Antimicrobial Use Point Prevalence Survey

Tamale Teaching Hospital – Hospital-Wide Assessment of Prescribing Practices

TTH Antimicrobial Stewardship Committee

2025-11-07

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1 Online Version

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3 Executive Summary

The Point Prevalence Survey (PPS) conducted in May 2024 assessed antimicrobial prescribing patterns across Tamale Teaching Hospital. Key findings highlight critical gaps in stewardship practices:

Table 1: Key PPS Findings and Interpretation

Metric	Value	Interpretation
Patients Surveyed	427	Full hospital coverage
Antimicrobial Use Prevalence	65.1%	High usage; requires review
Guideline Adherence	45.2%	Below target; training needed
Culture Before Treatment	14.7%	Critical gap; diagnostic stewardship needed

4 Survey Overview & Methodology

4.1 Objective

To evaluate antimicrobial prescribing practices, identify stewardship gaps, and inform quality improvement strategies.

4.2 Design & Setting

- **Type:** Point Prevalence Survey
- **Date:** May 2024

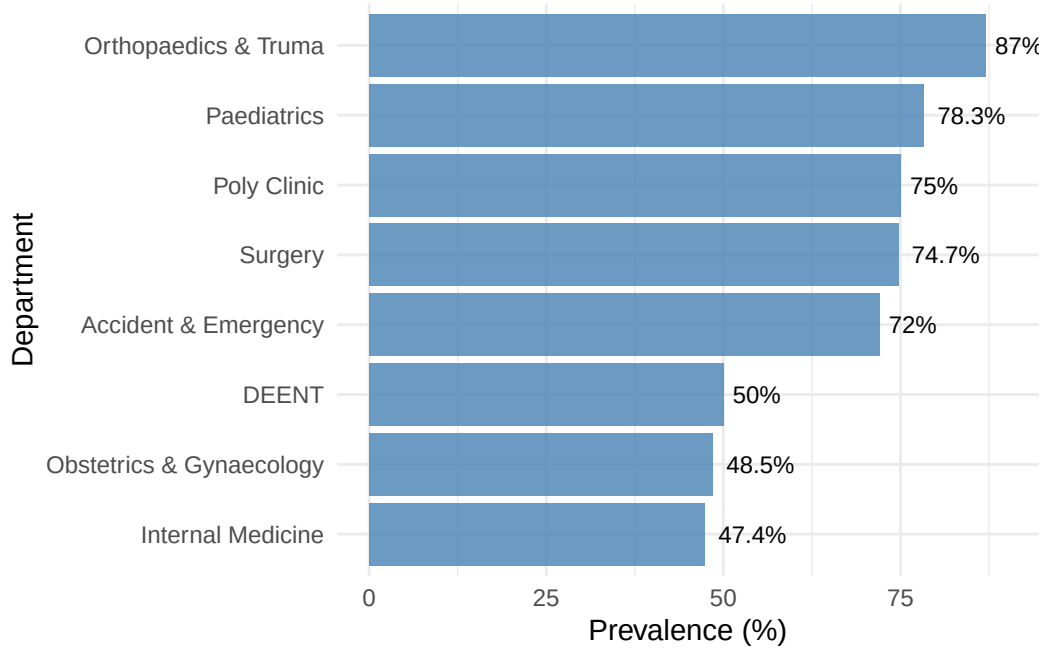
- **Location:** Tamale Teaching Hospital
- **Departments Surveyed:** Internal Medicine, Surgery, Pediatrics, Obstetrics & Gynecology, Polyclinic, Trauma & Orthopaedics, DEENT, Accident & Emergency
- **Tool Used:** Standardized PPS Form

5 Key Findings

5.1 Antimicrobial Use Prevalence

Overall Rate: 65.1%, with 278 out of 427 surveyed patients receiving at least one antimicrobial agent. Visual charts show variation in use across departments, with some departments exceeding **65.1%** the hospital wide rate.

Figure 1: Antimicrobial Use Prevalence by Department



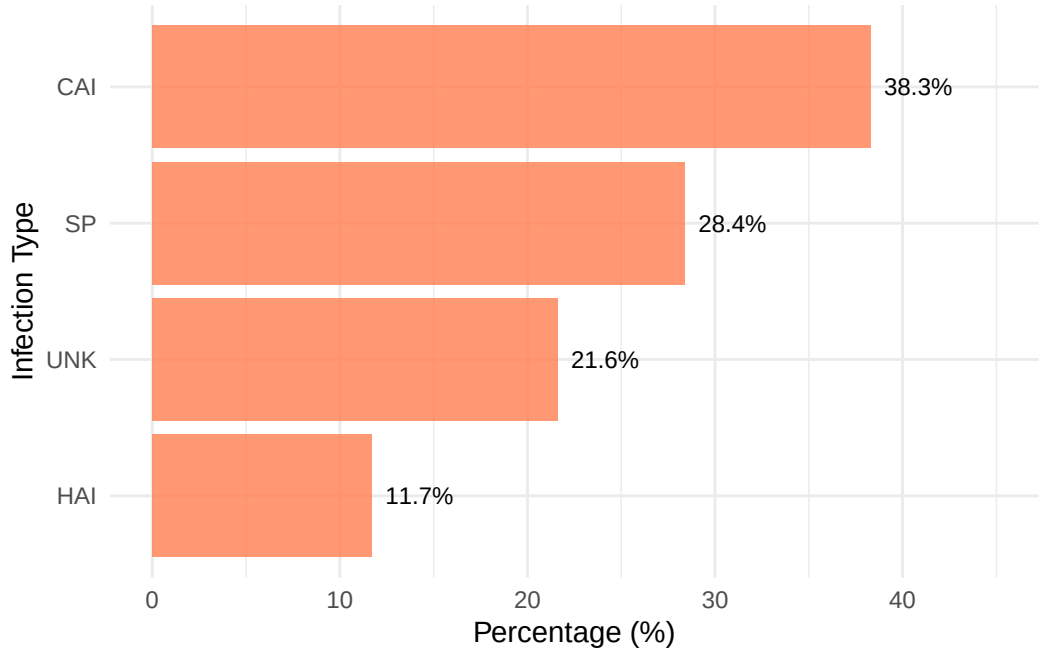
5.2 Indications for Prescribing

Infection Types: Distribution includes respiratory, urinary, surgical site, and bloodstream infections.

5.3 Indications for Prescribing

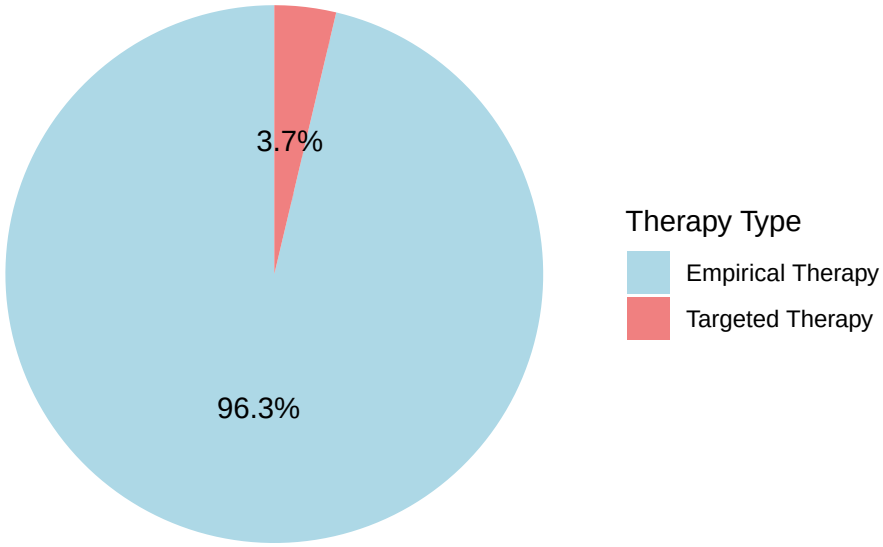
Infection Types: Distribution of indicators includes Community Acquired Infections, Surgical Prophylaxis and Hospital Acquired Infections.

Figure 2: Distribution of Infection Types



Empirical vs. Targeted Therapy: Majority of prescriptions were empirical, reflecting low culture submission rates.

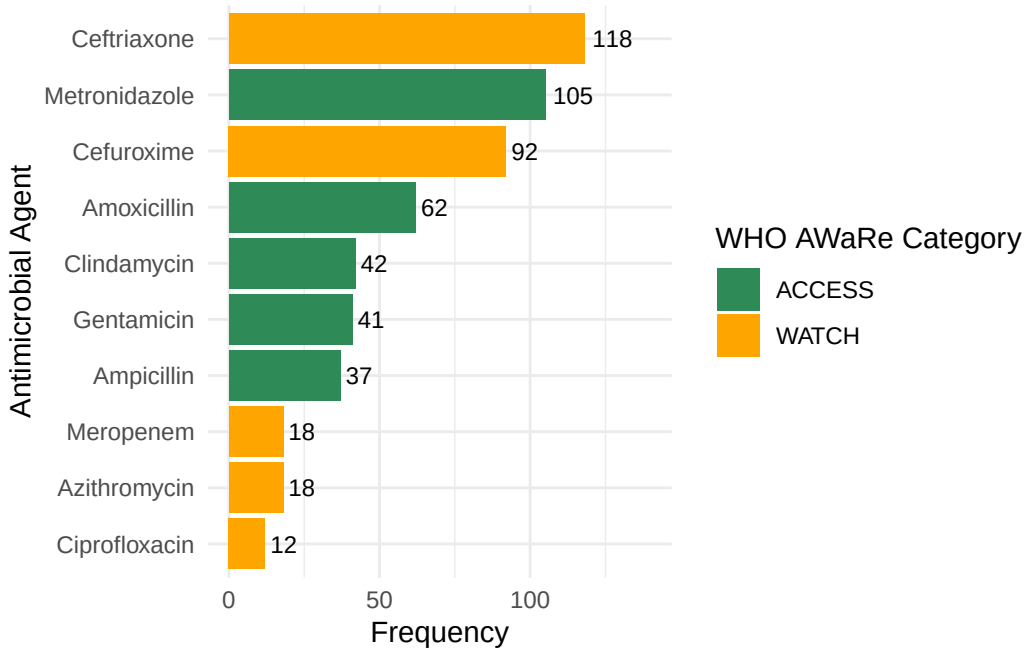
Figure 3: Distribution of Empirical vs Targeted Therapy



5.4 Antimicrobial Classes & Agents

Top Agents: Ceftriaxone, Metronidazole, and cefuroxime were most frequently prescribed. With a balanced 1:1 AWaRe Ratio

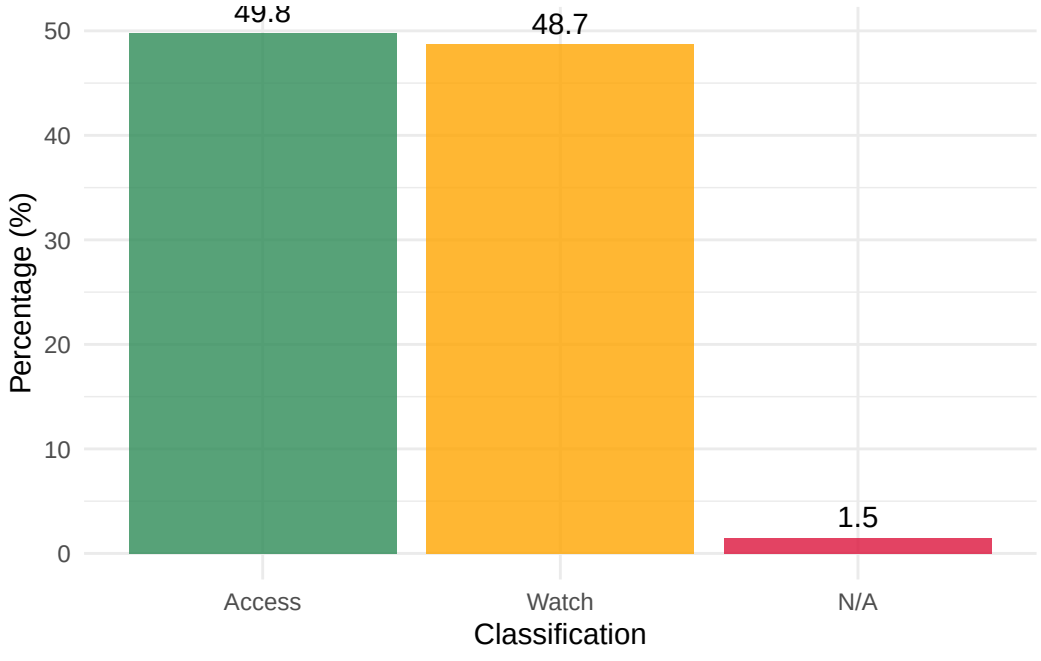
Figure 4: Most Frequently Prescribed Antimicrobial Agents



WHO AWaRe Classification: Majority of agents fall under the 'Watch' category, indicating potential for resistance.

- **The Access-to-Watch ratio** is nearly 1:1, which is not ideal. WHO recommends a higher proportion of Access antibiotics to minimize resistance risks.
- This balance suggests a need for stewardship interventions to promote Access agents and reduce reliance on Watch antibiotics unless clinically justified.

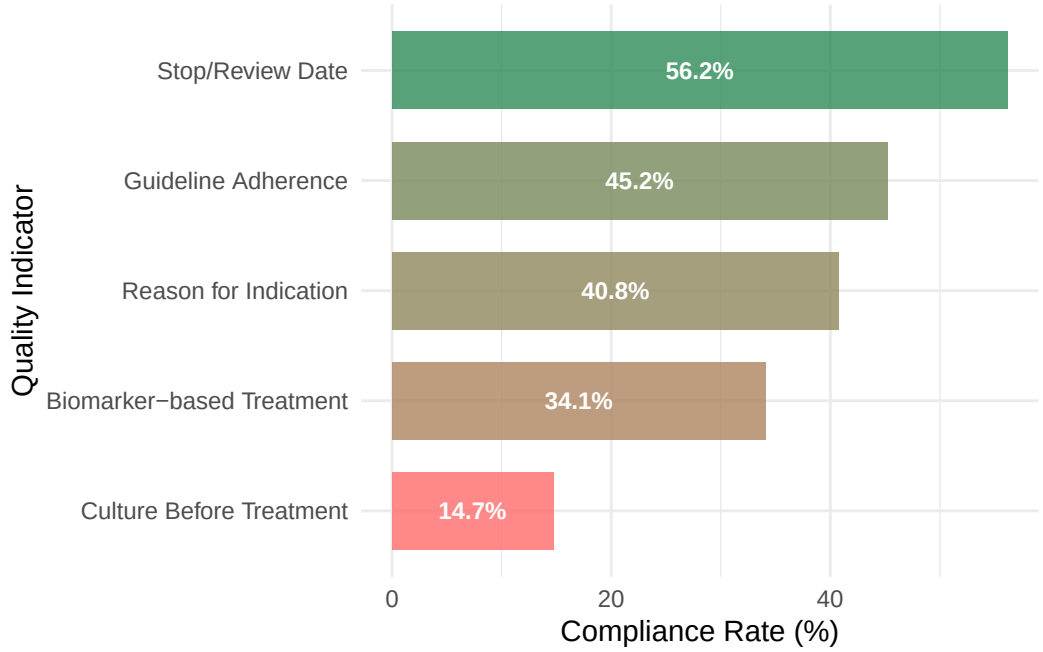
Figure 5: Distribution of Antimicrobials by WHO AWaRe Classification



5.5 Quality Indicators Compliance

- **Stop/Review Date** (56.2%): Moderate compliance; over half of prescriptions had a review date, but improvement is needed to ensure timely reassessment.
- **Guideline Adherence** (45.2%): Low adherence; indicates a need for training and regular audits to promote evidence-based prescribing.
- **Culture Before Treatment** (14.7%): Critically low; reflects poor diagnostic stewardship and over-reliance on empirical therapy.
- **Biomarker-Based Treatment** (34.1%): Limited use; suggests potential to expand diagnostic support for antimicrobial decisions.
- **Reason for Indication Documented** (40.8%): Weak documentation; undermines accountability and hinders audit effectiveness.

Figure 6: Compliance with Antimicrobial Stewardship Quality Indicators



5.6 Microbiology & Resistance Data

Culture Submission Rates by Ward: Lowest in high-prescribing wards such as Surgery and A&E.
Resistance Trends: Data not available; future surveys should include antibiogram analysis.

5.7 Departmental Contributions to Antimicrobial Consumption

Highest Rates:

-Internal Medicine (23.1%) and Surgery (22.5%) lead in culture submission, but still far below ideal (>80%).

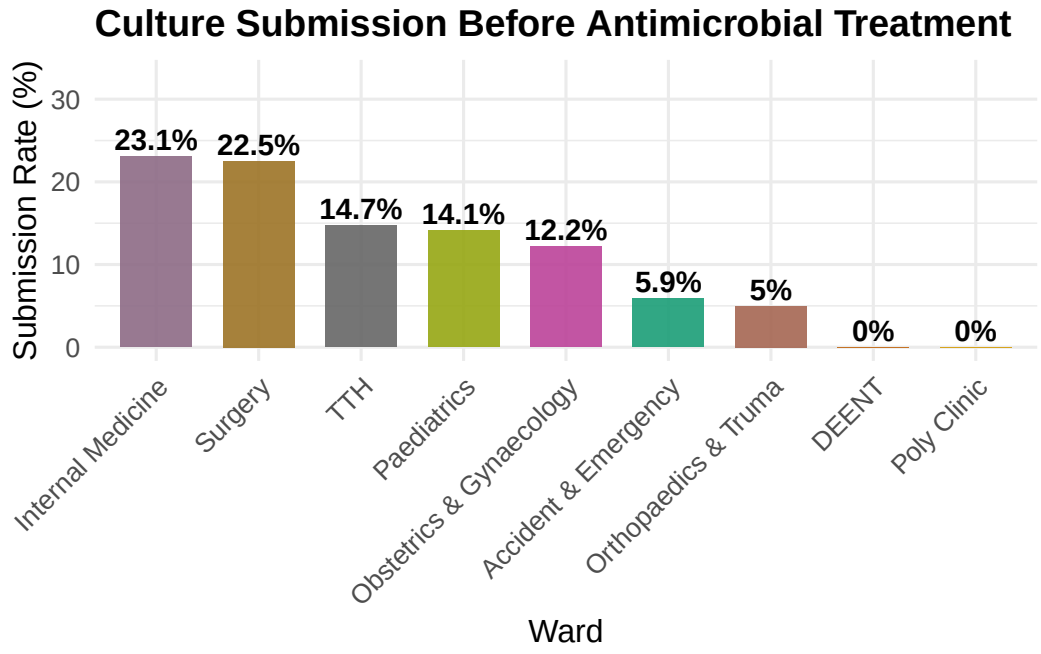
Moderate Rates:

-TTH overall (14.7%), Paediatrics (14.1%), and Obstetrics & Gynaecology (12.2%) show low compliance.

Critical Gaps:

- Accident & Emergency (5.9%) and Orthopaedics & Trauma (5%) have very poor submission rates.
- DEENT and Polyclinic (0%) indicate no cultures submitted at all, which is alarming.

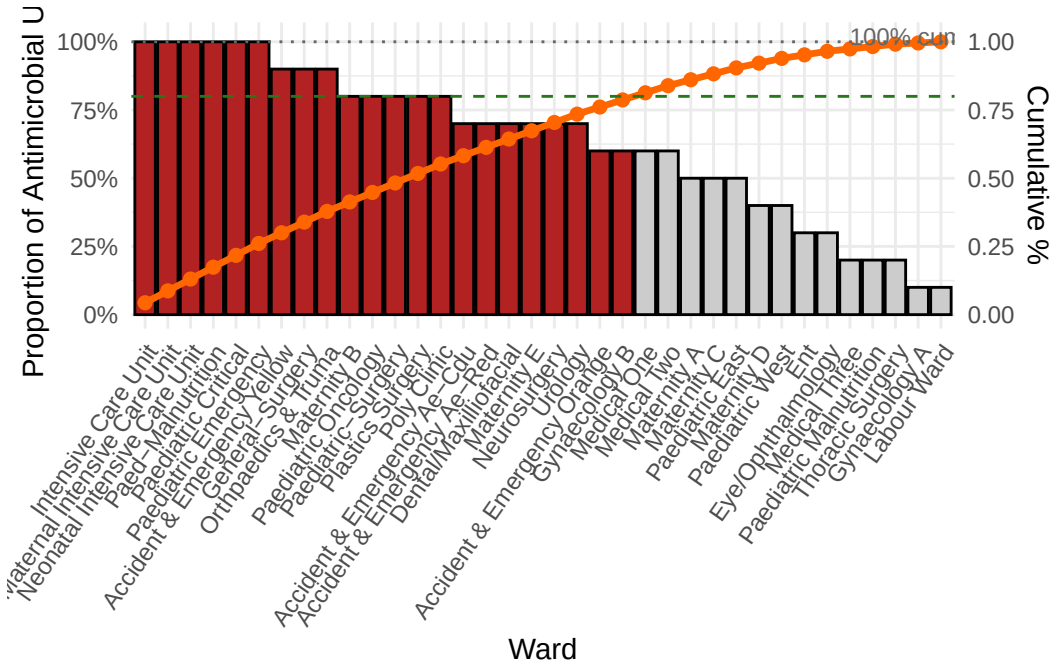
Figure 7: Microbiological Culture Submission Rates Before Treatment by Ward



5.8 Top Wards/Unit contributing to Most of AM Consumption

- **Left Side (Red Bars)**: These wards account for the largest share of antimicrobial use. The first three represent the top contributors i.e ICU, MICU, and NICU.
- **Cumulative curve** reaches ~80% by around 22 out of 36 wards, contributes most of the antimicrobial consumption.
- **Right Side (Gray Bars)**: Wards with lower antimicrobial use have minimal impact on overall consumption.

Figure 8: Top Wards/Unit contributing to Most of AM Consumption



6 Recommendations

6.1 Short-Term Actions

- Conduct targeted training on guideline-based prescribing
- Promote culture-before-treatment campaigns

6.2 Medium-Term Goals

- Integrate stewardship prompts into EHR workflows
- Establish AMS champions in each department

6.3 Long-Term Strategy

- Develop a hospital-wide antibiogram
- Institutionalize quarterly PPS audits

Prepared by: TTH AMS Committee

Team:

- Dr. Ana Maria Simono Charadan [Consultant & Chair-person]

- Dr. Samuel Yao Alomatu [Infectious Diseases Specialist]
- Dr. Elvis Duorina, [Senior Specialist Pharmacist]
- Mr. Alhassan M. Shamudeen, [Head of Research and Development]
- Dr. David Eklu Zeyeh, MLS, [Medical Microbiologist]
- Dr. Anthony Kwaw [Specialist Pharmacist]
- Dr. Prince Parku [Pharmacist]
- Mr Mohammed Lukman [Infectious Diseases Nurse]
- Mr. Ameko Asiwome [Health Information Officer]