Investigating Antimicrobial Resistance in *Escherichia coli* from Urban Potable Water in Nairobi: A One-Health Pre-study Framework

Background

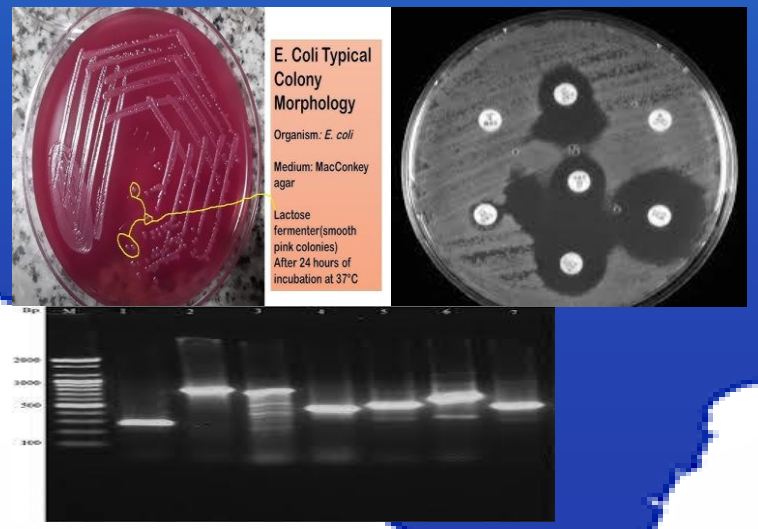
- AMR is a growing One Health threat
- Drinking water is an overlooked transmission route
- Urban Nairobi presents high exposure risk

Objectives

- Determine *E. coli* prevalence
- Characterize phenotypic AMR
- Detect resistance genes

Methods

- Sampling of potable water sources
- Membrane filtration & culture
- *E. coli* identification
- AST (CLSI 2025)
- PCR for resistance genes
- Data analysis in R



Water Sources

- Piped water
- Boreholes
- Vendors
- Stored household water

Expected Outputs

- AMR prevalence data
- Resistance profiles
- AMR gene detection

Public Health Relevance

- Community exposure risk
- Supports WASH & AMR surveillance
- Aligns with Kenya NAP-AMR 2023–2027

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