The spread of antibiotic or antimicrobial resistance (AMR) threatens to deprive humanity of a powerful means of treating deadly bacterial infections. The use of antimicrobials, including antibiotics, in food-animal production is one of the key drivers of AMR and needs to be curbed to save these life-saving medicines.

**Ban on Antimicrobials for Growth Promotion**  
Several countries have already banned the use of antimicrobials as growth promoters to reduce the possibility of AMR. There is increasing data showing these measures usually have no or negligible influence on productivity of food-animal farms.

**Training Animal Health Professionals**  
Trained veterinarians and animal health workers can help prevent infection, prescribe the correct antimicrobial if necessary, and ensure that antimicrobial products are not used indiscriminately in food-animal production.

**Efficient and Hygienic Farming**  
Bacterial infections in food-animals can be reduced through improvement in hygiene and lowering stress through changes to the production style, stocking density, and built environment. Measures can include altering the weaning period, lengthening the feeding time, or cleaning facilities and improving ventilation.

**Increasing Consumer Awareness**  
Consumer campaigns can play a significant role in helping reduce or eliminate antimicrobials in meat products. In the U.S., a successful campaign forced large global food chains like McDonald’s, KFC, and Subway to source food animal products raised without the routine use of antimicrobials.

**Vaccination for Disease Prevention**  
Vaccines can reduce the prevalence of antimicrobial resistance among animal pathogens by lowering the total number of cases needing treatment and thus reducing the need for antimicrobial use.

---

**Antimicrobial for Animal Growth Promotion:**  
Antimicrobials are used in food-animal production for therapeutic use, i.e., treatment of disease; non-therapeutic use including for prevention of disease and growth promotion, i.e., to increase size and weight of animals. Regular antimicrobial use can give rise to antimicrobial resistance, which can harm animals and also spread to humans.

**Factory-Style Farming**  
Factory-style farming involves raising thousands of animals of one breed and for one purpose in confined housing, given medicated feeds, and denied access to forage. One third of the global increase in the antimicrobial consumption is attributed to the shift towards such intensive farming systems.

**Adding Antimicrobials to Animal Feed**  
Producers see the supplementing of animal feed with antimicrobials as a cheaper alternative to prevention of disease through more efficient farming practices. Many classes of antimicrobials that are used for humans are also being used in food-animals.

**Resistant Bacteria in Food**  
Transmission of antimicrobial resistance from animals to humans can take place while handling contaminated meat and meat-based food products, initial infections involving bacterial pathogens that affect the human gut spread through the food-borne route.

**Environmental Pollution**  
Resistant bacteria as well as antimicrobial residues from food-animal production are spread in the environment, mostly through manure, where they affect other bacteria in the environment as well as wild fauna.

---

Players are encouraged to read/research and fill in their own descriptions for the slides and ladders that have been left blank. For more information and ideas please see [https://www.reactgroup.org/toolbox/](https://www.reactgroup.org/toolbox/)