## Strategies to prevent antimicrobial resistance

- Proper use of antimicrobials
- Treatment of sick animals should only be done by qualified veterinary personnel.
- Only treat sick animals and when justified
- Antibiotics meant for humans should not be given to livestock.
- Embracing proper animal husbandry through proper feeding, hygiene, vaccination and use of probiotics and prebiotics
- Antibiotics should be prescribed before purchase

## Antibiotic classes that have been affected by AMR

- Bacteria have developed resistance to many antibiotic classes including:
    - Beta lactams such as Penicillin and Methicillin
    - Tetracycline
    - Aminoglycosides such as Gentamycin and Amikacin
    - Macrolides such as Erythromycin,
    - Fluoroquinolones such as Ciprofloxacin
    - Sulfonamides such as Cotrimoxazole
    - Chloramphenicol among others

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# How to Identify and Control Antimicrobial Resistance in Livestock

## How to Identify and Control Antimicrobial Resistance in Livestock

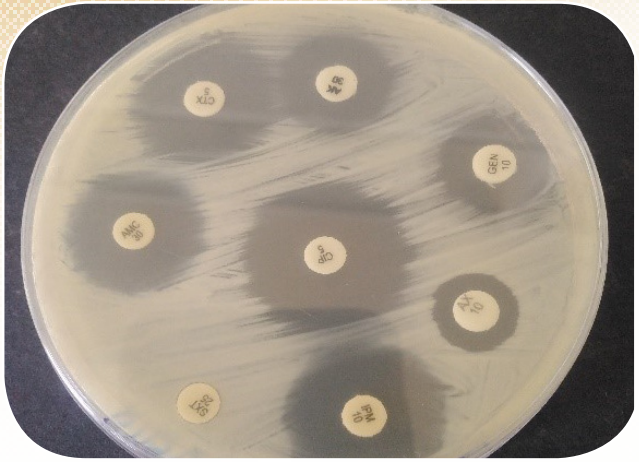
### Introduction

Antimicrobials are medicines used to treat and prevent diseases in humans, animals and plants. They include antibiotics antivirals, antifungals and antiparasitics.

Antimicrobial resistance (AMR) occurs when drugs which were effective against microorganisms become ineffective.

### Why is it important to reduce antimicrobial resistance

AMR reduces availability of effective drugs for disease treatment. This increases the risk of spread of diseases among humans and animals.



*A plate after antibiotic sensitivity testing*

### What causes antimicrobial resistance

- Overuse and misuse of antimicrobials
- Poor sanitation and hygiene
- Failure to use drugs as recommended
- Poor disease control and prevention
- Use of counterfeit drugs
- Lack of and/or poor enforcement of laws and regulations
- Presence of drug residues in food of animal origin
- Under dosage of antimicrobials

### Effects of Antimicrobial resistance on animal health

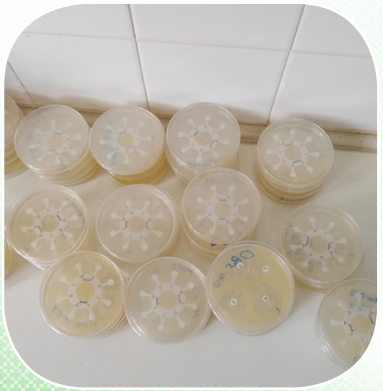
Infections caused by resistant pathogens become harder and more costly to treat and may persists for longer. In some cases, severe infections may cause death of the animal.

### Detection of AMR

1. Culture of the micro-organisms in the laboratory and testing them against a range of antibiotics to determine the best antimicrobial to treat an infection.

*Conducting antimicrobial susceptibility testing*

2. Molecular techniques are then used to detect the presence and type of genes responsible for the resistance



*Different bacteria being tested for antibiotic resistance*