Antimicrobial Use Data Collection and Report to OIE – Nigeria

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Introduction

- AMR occurs naturally
- Drivers - aggravated by over and misuse of antibiotics or use of poor quality/falsified antimicrobials, use for growth promotion, lack of observance of withdrawal periods
- AMR is OH Issue – must be tackled at the human – animal – environment interface
- Consequences in Agriculture
  - Increased cost of production
  - Loss of animals
  - Transmission of resistant pathogens and low grade AM as residues to humans and environment

Introduction (contd)

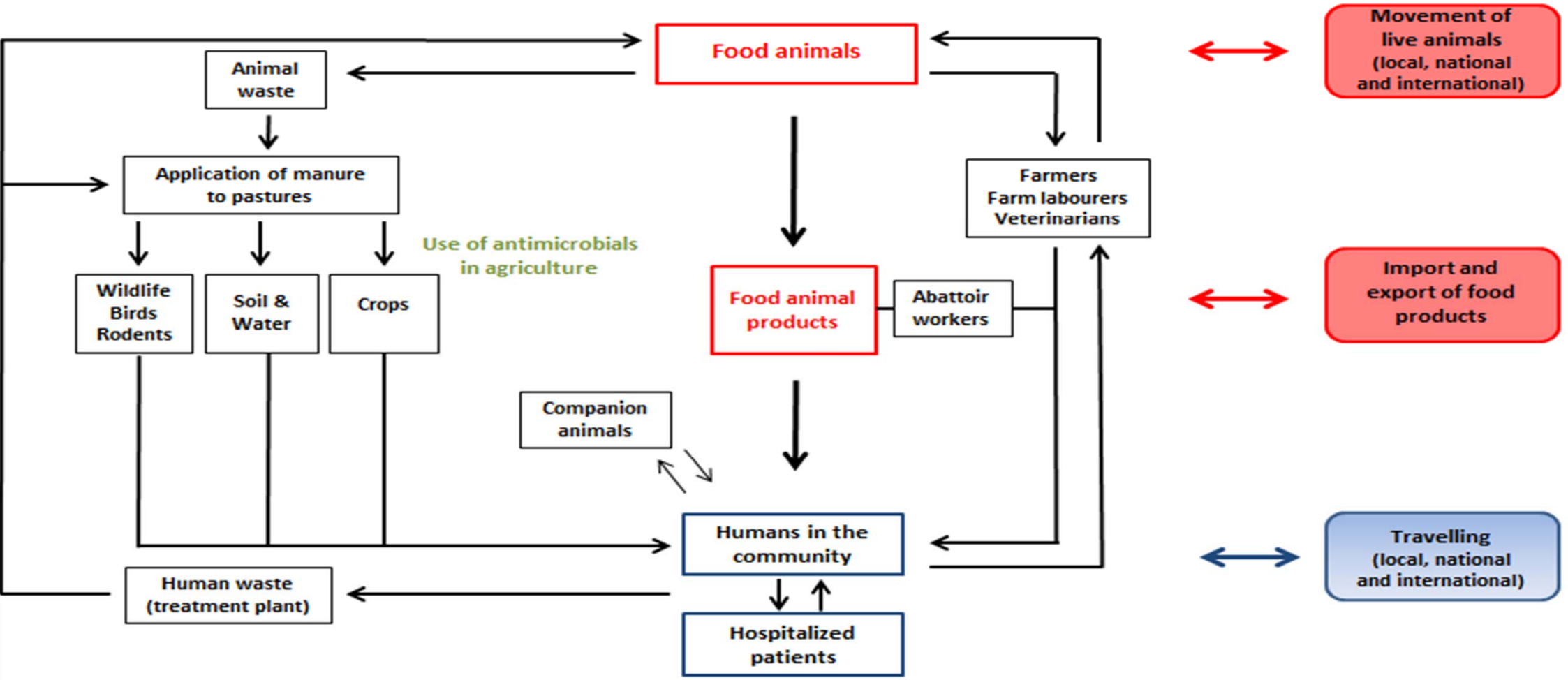
- The indiscriminate use of antimicrobials for the prevention and treatment of bacterial infection in animals is a common practice in Nigeria as in other developing countries.

- The increasing use of antimicrobials in veterinary practice/livestock production results in increase of resistant bacteria in animals.

- Antimicrobials are the most frequently detected chemical residues in food of animal origin in Nigeria
  - majority of these are antimicrobials commonly used in veterinary practice and/or in animal feed

- In 2050, Nigeria's population is estimated to reach 400million and this will put added pressure on livestock production culminating in increased interaction at the animal-human-environment interface

The Animal – Human Interface



AMR at the Human-Animal Interface

- Studies in Nigeria have shown appreciable levels of resistant organisms isolated from animal and animal products
- Antibiotic use in animals can have direct and indirect effects on human health through
  - contact with antibiotic-resistant bacteria from animals and the environment,
  - consumption of food contaminated with resistant organism and
  - antibiotic residues in animal products
- Low recovery of resistant organisms from wildlife points to antimicrobial use in agriculture and veterinary practices as the principal driver of resistance in animals

Legal Framework

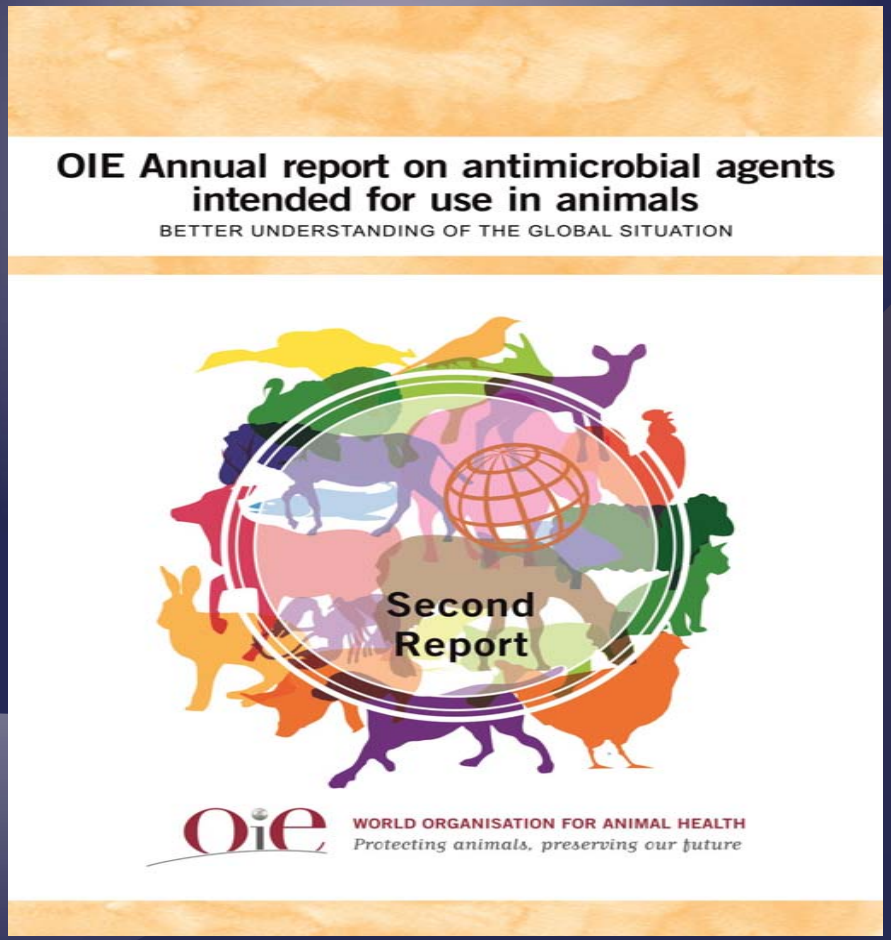
- Laws and regulations governing medicine use in human and animals
  - Drugs and related products (registration) Decree No.19 of 1993
  - Poisons and Pharmacy Act, Cap 366 of 1990
  - Food and Drugs Act Cap 150 of 1990
  - Counterfeit and Fake Drugs (miscellaneous provisions) Act, Cap 73 of 1990

Legal Framework Cont'd

- The National Essential Drugs List (EDL)
- Veterinary Surgeons Act CAP V3 LFN 2004 (as amended)
- Animal Disease Control Act LFN 1988
- Meat Law (1968)
- Nigerian Veterinary Formulary 2018

Collation and Reporting of AMU Data in Animals

- OIE member countries have been mandated to contribute to the OIE global database on antimicrobial agents intended for use in animals



Report of Quantities of AMU in Animal

- Collation and analysis of AMU data in animals from 2014 to 2017
- Data used is the veterinary drugs import data obtained from the National Food and Drug Administration and Control (NAFDAC)
- OIE guidance and template is used for calculations and reporting
- As per OIE guidelines AMU/C data submitted is the amount of active ingredients of the products in Kilograms
- The antimicrobial agents are reported by the different classes
- Reports:
  - baseline data
  - Option 1 – overall amounts (therapeutic and growth promotion)

S / N	Class	Type
1	Tetracyclines	Oxytetracyclines
		Chlortetracycline
2	Fluoroquinolones	Enrofloxacin
		Ciprofloxacin
		Norfloxacin
3	Aminoglycosides	Gentamycin
4	Macrolides	Tylosin
5	Polypeptides	Colistin sulphate
6	Penicillin	Amoxycillin
7	Amphenicols	Florfenicol
8	Sulphurnamides	Sulphurnamides
9	Glycopeptide	Ancomycin

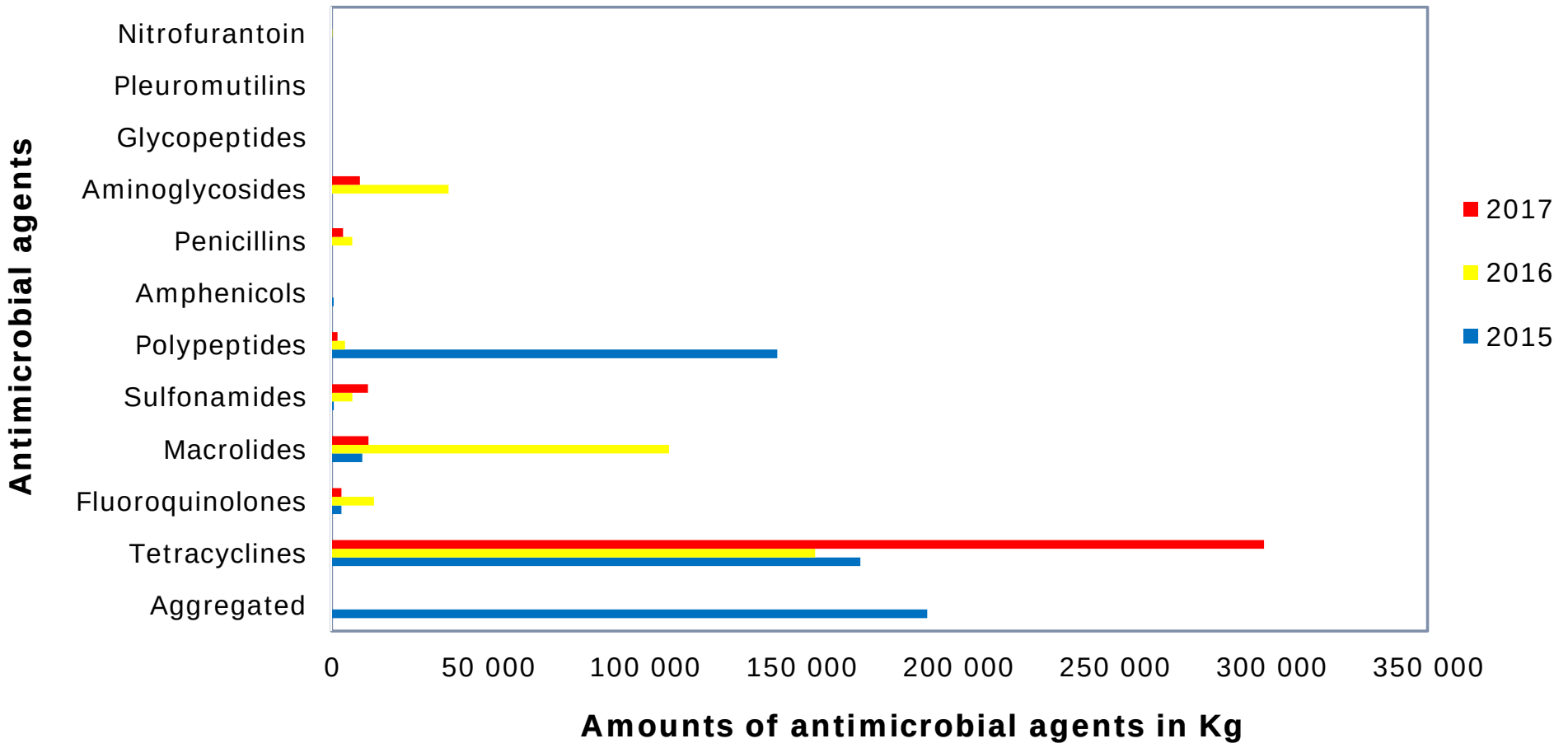
S/N	Combined antimicrobials	Type
1	Amoxycol	Amoxycillin and Colistin
2	Tylodox	Tylosin and Doxycycline
3	Doxygen	Doxycycline and Gentamycin
4	Doxytyl	Doxycycline and Tylosin
5	Intergendox	Doxycycline and Gentamycin
6	Amoxystin	Amoxycillin and Colistin
7	Dimoxican	Colistin sulphate and Amoxycillin trihydrate

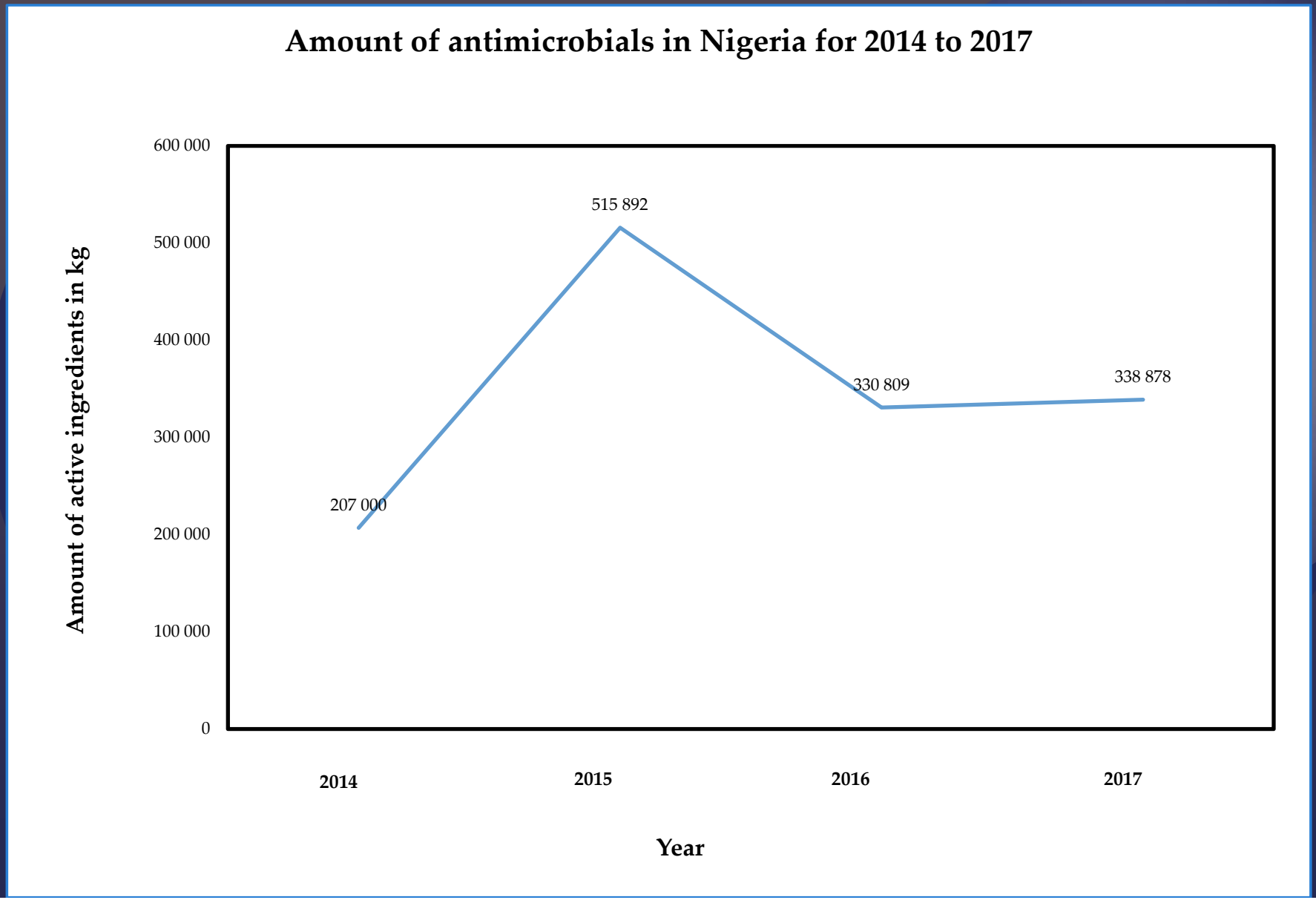
S/N	Combined antimicrobials	Type
8	Koleridin	Oxytetracycline and Neomycin sulphate
9	Conflox	Enrofloxacin and Bromhexin
10	EST Mix	Erythromycin, sulfadiazine and trimethoprim
11	Ciprovet	Sulphur and Ciprofloxacin
12	Sulpha 3	Sulfathiazole, Sulfadimidine and Sulfamerazine
13	Amoxitin	Amoxicillin trihydrate
14	Colisultrix	Trimethoprime and Colistin sulphate
15	Trisulmix	Trimethoprim and Sulfamethioxine
16	Sulfavet	Sulphadimidine and Trimethoprime

Amount of AMU in KG for 2014-2017

S/N	Antimicrobial	2014(Jun-Dec)	2015	2016	2017
1	Aggregated	188,339	190,219	-	-
2	Tetracyclines	8,147	168,880	154,433	297,776
3	Fluoroquinolones	5,115	3,146	13,520	3,152
4	Macrolides	3,349	9,798	107,775	11,790
5	Sulfonamides	1,060	687	6,635	11,592
6	Polypeptides	459	142,333	4,290	1,892
7	Amphenicols	268	658	-	-
8	Penicillins	193	-	6,569	3,624
9	Aminoglycosides	46	131	37,341	9,052
10	Glycopeptides	24	40	-	-
11	Pleuromutilins	-	-	2	-
12	Nitrofurantoin	-	-	243	-
	Total (Kg)	**207,000**	**515,892**	**330,809**	**338,878**

Antimicrobials intended for use in animals in Nigeria for 2015,2016 and 2017




Amount of antimicrobials in Nigeria for 2014 to 2017
Amount of active ingredients in kg
600 000
500 000
400 000
300 000
200 000
100 000
0
515 892
330 809
338 878
207 000
2014
2015
2016
2017
Year

Challenges

- Lack of specific regulations - sales, prescription, monitoring of quantities used, AMR surveillance
- Incomplete import data received
- Paucity of data on
  - Lack of data on mortalities due to AMR in animals
  - No of farms, clinics, sales outlets etc
  - Resistant pathogens, AMU and residue levels in products
  - Pharmaceutical companies' involvement

Challenges

- Use of antibiotic additives in feed and water
- OTC purchases
- Informal and illegal trade across borders
- Internet sales
- Circulation of substandard and falsified drugs and drugs whose active ingredient is unknown
- Lack of surveillance and monitoring of use of antimicrobials and resistance trends
- Inadequate veterinary supervision in prescription and administration of AMs

Challenges

- Weak collaboration between the Veterinary products regulatory bodies (NAFDAC, VCN, VPCS)
- Disconnect between academia, private and public VS
- From talk to practice of OH collaboration of the animal, human and environment sector
- Limited funding for implementation of the AH activities of NAP

Way Forward

- Enactment of specific regulations for AMR and AMU prevention and control
- Advocacy to policy makers
- Creation of awareness and education of stakeholders
- Responsible and prudent use of antimicrobials especially in food producing animals
- Proper record keeping by clinician and farmers
- Veterinary supervision (prescription and administration)
- Active involvement of pharmaceutical companies

Way Forward

- Use of other alternatives to antibiotics – probiotics
- Vaccinations, biosecurity and good animal husbandry practices
- Build capacity of personnel, diagnostic facilities and regulatory bodies
- Research for new products
- Diligent implementation of the NAP

Conclusion

- It is evident that AMR is a problem in animal health
- Analysis of data being generated should be used for advocacy and sensitization
- Multi-sectoral Collaborations
- Monitoring
- Commendations/Incentives
- Enforcement

Acknowledgements

- OIE
- FMARD
- NAFDAC


WE NEED
YOU
TO HANDLE
ANTIMICROBIALS
WITH CARE
Fight
#AntiMicrobialResistance
• Misuse and overuse of antimicrobials increase resistance risk, endangering both animal and human health and welfare.
• But you can help. By acting prudently when using antimicrobials, you can preserve their efficacy for our future.
WE NEED YOU
OIE
WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future
Funded by UK Government