Antimicrobial Resistance at human-animal interface in the Asia-Pacific Region

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Outlines

• Introduction
• Situation analysis
• Issue and challenges
• Policy disconnect
• International partnership
• Key messages
Introduction

- Antibiotics are used in many settings
- Clinical medicine, communities, animal husbandry/aquaculture, horticulture
- Same classes of antimicrobial agents are used in different sectors
- Any use will select for resistance
- Resistant bacteria and resistant genes do not recognize geographic or ecologic borders
Resistance: Biological phenomenon

- Antibiotics promote resistance
- The antibiotics also kill innocent bystanders bacteria which are non-pathogens
- The use of antibiotics also promotes antibiotic resistance in non-pathogens too
- These non-pathogens may later pass their resistance genes on to pathogens
Human health vs animal health

1. Self-medication
2. Patient compliance, i.e. under dose vs overdose
3. Antibiotic sensitivity test
4. Over the Counter Sale
5. Use of new and expensive drug
6. Life, duration of illness
7. Counterfeit drugs-Major issue

1. Use of antibiotic as growth promoters
2. Withdrawal period or milk discard time – Food safety
3. Only for companion animals
4. Same problem in animal health sector
5. Economic factor plays a role in selection of antibiotics
6. Trade, production and food security
7. Minor issue- Cost factor
AMR is a food safety concern?

- Antibiotic use in food animals – for treatment, disease prevention or growth promotion – allows resistant bacteria or genes to spread from food animals to humans through the food-chain.

- Increased awareness and specific policy guidance on containing antibiotic resistance from a food safety perspective.
Policy advocacy in regional platforms

- Tripartite coordination mechanism (FAO/OIE/WHO)
- Advocacy for One Health
- Operationalization of One Health
- Avian influenza, rabies, and AMR – Priority areas for operationalization of OH
- GAP on AMR
AMR situation in the Asia Pacific Region

A total of 21 (91.3%) of the 23 participating countries responded to the questionnaire.

1. Governance, legislation and political support on AMR issues;
2. Capacity related to AMR surveillance and mitigation;
3. Existing inter-sectoral collaboration in addressing AMR in the country.

Policy engagement in the countries related to AMR Mitigation:

- No information: 3
- Non-existent: 4
- Existing but weak: 8
- Existing and reasonably strong: 4
- Policy makers are fully engaged: 2
AMR situation in the Asia Pacific Region

Recognized institution involved in AMR surveillance

- AMR REF LAB (Human health): 2/21 (9.5%)
- AMR REF LAB (Animal health): 3/21 (14.3%)
- No information: 13/21 (61.9%)
- None: 6/21 (28.6%)

With national reference laboratories

AMR surveillance in human, animal and environment

- Human: Yes (100), No (0)
- Animal: Yes (90), No (10)
- Environment: Yes (80), No (20)
Priority areas for strengthening surveillance and containment of AMR

1. Policy advocacy for legal framework, multisectoral collaboration and public private partnership

2. Financial and technical support for development and implementation of NAP on AMR
   - Human resource development
   - Strengthening laboratory-based AMR surveillance
   - Research capacity development

3. Networking and coordination at the regional and national levels
According to a report by the Global Antibiotic Reporting Partnership, the amount of antibiotics sold in India increased 40% between 2005 and 2009 (Ganguly et al., 2011).

Unlike the US and many European countries, there are limited regulations and lack of information on antimicrobial use in food animals raised for domestic consumption in India (Ganguly et al., 2011).
Risk mitigation measures

• Withdrawal period and milk discard time are recommended when used in food animals
• Ban on use of selective antibiotics such as vancomycin, chloramphenicol in food animals
• Alternative to antibiotics, i.e. probiotics,
• Prophylactic vaccination
• Good farming practices and application of biosecurity measures
• Trade incentives, i.e. export to EU, Japan
Can we ignore consumers?

- Advocacy, awareness and education: Whole of the society approach
- Consumer right to information
- Farmers/producers are first hand consumer!
- Consumer can be a game changer
International partnership is key

- Joint FAO/OIE/WHO Expert meetings
  - Non-Human Antimicrobial Usage and Antimicrobial Resistance, 2003 and 2004
  - Antimicrobial Use in Aquaculture & Antimicrobial Resistance, 2006
  - Critically Important Antimicrobials, 2008

- FAO and OIE participate in WHO Advisory bodies on AMR and have been key partners in the development of the WHO Global Action Plan

- AMR has been selected as a priority topic for the Tripartite (FAO/OIE/WHO)

- FAO, OIE and WHO will work in close collaboration in the implementation of the GAP
Key messages

AMR is a natural phenomena and it has biomedical and socio-cultural dimension

Window of opportunity
- Increased level of awareness and engagement
- Global Action Plan galvanizes partners around common goals

Challenges
- **Lack of** effective/simple communication
- Not one single disease nor pathogen

Lack of capacity, particularly in low resource settings
- Diagnostic, quality assurance, regulatory, and surveillance capacity
- Prevent and control spread of drug resistant pathogens
- Control over how antimicrobials are obtained and used

- Multiple partners/sectors and **Lack of coordination**
- **Demands holistic, multidisciplinary approach, ONE HEALTH approach**
Enough time has been wasted issuing warnings about antibiotic resistance. The moment has come to do something about it.