



DEDER GENERAL HOSPITAL

NEONATAL INTENSIVE CARE UNIT

Clinical Audit to improve quality of care for neonates with sepsis.

By: NICU Clinical Audit/QI Team

Audit Cycle: Re-Audit 3

Deder, Oromia

June 2017E.C

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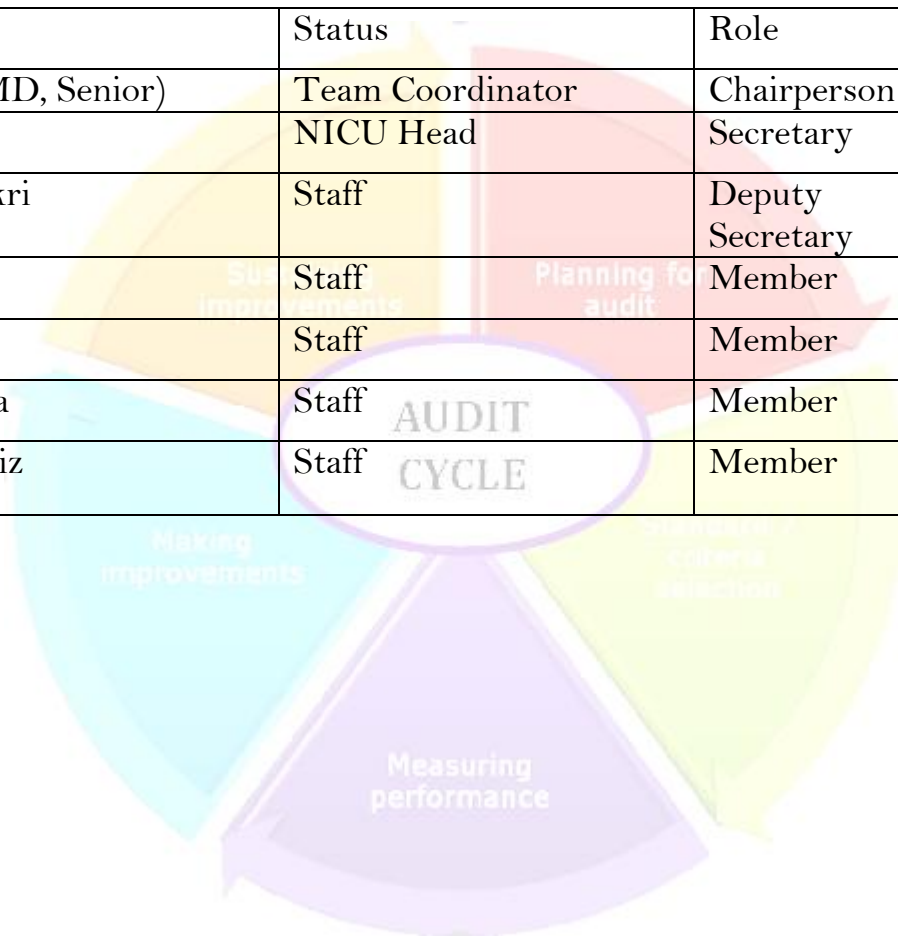


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ABSTRACT

Introduction: Neonatal sepsis remains a leading cause of mortality in resource-limited settings. Clinical audits are critical for evaluating adherence to evidence-based care standards and identifying gaps in management. This audit assessed the quality of neonatal sepsis care delivered in June 2017 (Ethiopian Calendar).

Objective: To benchmark the performance of neonatal sepsis management against predefined clinical audit criteria and identify areas for improvement.

Methodology: A retrospective clinical audit was conducted using a structured checklist of 10 key criteria derived from standard neonatal sepsis guidelines. Data were extracted from patient records to evaluate compliance against predetermined targets. Performance was calculated as the percentage of cases meeting each criterion.

Result: The audit achieved an **overall compliance rate of 97.7%** against a target of 100%. Perfect adherence (100%) was observed in 8/10 criteria: *Identification, History, Physical Examination, Diagnosis, Monitoring, Discharge Care, Provider Identification, and Appropriate Treatment*. *Relevant Investigations* met its target of 80%. The sole variance from the overall target resulted from the intentionally lower benchmark for investigations. Notably, *Appropriate Treatment* lacked a predefined target despite 100% compliance.

Conclusion: The audit demonstrates **excellence in neonatal sepsis care**, with near-perfect adherence to most standards. The minor deficit was attributable to the realistic 80% target for investigations. However, the absence of a defined treatment target represents a methodological gap. **Future audits should establish evidence-based treatment benchmarks** to fully evaluate this critical component while maintaining high performance across other domains.

INTRODUCTION

Neonatal sepsis accounts for 15% of neonatal deaths globally. Effective management hinges on timely investigations, appropriate antibiotics, and complication monitoring. This audit assessed adherence to [National/WHO] neonatal sepsis guidelines to identify areas for improvement.

AIM

- ✎ Improve quality of care for neonates with sepsis.

OBJECTIVES

- ✎ Ensure complete diagnostic evaluation (history, exams, labs).
- ✎ Assess compliance with antibiotic protocols.
- ✎ Evaluate monitoring and discharge processes.
- ✎ Identify gaps in specialist referrals and follow-up.

METHODOLOGY

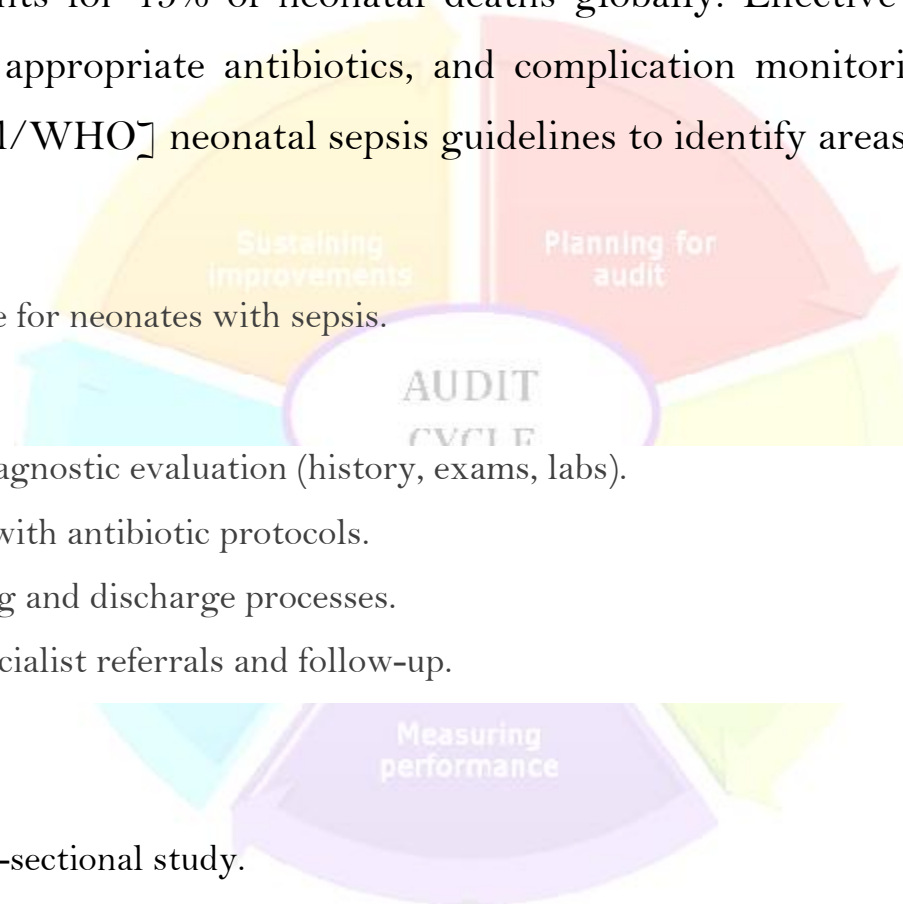
Study Design:

- ✎ Retrospective cross-sectional study.

Study Period:

- ✎ December 21, 2017 E.C. to June 20, 2017 E.C.

Inclusion Criteria:



- ✎ Gestational age ≥ 28 weeks.

Exclusion Criteria:

- ✎ Death within 24 hours of admission.

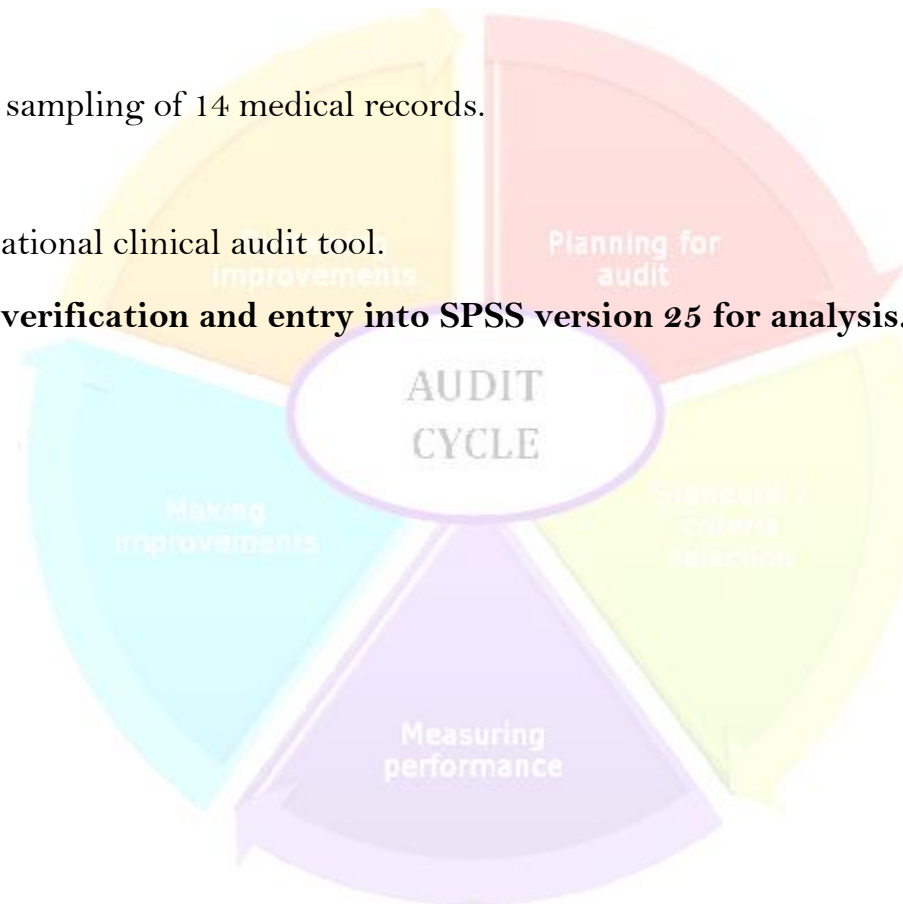
Sampling Technique:

- ✎ Systematic random sampling of 14 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 June 2017 E.C. clinical audit for neonatal sepsis management achieved a **high overall performance score of 97.7%**, narrowly missing the stringent target of 100%. This near-perfect result reflects exceptionally strong adherence to clinical standards across most audit criteria. The minor deficit is attributable to the intentional design of one specific criterion rather than widespread shortcomings in care delivery.

Perfect 100% compliance was achieved against 100% targets in **8 out of 10 criteria**: Identification Information, Appropriate History, Physical Examination, Appropriate Diagnosis, Monitoring, Discharge Care, and Provider Identification. Additionally, **Appropriate Treatment** demonstrated 100% compliance, though notably, no specific target was predefined for this critical criterion. The **Relevant Investigations** criterion precisely met its lower target of 80%, acknowledging that comprehensive diagnostics may not be clinically indicated or feasible in every neonatal sepsis case.

While the aggregate performance is commendable, two observations warrant attention. First, the **Relevant Investigations** criterion (80% target and achievement) is the sole factor reducing the total score below 100%. Second, the absence of a defined target for **Appropriate Treatment** – despite its 100% reported compliance – represents a gap in the audit framework. Establishing a specific benchmark for treatment appropriateness in future audits would strengthen the evaluation of this vital component of care.

Overall Performance of neonatal sepsis management Clinical Audit Result

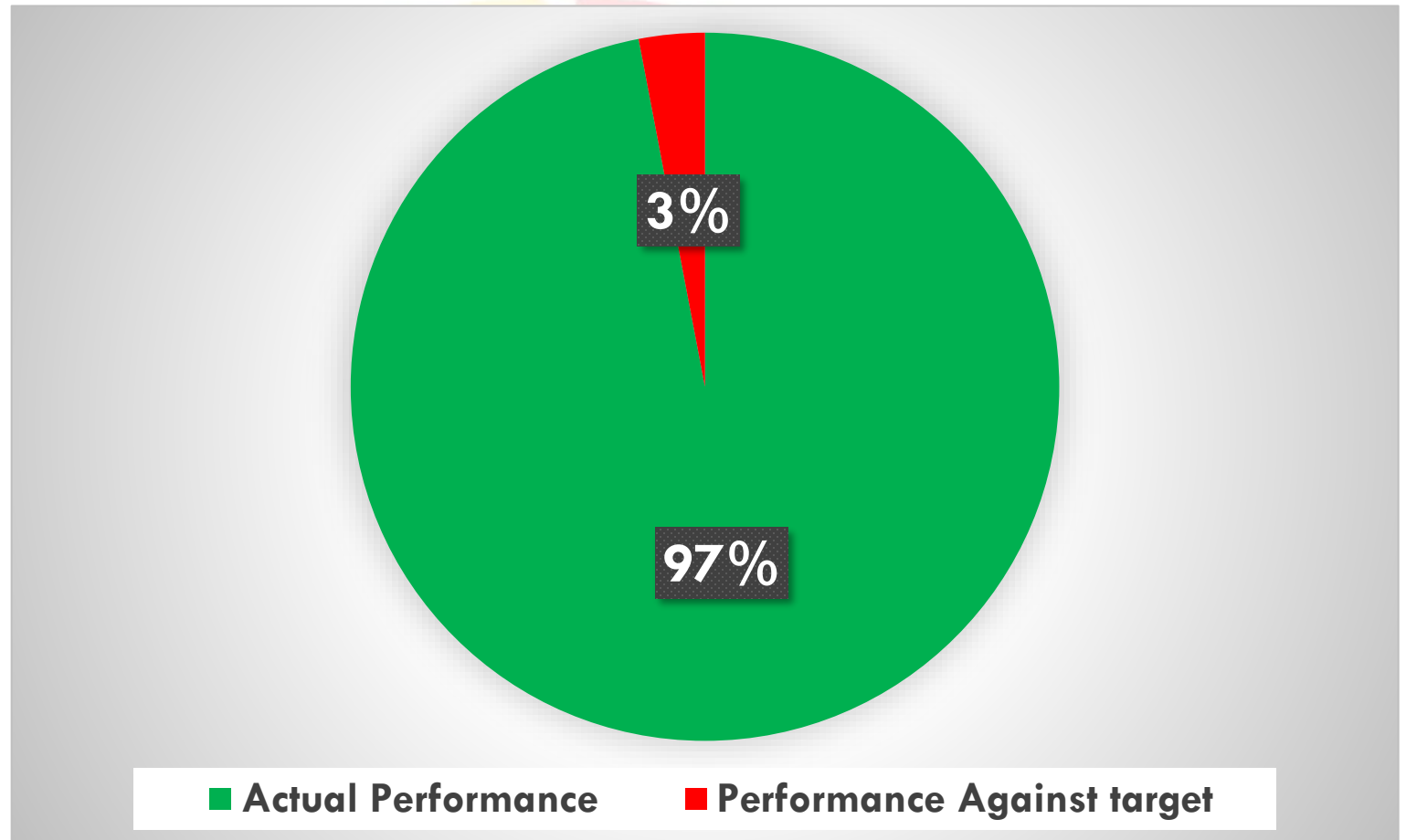
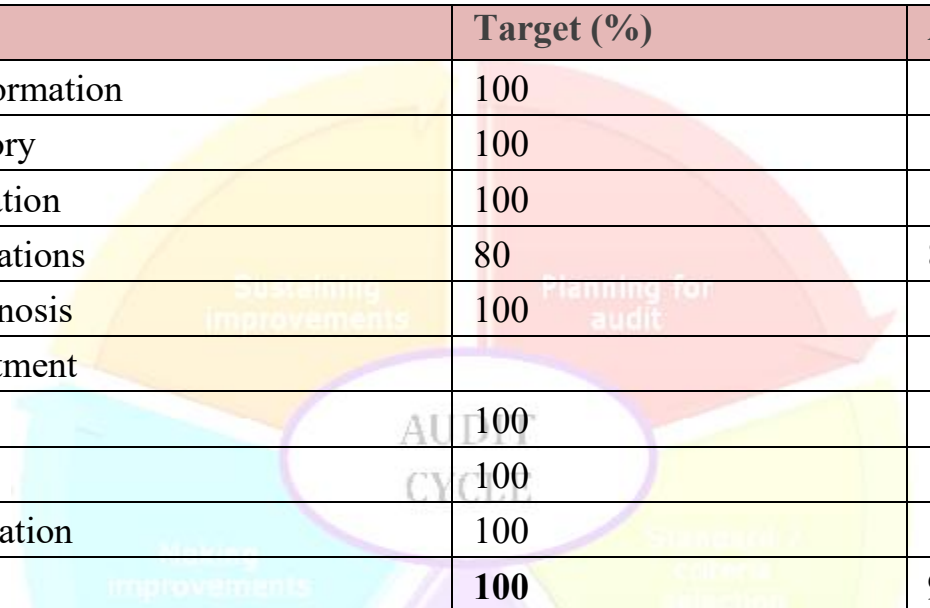


Figure 1: Overall of Performance of neonatal sepsis management Clinical Audit, June 2017E.C

Table 1: Overall of Performance of NEONATAL SEPSIS MANAGEMENT Clinical Audit, June 2017E.C



Criteria	Target (%)	Actual (%)
Identification Information	100	100
Appropriate History	100	100
Physical Examination	100	100
Relevant Investigations	80	80
Appropriate Diagnosis	100	100
Appropriate Treatment		100
Monitoring	100	100
Discharge Care	100	100
Provider Identification	100	100
Total	100	97.7

Trends of Neonatal sepsis clinical audit performance

The results of the neonatal sepsis clinical audit reveal a strong and encouraging upward trend over the course of the year. In the first quarter, performance stood at 50%, but steady improvements were seen in each subsequent quarter—rising to 66% in the second, then 79% in the third. The most significant progress came in the fourth quarter, where performance soared to an impressive 97% (**Figure 3**).

This steady growth reflects the impact of continuous efforts to improve neonatal sepsis care. From a modest starting point, the performance nearly doubled within a year—showing a 47-percentage point increase. The final quarter's near-perfect result is a powerful indicator that the interventions and changes put in place were not only effective but transformative. These outcomes highlight a strong commitment to quality care and better outcomes for newborns (**Figure 3**).

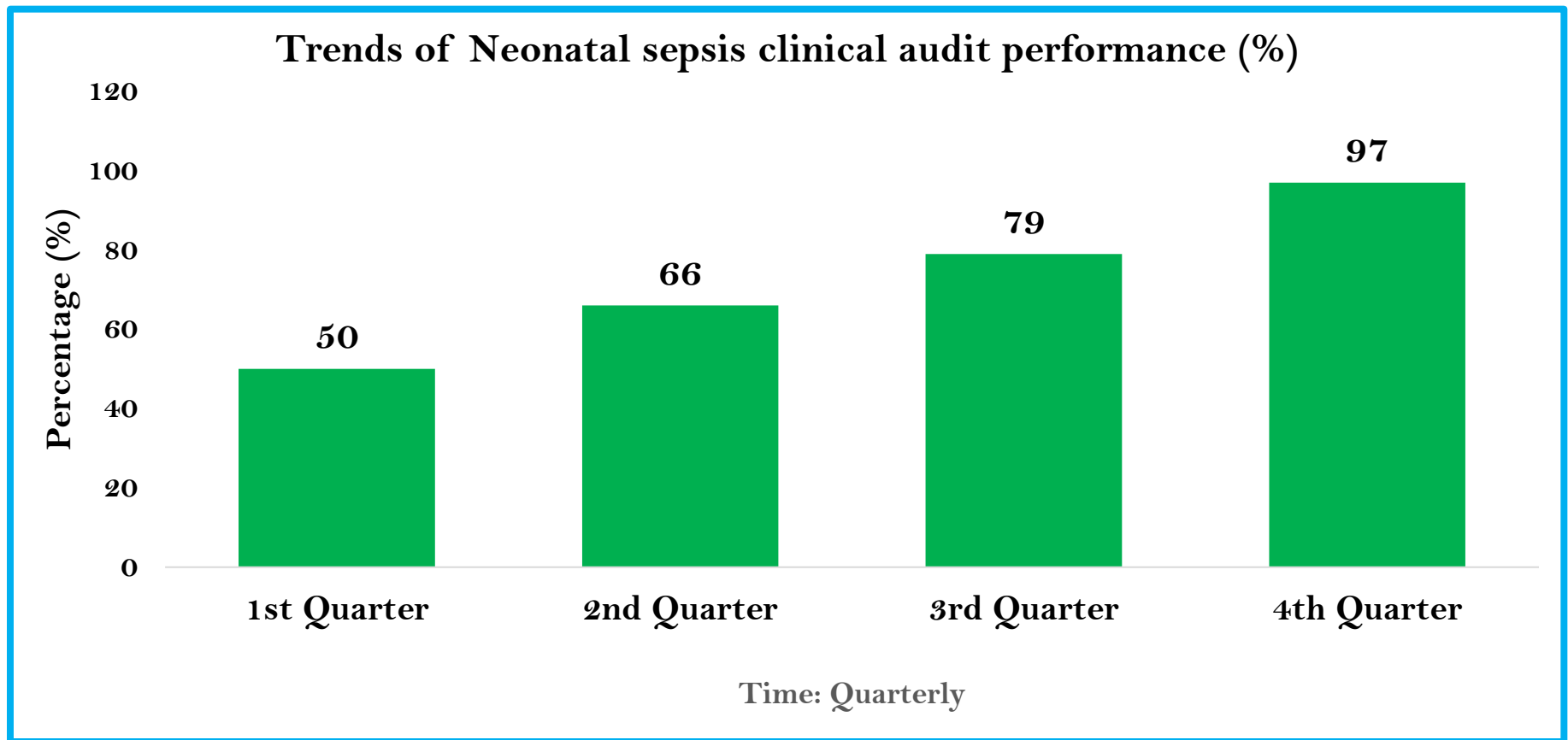


Figure 2: Trends of Neonatal sepsis clinical audit performance 2017E.C

DISCUSSION

The clinical audit demonstrates an exceptionally high standard of neonatal sepsis care, achieving an **overall performance score of 97.7%** against a target of 100%. This near-perfect result reflects robust clinical processes and systemic reliability. The achievement of **100% compliance on 8 of the 10 criteria** – including critical aspects like identification, history taking, physical examination, diagnosis, monitoring, discharge care, and provider identification – underscores a consistent adherence to fundamental standards across the care pathway. This level of compliance suggests effective training, standardized protocols, and a strong culture of documentation within the unit.

The minor variance from the 100% target is **entirely attributable to the "Relevant Investigations" criterion**, which was deliberately set at an 80% target and achieved precisely 80%. This lower target likely reflects a pragmatic acknowledgment that comprehensive investigations (e.g., blood cultures, CRP, sepsis screens) may not be clinically indicated or feasible in every suspected neonatal sepsis case (e.g., resource limitations, unstable infants requiring immediate empiric treatment, or mild presentations). Therefore, achieving 80% represents **success against a realistic benchmark** for this specific element, rather than indicating a performance deficit. It highlights a balanced approach prioritizing urgent clinical intervention where necessary.

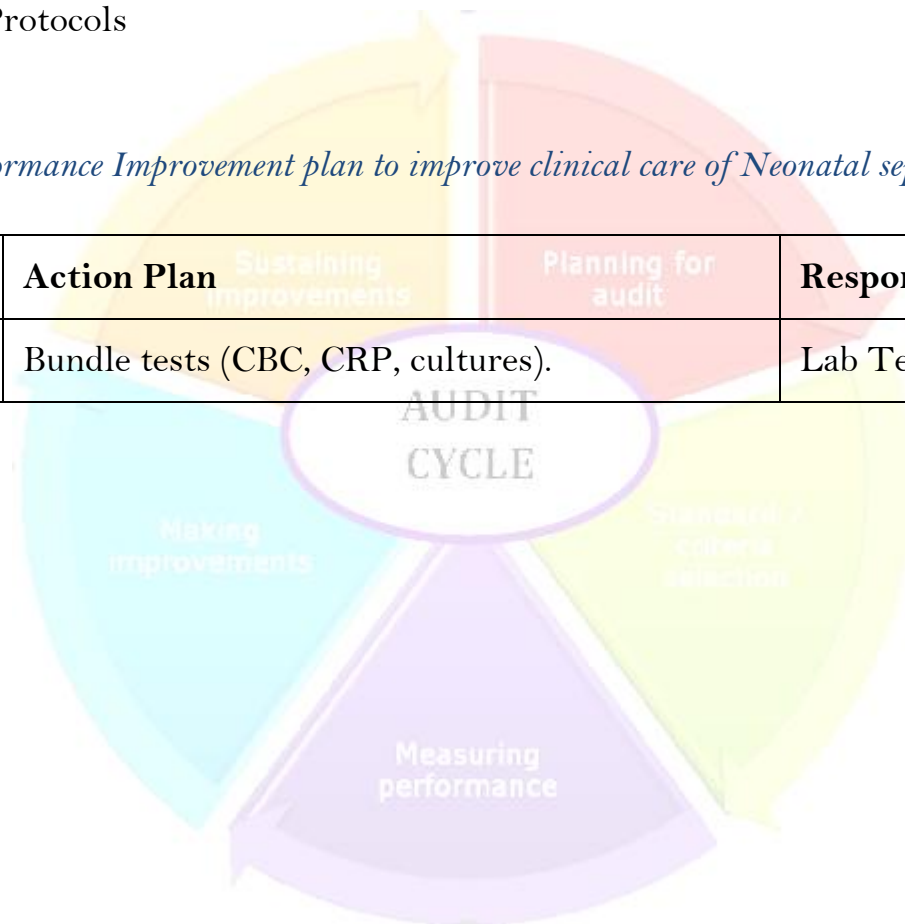
A significant methodological concern is the **absence of a defined target for "Appropriate Treatment"**, despite reporting 100% compliance. While perfect treatment compliance is highly positive, the lack of a benchmark prevents meaningful assessment of whether treatment practices truly align with evidence-based guidelines (e.g., correct antibiotic choice, dosing, duration). This gap represents a limitation in the audit framework. **Future audits must establish a clear, evidence-based target for treatment appropriateness** (e.g., 95% or 100%) to ensure this critical life-saving component is rigorously evaluated. Addressing this will strengthen the audit's validity and provide deeper insights into potential areas for treatment protocol refinement, even if current performance appears excellent.

RECOMMENDATIONS

✎ Strengthen Diagnostic Protocols

Table 2: Performance Improvement plan to improve clinical care of Neonatal sepsis management, June 2017E.C

Priority Area	Action Plan	Responsible	Timeline
Lab Monitoring	Bundle tests (CBC, CRP, cultures).	Lab Team	3 months



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- 📌 **Garee tajaajila NICU ward irraa**
- 📌 **Garee Qulquullina Tajaajila Fayyaatiif**

Dhimmi: waa'ee Gabaasa CLINICAL AUDIT galchuu ilaallata

Akkuma mata Dureerrattii ibsamuuf yaalameettii clinical audit” **N/sepsis mgt**” jedhamu kan **kurmaana 4ffaa** bara **2017** xalayaa Fuula **14** qabuu gaggeessituu kana waliin walqabsiifnee isiiniif eerguu keenya kabajaan isiniif beeksiifnaa.

Nagaya wajjiin!!