITAL**  
**EMERGENCY INJURY AND CRITICAL CARE DEPARTMENT**



**CLINICAL AUDIT TO IMPROVE THE QUALITY OF ROUTINE CARE IN THE  
INTENSIVE CARE UNIT (ICU)**

**By:**

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**Advisors:**

***HQU TEAM***

***Dader, Oromia***  
***December 2017E.C***

### Emergency and critical care/ICU case team clinical Audit/QI members

S/N	Name	Responsibility	Remarks
1.	Dr. Samuel Shimelis (Emergency and critical care Director)	Team leader	
2.	Jabir Mohammed	Adult ICU Head	
3.	Lenco Jabir	Staff	
4.	Kadir Yusuf	Staff	
5.	Jabir m/d Abraham	Staff	
6.	Mebratu Debru	Staff	
7.	Farahan Mohamed	Member	

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## **Implementation Status of the Previous Action Plan**

The previous audit action plan focused on improving physician care, nursing monitoring, and documentation for ICU patients. While some progress has been achieved in areas such as admission evaluation (95%) and baseline investigations (100%), significant gaps remain in critical aspects of nursing monitoring and fluid balance calculation. Documentation practices by care providers, however, showed full compliance (100%) across all reviewed items. Pending actions from the previous plan include addressing gaps in mechanical ventilator parameter monitoring (0%) and improving fluid balance calculation compliance (79%)

## **Introduction**

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 September 21, 2017EC to December 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 September 21, 2017EC to December 20, 2017E.C

### Exclusion criteria

- ☞ Patients who were admitted for  $\leq 72$  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. Clinical audit is not research. It is about evaluating compliance with standards rather than creating new knowledge, therefore sample sizes for data collection are often a compromise between the statistical validity of the results and pragmatic issues around data collection i.e., time, access to data, costs. The sample should be small enough to allow for speedy data collection but large enough to be representative. In some audits the sample will be time driven and in others it will be numerical.

### 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.

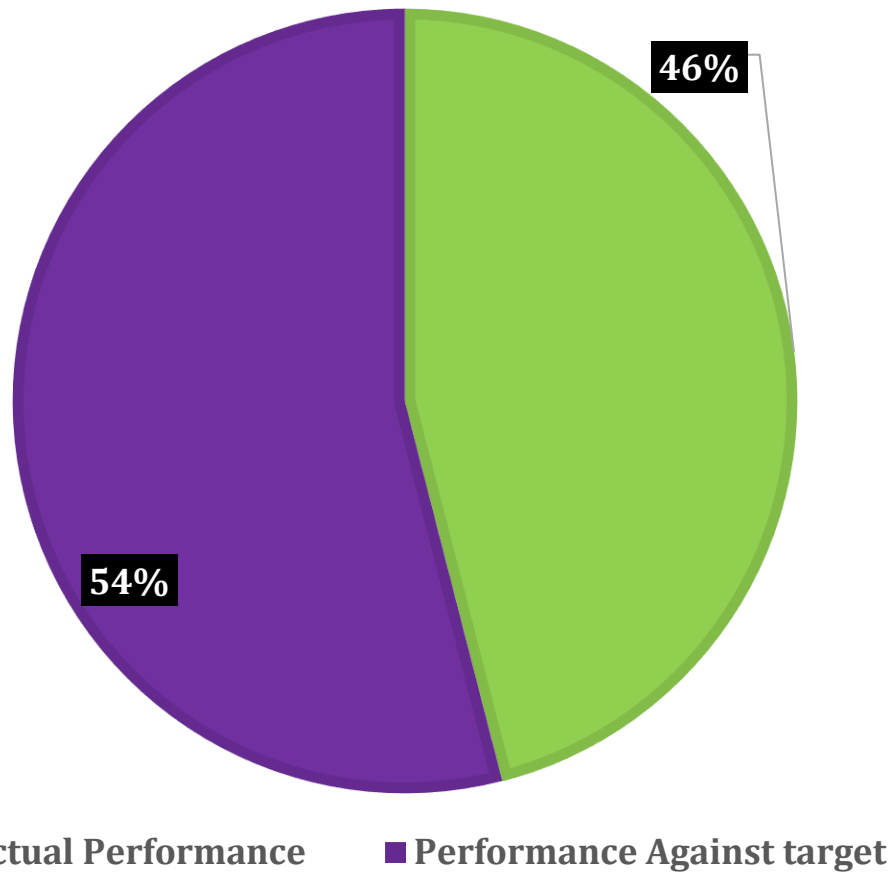
## RESULT

The overall performance of ICU care at Deder General Hospital was **46%**, compared to the target of 100%. This suggests significant room for improvement across various quality standards. While documentation practices, such as patient identification and provider information, achieved full compliance, other areas lagged significantly. These include ventilator-associated pneumonia (VAP) prevention methods (30%) and appropriate patient mobilization (42%). The disparity highlights the need for targeted interventions in specific areas to elevate overall performance. (**Table 1**).

**Table 1:MAIN CRITERIA ACTUAL PERFORMANCE Vs TARGET**

Sno	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	63
3	Appropriate and timely patient mobilization is done for a patient admitted to the ICU	100	42
4	Appropriate pain and agitation evaluation and management is provided for a patient admitted to the ICU	100	58
5	Appropriate ventilator associated pneumonia (VAP) prevention methods are applied for patient admitted to ICU	100	30
6	Optimal physician care is provided for a patient admitted to the ICU	100	95
7	Optimal nursing monitoring is provided for a patient admitted to the ICU	100	65
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	11
	<b>Total Percentage (%)</b>	<b>100</b>	<b>564/900=63%</b>

## Overall Performance of ICU CARE



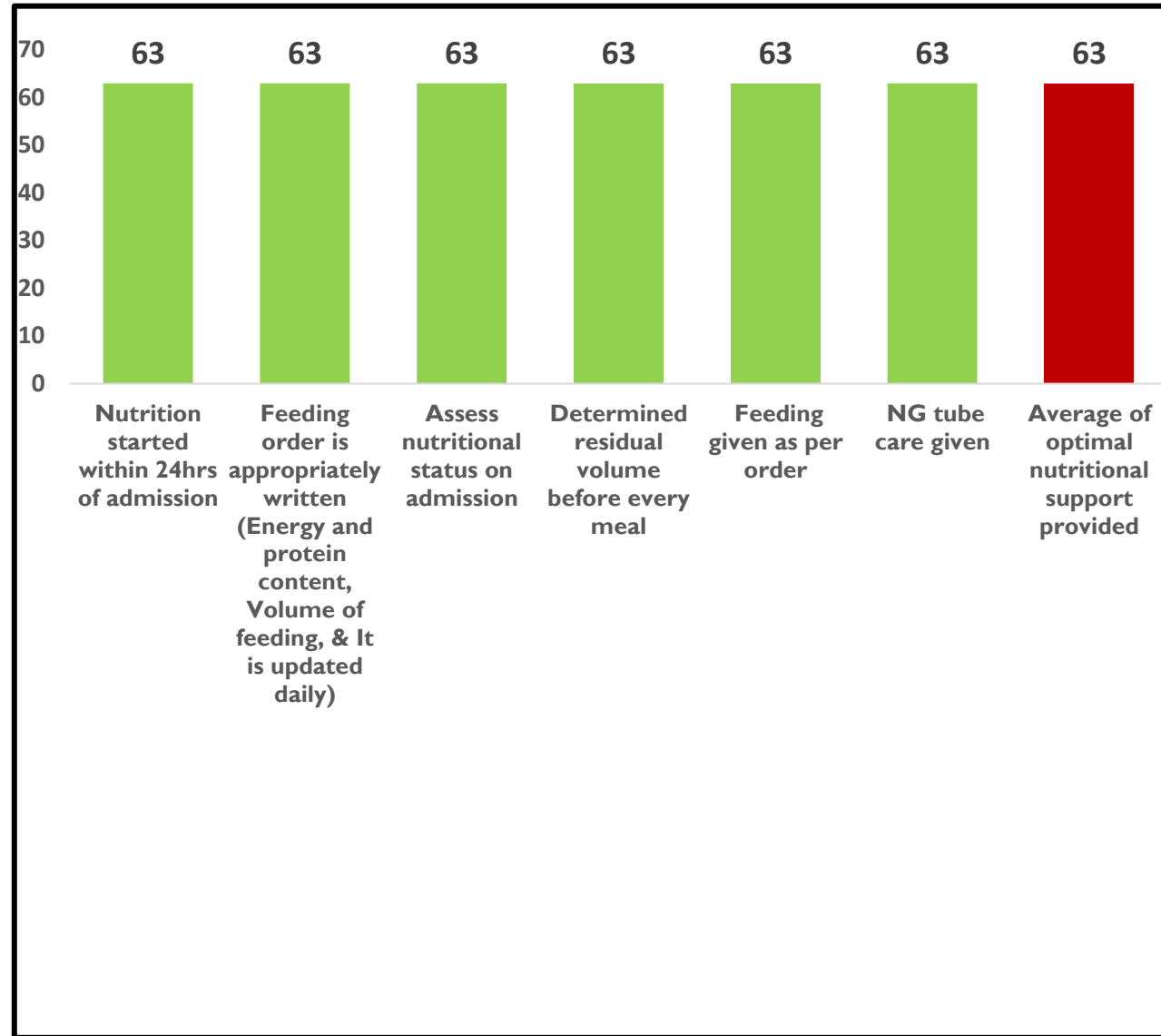
*Figure 1: Overall of Performance of ICU CARE, December 2017E.C*





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

The audit revealed that only **63%** of patients admitted to the ICU received optimal nutritional support, falling short of the 100% target. The primary challenges identified were the lack of nutritional assessment and a knowledge gap in food preparation. Additionally, care for nasogastric (NG) tubes was often skipped (**Figure 2**).

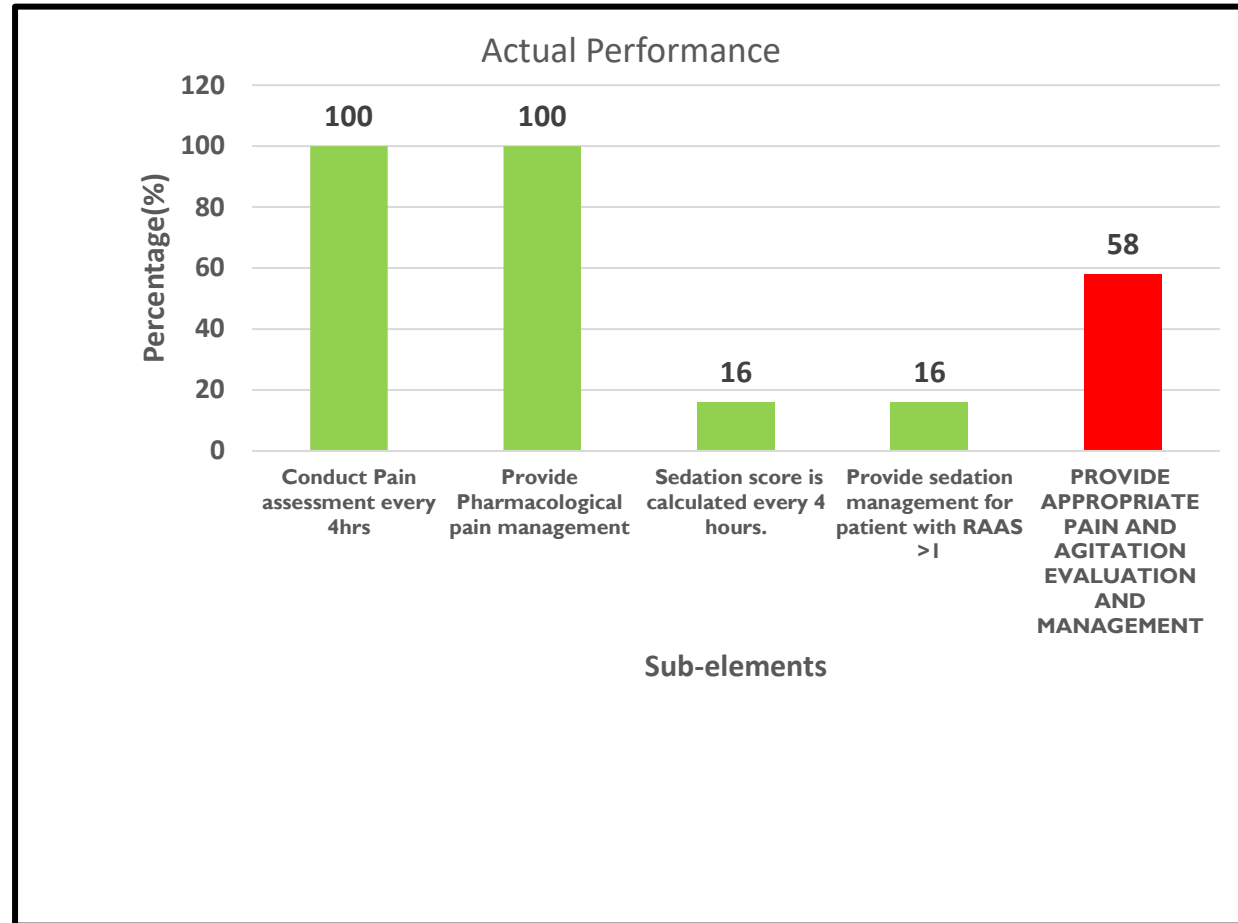


*Figure 2: Optimal nutritional support provided for patient admitted to the ICU*

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

The performance for appropriate pain and agitation evaluation and management was 58%. This indicates suboptimal compliance with recommended practices. Specific sub-elements include:

- calculate sedation score Q4hr and Provide sedation management for patient with RAAS >1 was 16% respectively (**figure 3**)



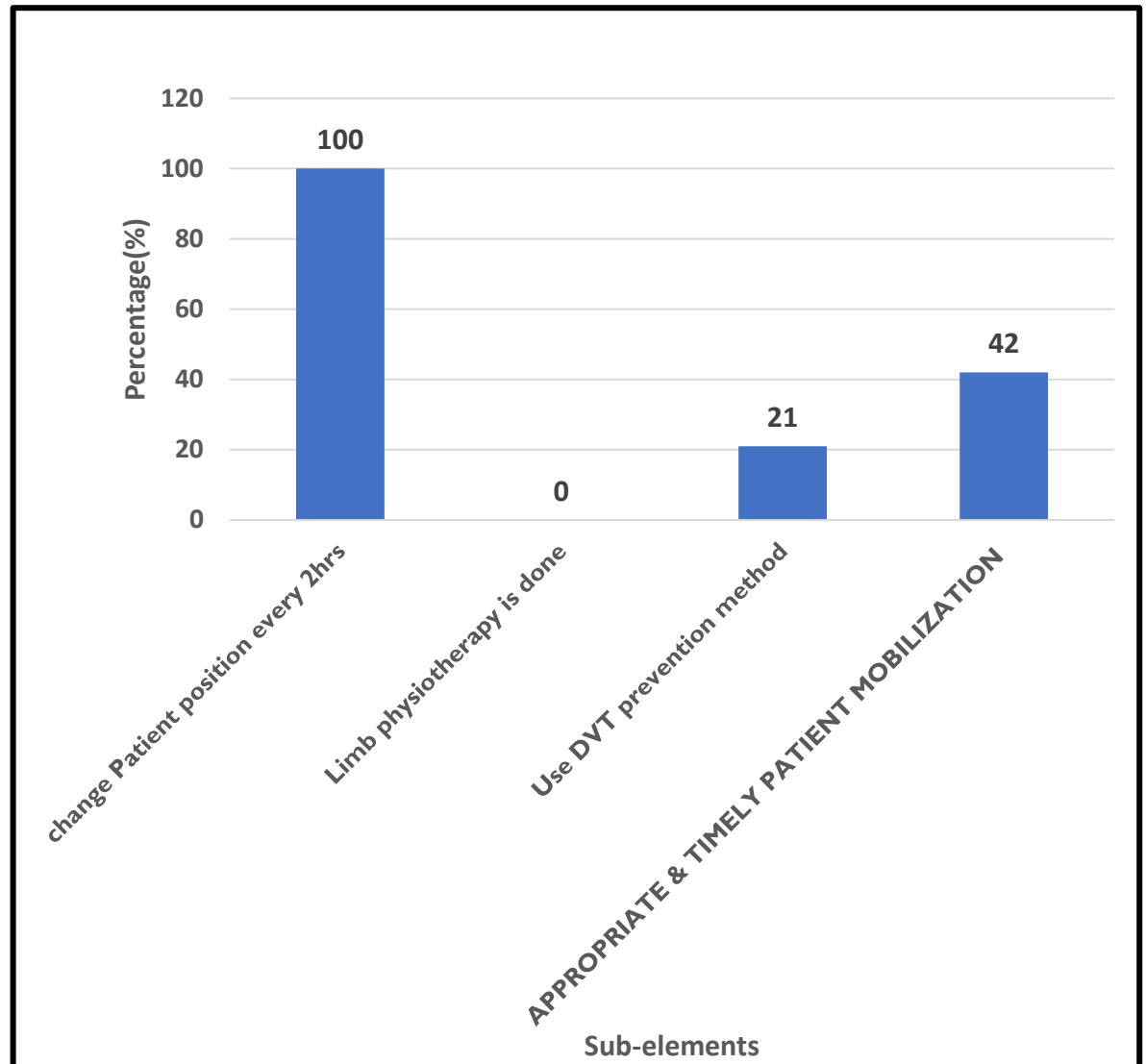
*Figure 3: PROVIDE APPROPRIATE PAIN AND AGITATION EVALUATION AND MANAGEMENT*

## Graph showing score for APPROPRIATE AND TIMELY PATIENT MOBILIZATION

The rate of patient mobilization was only **42%**, highlighting a critical gap in ICU care. Specific sub-element performances include:

- change position Q2hrs: 100%
- Use of physiotherapy support: 0% , &
- Use DVT prevention method 21%

The absence of physiotherapists and structured mobilization protocols contributed to this low performance. Implementing a physiotherapy program and providing clear guidelines for mobilization could help bridge this gap (figure 4)

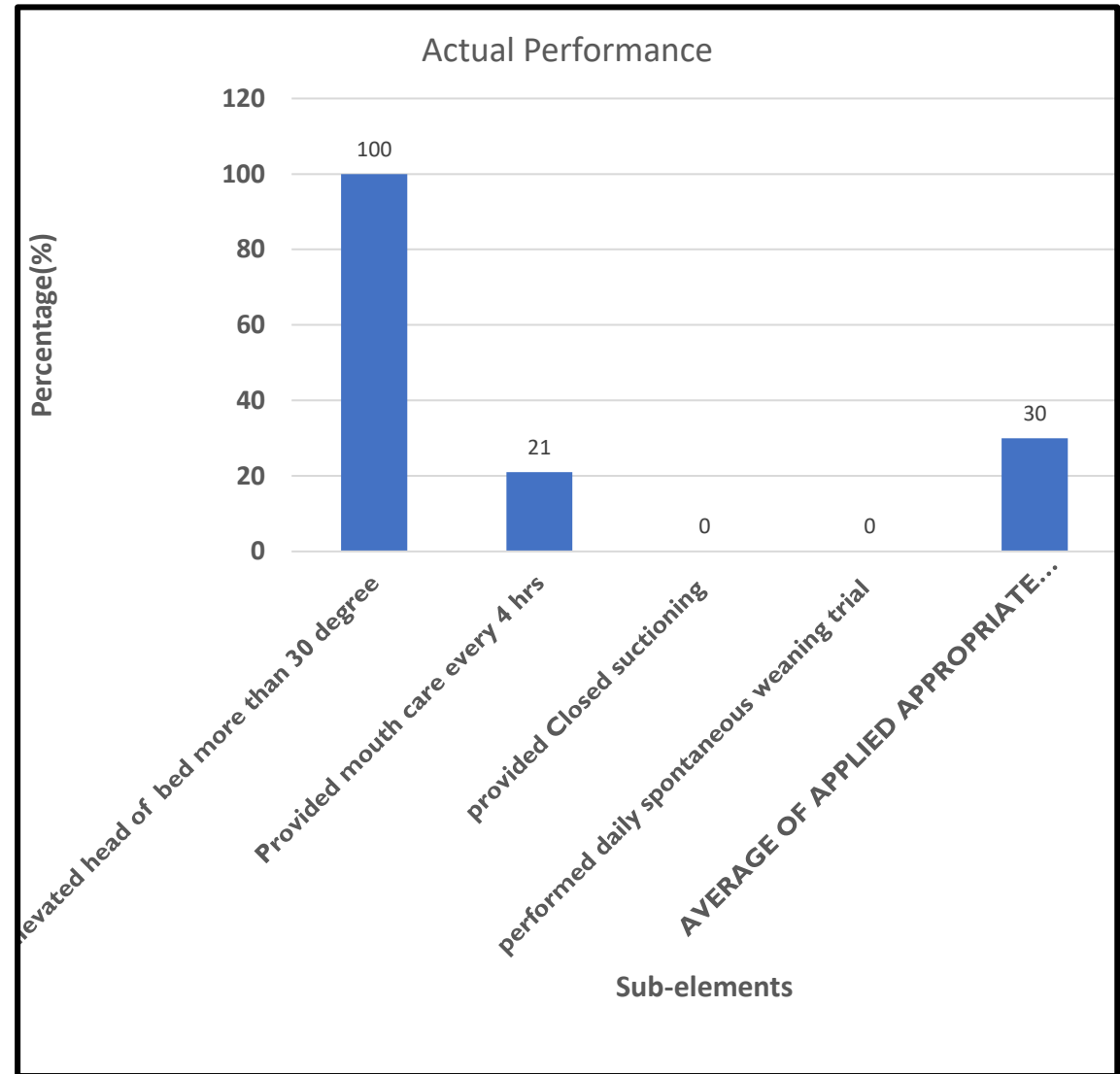


**Figure 4: APPROPRIATE AND TIMELY PATIENT MOBILIZATION**

## Graph showing score for APPLIED APPROPRIATE VAP PREVENTION METHODS

With a compliance rate of only 30%, VAP prevention was the lowest-performing criterion. Sub-elements include:

- Head-of-bed elevation: 100%
- Regular oral care: 21%
- Daily sedation interruption/weaning trial: 0%, and
- providing closed suctioning: 0% (**Figure 5**).



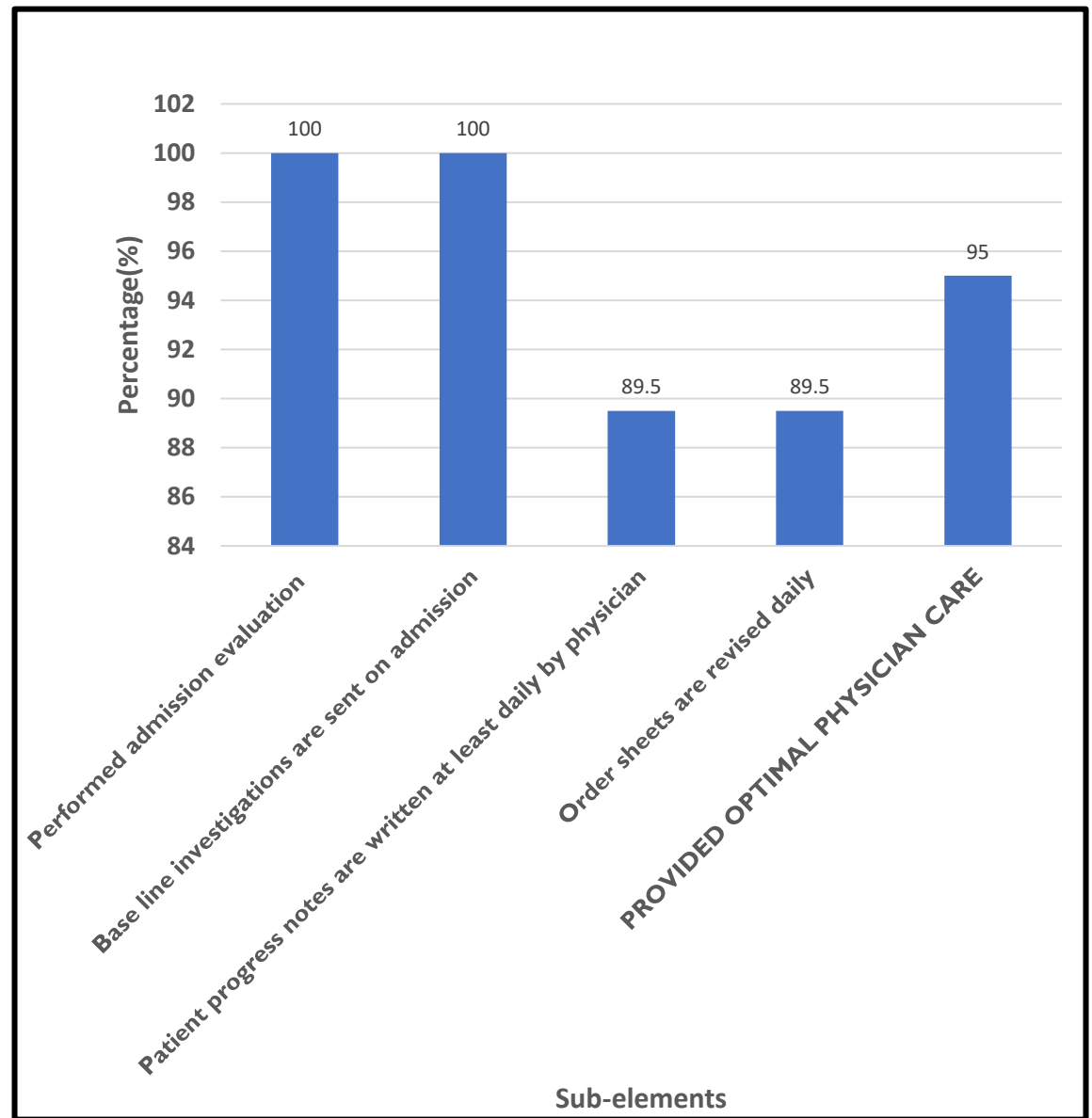
**Figure 5: APPLIED APPROPRIATE VAP PREVENTION METHODS**

## Graph showing score for PROVIDED OPTIMAL PHYSICIAN CARE

The performance of physician care was relatively high at **95%**, close to the target of 100%. Sub-element performances include:

- Timely evaluation upon admission: 100%
- performing baseline investigation: 100%
- Appropriate medication orders: 89.5%
- Regular rounds and updates: 89.5%

This indicates effective engagement of physicians in patient care, although minor improvements are still needed to achieve full compliance (**Figure 6**).



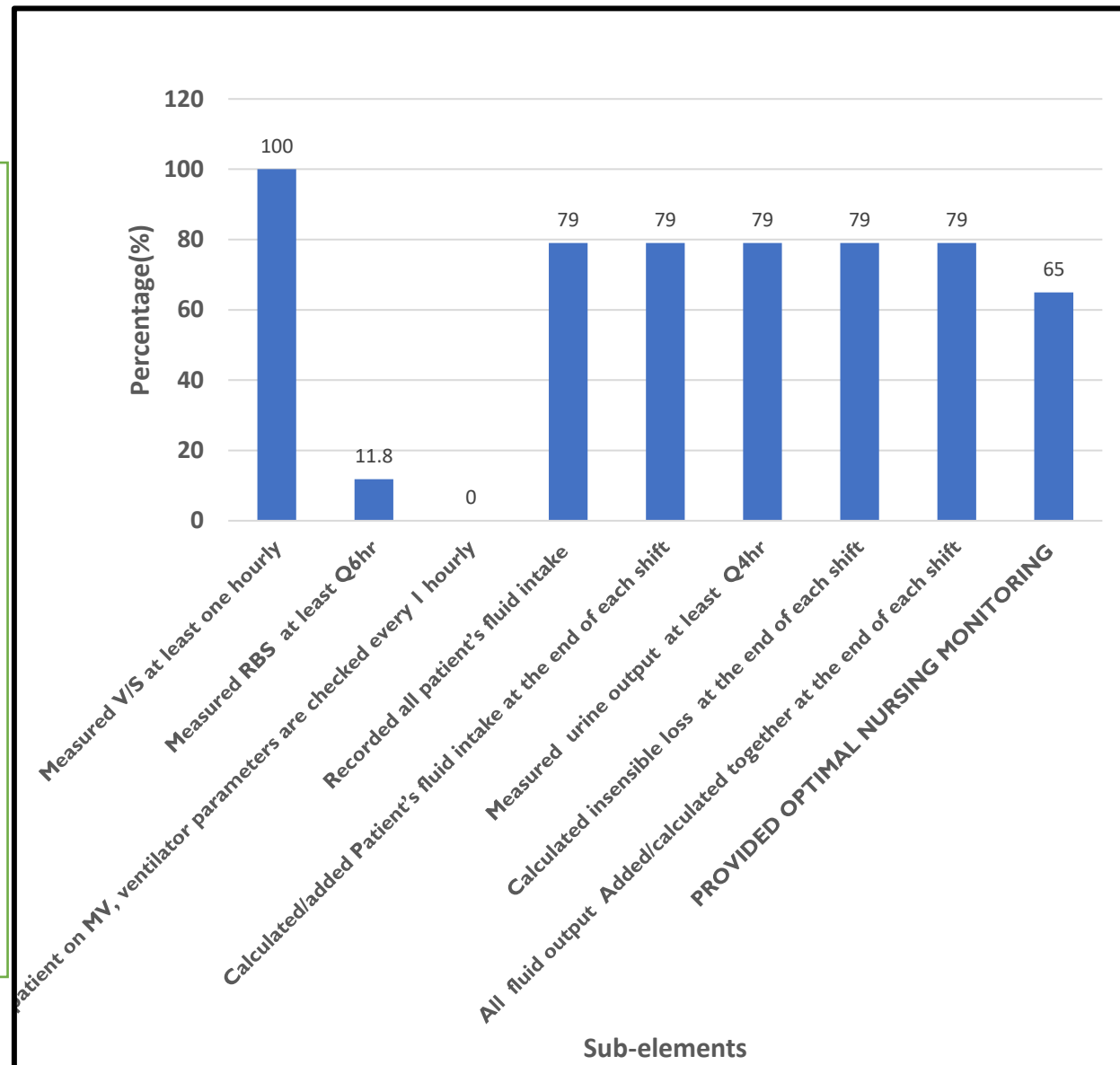
**Figure 6: PROVIDED OPTIMAL PHYSICIAN CARE**

## Graph showing score for PROVIDED OPTIMAL NURSING MONITORING

Nursing monitoring achieved **65%** compliance, showing moderate performance. Specific sub-elements include:

- Vital sign monitoring: 100%
- Fluid intake calculation per shift: 79%
- Fluid output calculation per shift: 79%
- Measuring RBS Q6hrs: 12%

Key issues included negligence in calculating fluid intake and output at the end of each shift. Addressing these gaps requires continuous professional development and accountability mechanisms for nursing staff (**Figure 7**).CV



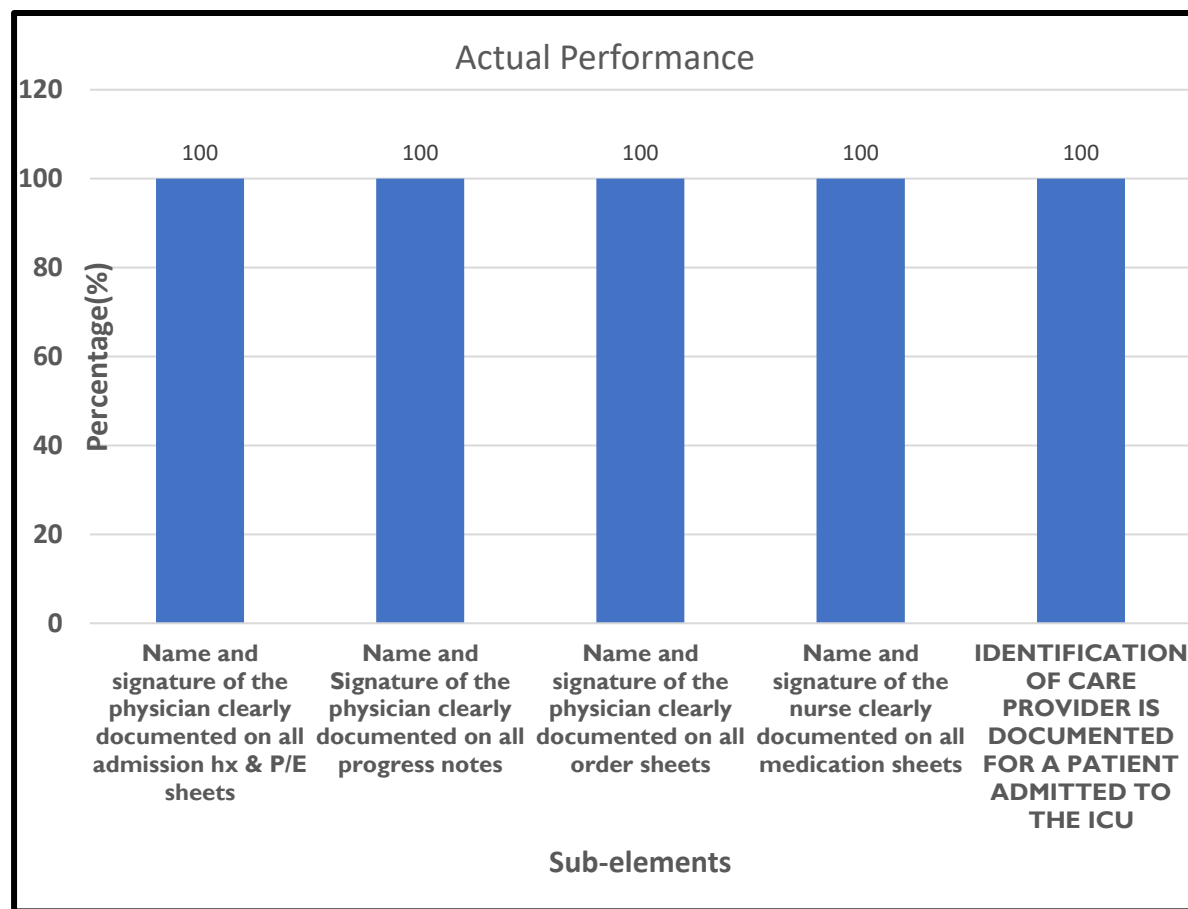
**Figure 7: PROVIDED OPTIMAL NURSING MONITORING**

## 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 8**).



**Figure 8: DOCUMENTATION OF PROVIDER IDENTIFICATION**



## **Recommendations**

1. Provide Nutritional Support
2. Improve Patient Mobilization
3. Provide optimal pain and Agitation Management
4. Provide VAP Prevention
5. Improve fluid Intake/Output Monitoring
6. Improve ICU Nursing Monitoring



**DEDER GENERAL HOSPITAL**  
**CLINICAL AUDIT QUALITY IMPROVEMENT PLAN/PDSA FORM**

**Clinical Audit Title:** CLINICAL AUDIT TO IMPROVE THE QUALITY OF ROUTINE CARE IN THE INTENSIVE CARE UNIT (ICU)

**Audit Cycle:** 2

**Clinical Audit Lead:** Dr.Samuel Shimelis **Department /Team** ICU

		Plan					DO	STUDY	ACT
S/N	Recommendation	Actions to address the recommendation/Change idea	Person Responsible	Target Date	Data collection plan		Carry out the plan. Record data, observations and modifications to the plan. Use visual descriptions such as run charts to describe what actually happened	Complete analysis and synthesis. Do the results align with the explicit criteria? Write the progress made in the implementation, the difficulties faced and actions taken to address them	<b>Decision:</b> What action are we going to take as a result of this cycle ( <b>Adopt, Adapt, or Abandon</b> )? Are we ready to implement? What other processes or systems might be affected by this change?
	Recommendation based on findings from clinical audit report form	What change will we test? What do we need to try the change?	Who will perform the test? (Name or Role)	When will this be complete?	How will we collect data? (Checklist, Chart audit,)	Who will collect the data? (Name or Role)			
	Nutritional Support	<ul style="list-style-type: none"> <li>- Provide on-the-job training on food preparation and nutritional assessment.</li> <li>- Implement routine nutritional assessments for all ICU patients.</li> </ul>	Emergency & Critical Care Director, MD, & QI Unit	Until next audit (Mar 2017)	Checklist	Abdi & Abdella			
	Improve Patient Mobilization	Assign a dedicated physiotherapist to the ICU.	ICU Head, Hospital Administration	Within 6 months	Checklist	Abdi & Abdella			
	Provide optimal pain and Agitation Management	<ul style="list-style-type: none"> <li>- Train staff on sedation scoring and management techniques.</li> <li>- Introduce tools for routine pain evaluation.</li> </ul>	Emergency & Critical Care Director, MD, & QI Unit	Within 3 months	Checklist	Abdi & Abdella			

☐ **Adapt** (Modify this change and plan next PDSA cycle; loop back to "Plan") ☐ **Abandon** (Change didn't work/won't lead to improvement. Identify new change; plan new PDSA cycle; loop back to "Plan")

☐ **Adopt** (Data revealed this change was effective and worked well; Next step, develop implementation plan) >>>>

Completed by:

Sign off:

Date of review of PDSA:

		Plan					DO	STUDY	ACT
S/N	Recommendation	Actions to address the recommendation/Change idea	Person Responsible	Target Date	Data collection plan		Carry out the plan. Record data, observations and modifications to the plan. Use visual descriptions such as run charts to describe what actually happened	Complete analysis and synthesis. Do the results align with the explicit criteria? Write the progress made in the implementation, the difficulties faced and actions taken to address them	<b>Decision:</b> What action are we going to take as a result of this cycle ( <b>Adopt, Adapt, or Abandon</b> )? Are we ready to implement? What other processes or systems might be affected by this change?
	Recommendation based on findings from clinical audit report form	What change will we test? What do we need to try the change?	Who will perform the test? (Name or Role)	When will this be complete?	How will we collect data? (Checklist, Chart audit,)	Who will collect the data? (Name or Role)			
	Fluid Intake/Output Monitoring	- Reinforce accountability among nurses for accurate fluid balance calculations at the end of each shift.	ICU Head	Ongoing, start within 1 month (Jan 10, 2017)	Checklist	Abdi & Abdella			
	VAP Prevention	- Train staff on oral care practices and sedation weaning. - Provide and maintain closed suctioning systems.	ICU Head, Hospital Administration	Within 6 months	Checklist	Abdi & Abdella			

☐ **Adapt** (Modify this change and plan next PDSA cycle; loop back to "Plan")

☐ **Adopt** (Data revealed this change was effective and worked well; Next step, develop implementation plan) >>>>

☐ **Abandon** (Change didn't work/won't lead to improvement. Identify new change; plan new PDSA cycle; loop back to "Plan")

Completed by:

Sign off:

Date of review of PDSA:

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