EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

Activities related to the use of antimicrobials in animals

EMA Working Parties with PCWP and HCPWP joint meeting, 19 Sep 2017, London

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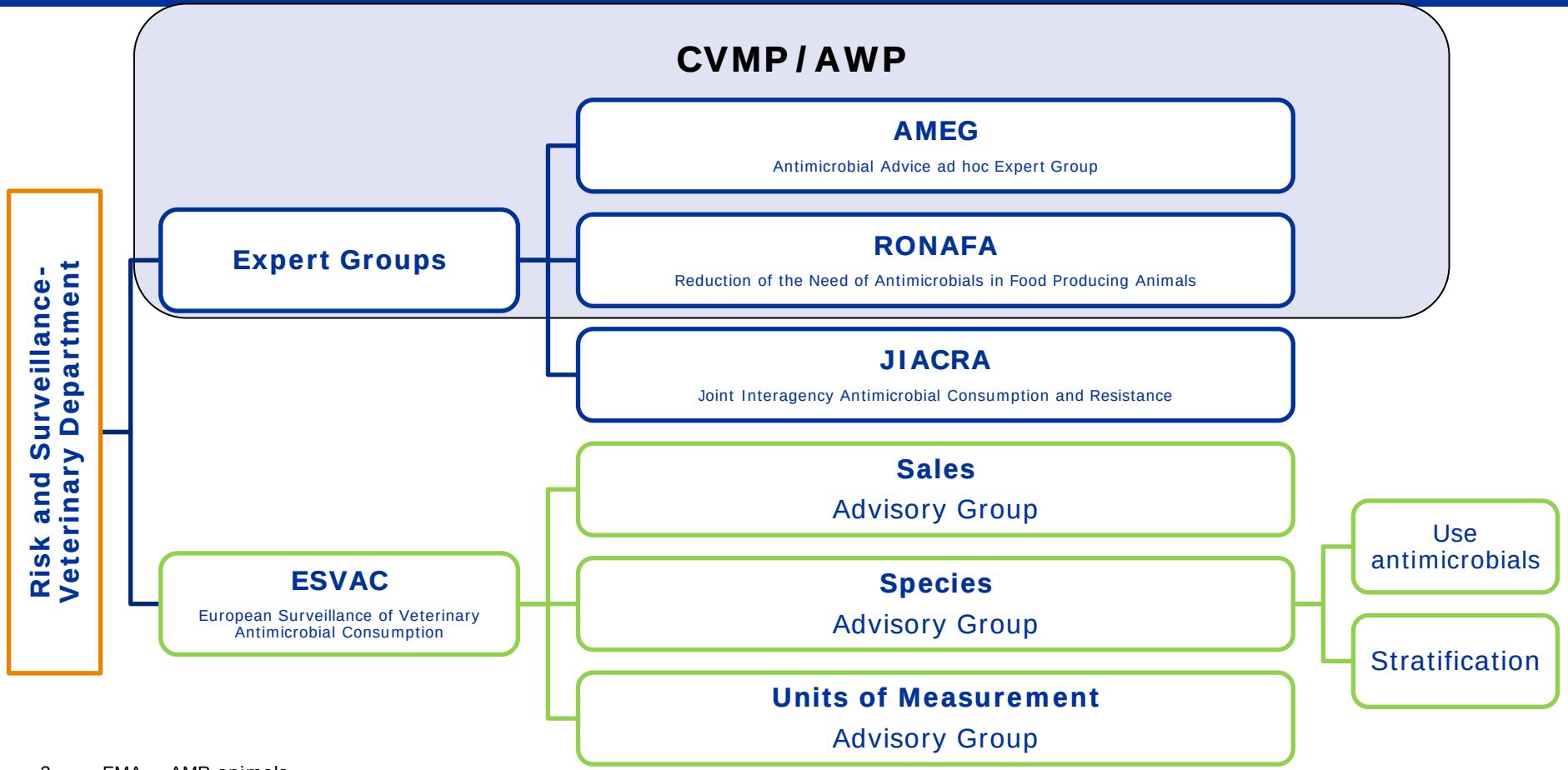
Content

- What do we do
- Collection of data on sales of antimicrobials for animal use
- Analysis of data on sales and resistance


CVMP / AWP
Risk and Surveillance-Veterinary Department
Expert Groups
AMEG
Antimicrobial Advice ad hoc Expert Group
RONAFA
Reduction of the Need of Antimicrobials in Food Producing Animals
JIACRA
Joint Interagency Antimicrobial Consumption and Resistance
ESVAC
European Surveillance of Veterinary Antimicrobial Consumption
Sales
Advisory Group
Species
Advisory Group
Units of Measurement
Advisory Group
Use antimicrobials
Stratification

European Surveillance of Veterinary Antimicrobial Consumption

"Promotion and extension of the European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) with the collaboration of EMA to obtain harmonised data on the usage per animal species and production categories as well as for different indications from all Member States."

Sixth ESVAC report (European Surveillance of Veterinary antimicrobial consumption) series, all the reports available from: www.ema.europa.eu

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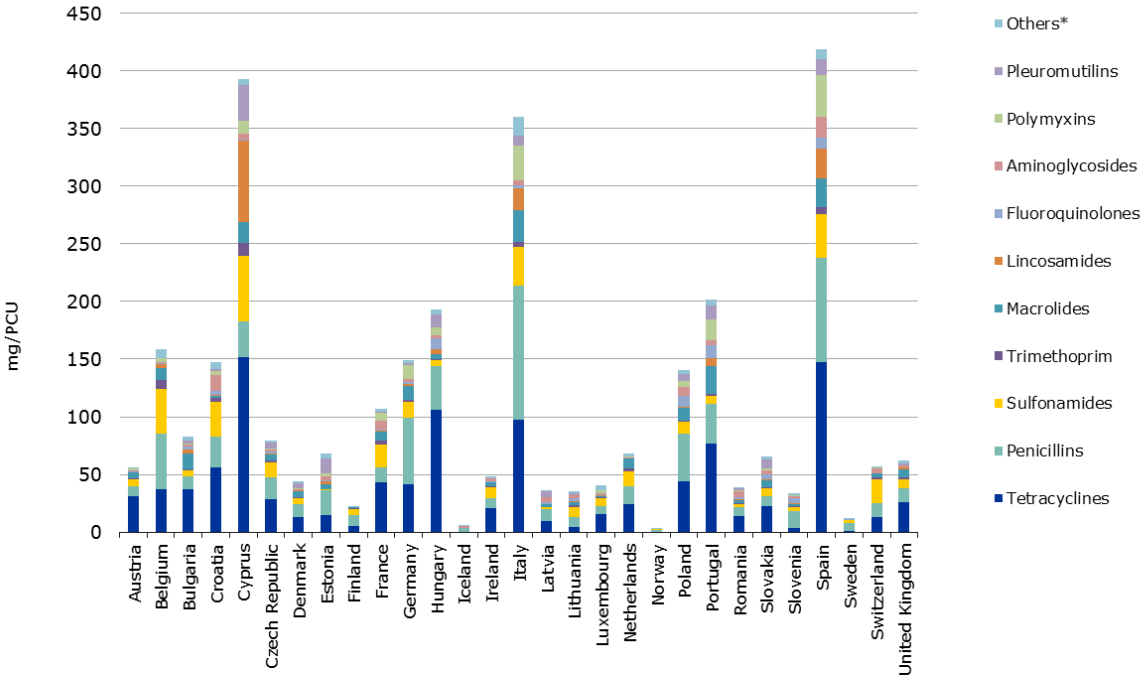
Basis of the ESVAC project

- EC mandate
- Source of the data
- Data at package level - presented as weight
- Animal biomass that can be exposed to the antibiotics
- The Population Correction Unit (PCU)
- Nearly all the European Union countries involved.
- Voluntary activity –review of VMPs legislation

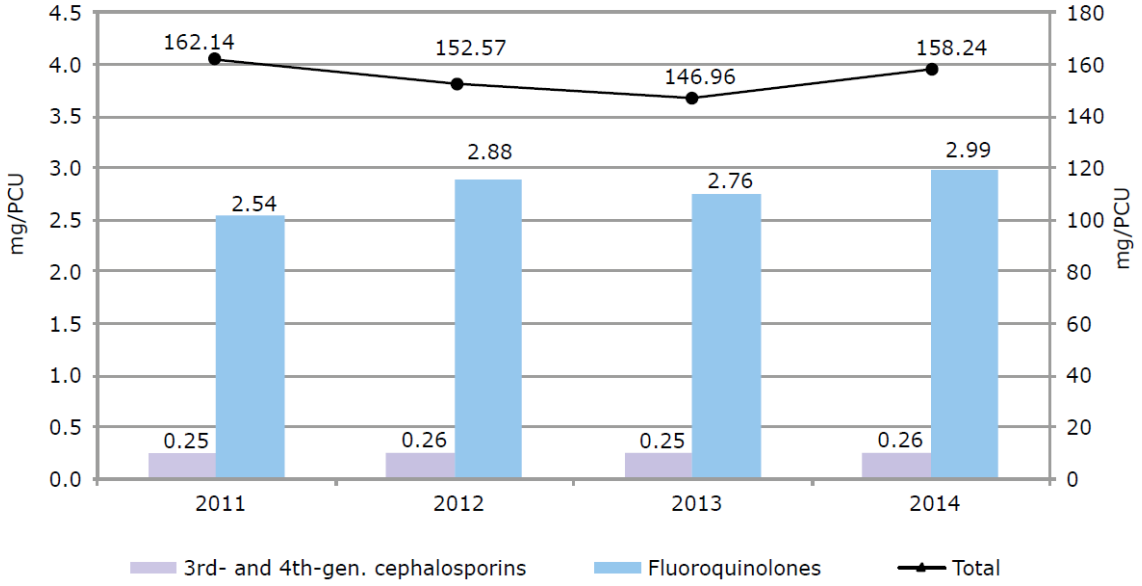
Sales for food-producing species, including horses, in mg antibiotic animal biomass, of the various veterinary antimicrobial classes, for 29 countries, in 2014



Differences likely to be partially due to differences in the composition of the animal population in the various countries and other factors

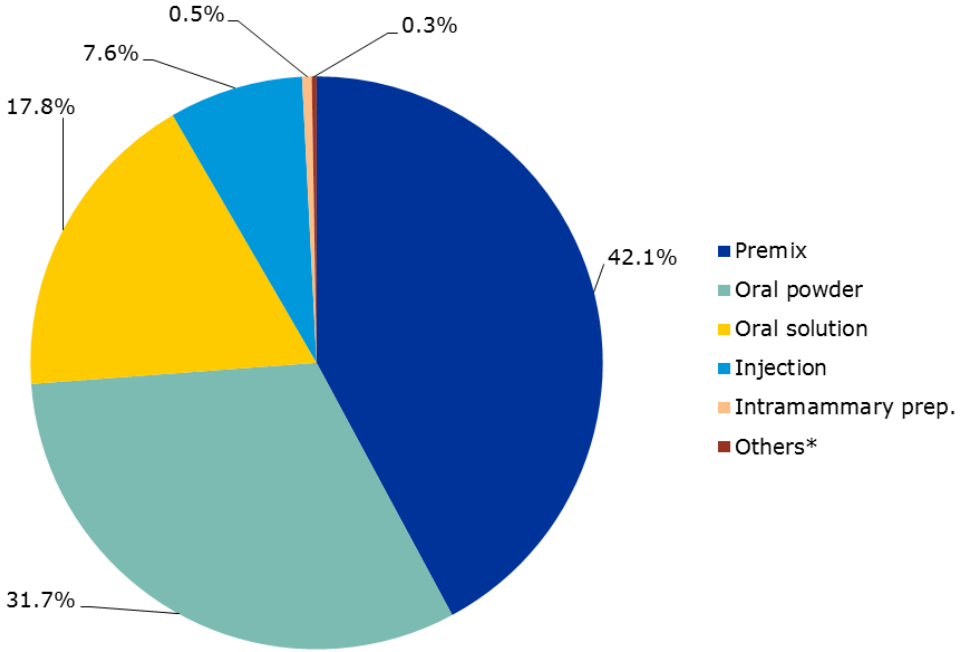
Spatial distribution of overall sales of all antimicrobials for food-producing animals, in mg/PCU, for 29 countries, for 2014

Changes by 25 EU/EEA countries, 2011-2014

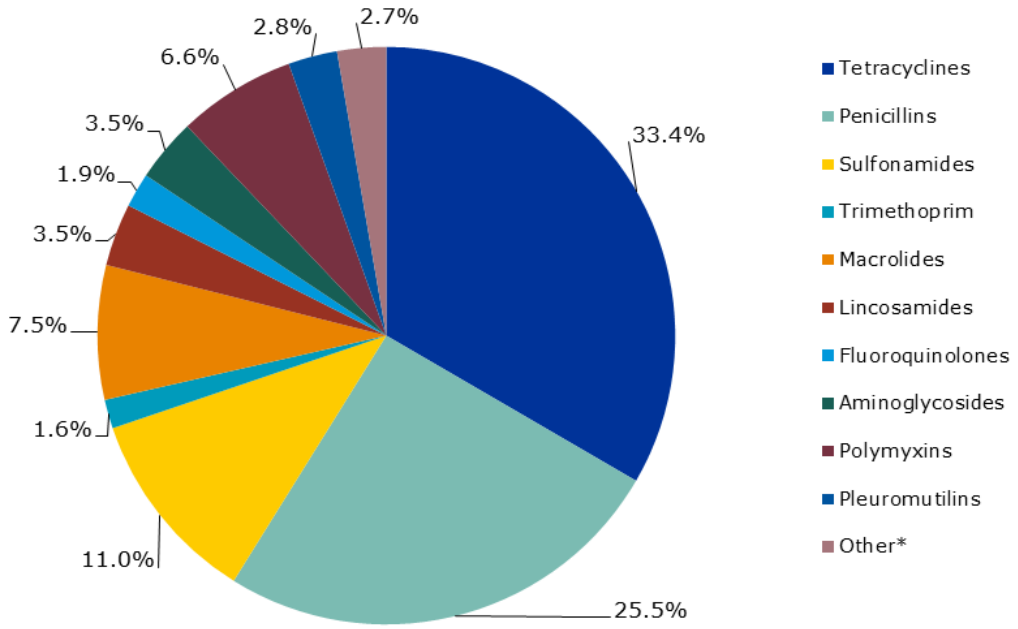


[1] Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

Sales, in mg/PCU, of the various pharmaceutical forms of veterinary antibiotics for food-producing animals, aggregated by the 29 European countries for 2014



Sales by antimicrobial class as percentage of the total sales for food-producing species, in mg/PCU, aggregated by 29 countries, for 2014



Data by animal species
Current situation in Europe

- Six countries have data collection system in place for one or more species.
- In six more countries data collection system is under development.

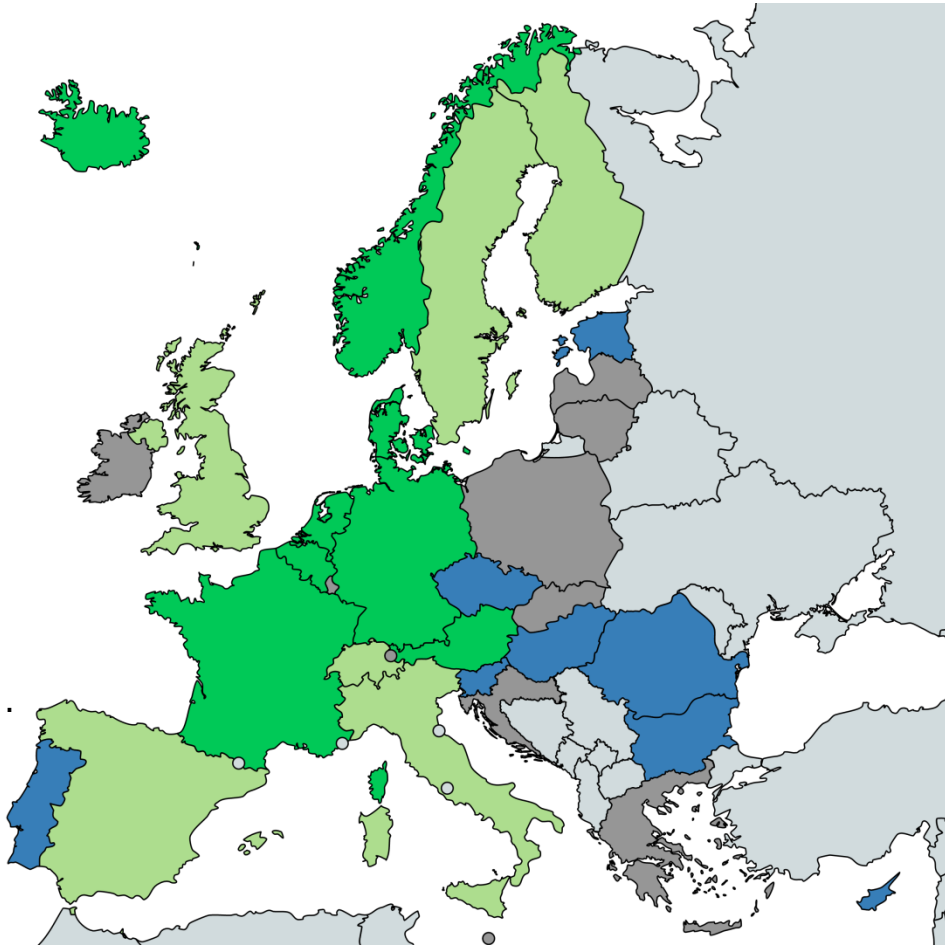
→ Included species/categories vary.

→ Coverage per species varies.

→ Initiator varies (e.g. government, industry).

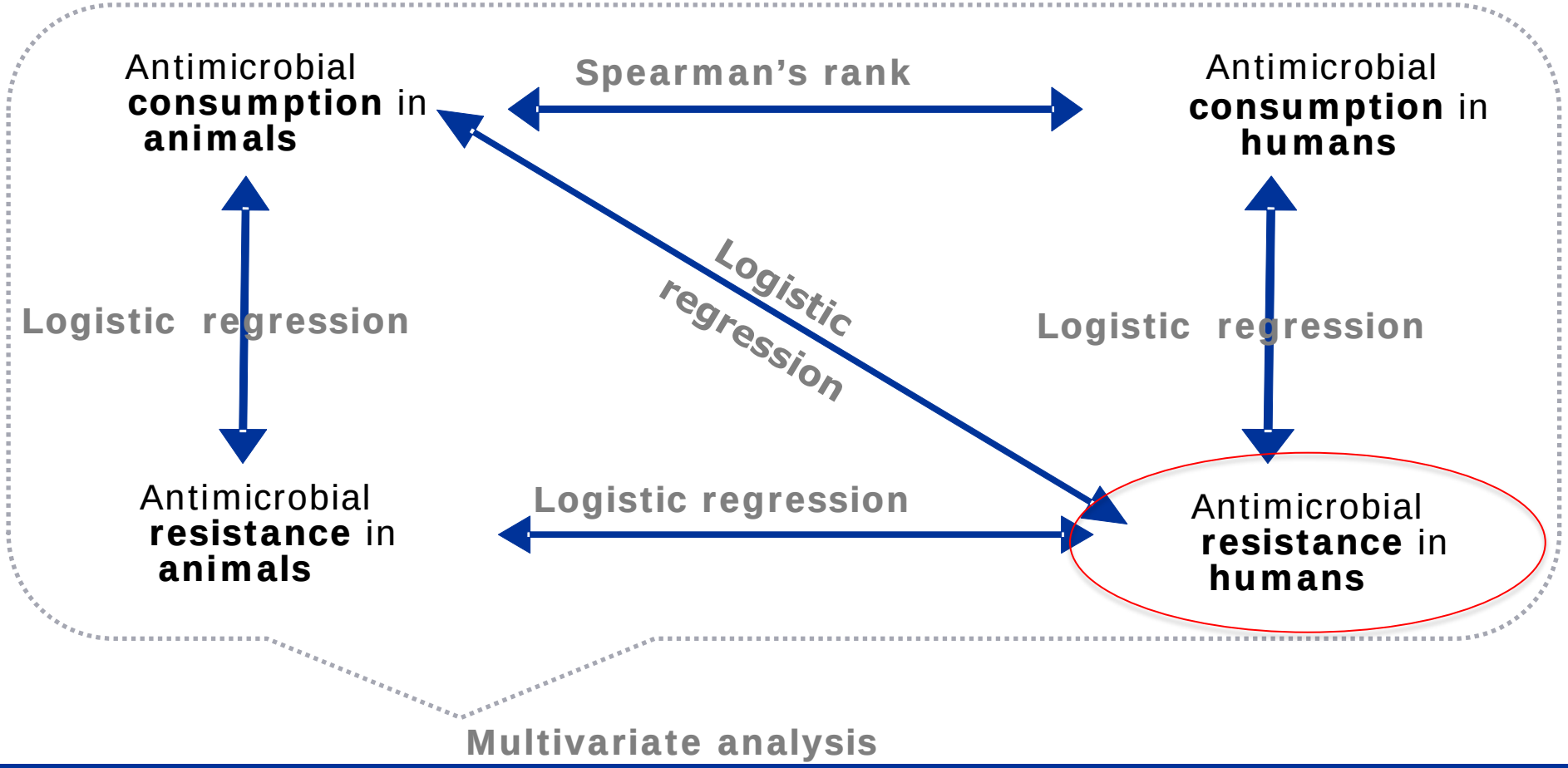
→ Data sources vary.

→ Variables vary.



2nd JIACRA report

Analysis to assess the relationship between antimicrobial consumption (AMC) and antimicrobial resistance (AMR) in animals and humans


Antimicrobial consumption in animals
Spearman's rank
Antimicrobial consumption in humans
Logistic regression
Logistic regression
Logistic regression
Antimicrobial resistance in animals
Logistic regression
Antimicrobial resistance in humans
Multivariate analysis

Conclusions JIACRA

- There is a **link between consumption** of antimicrobials in animals and humans and occurrence of **resistance**.
- There are still important **differences in the consumption** of antimicrobials in animals and humans across EU countries.
- **Resistance to 3rd-generation cephalosporins in *E. coli*** from humans is mainly associated with the consumption of these types of antibiotics in humans (in hospitals).

Conclusions JIACRA

- Resistance **to quinolones in zoonotic bacteria** (such as *Salmonella* and *Campylobacter*) isolated from humans is clearly associated with resistance to these drugs in the same bacteria from food-producing animals.
- The **more antimicrobials are consumed**, the less likely it is to find susceptible bacteria (i.e. the more likely it is to find resistant bacteria).
- **Actions to promote prudent use** of all antibiotics in both food-producing animal and human sectors should be encouraged because this would help reduce levels of AMR.

Overall conclusions

- The link between use of antimicrobials in animals and humans is proven
- A One Health approach is needed; both sectors to collaborate together
  - Use of antimicrobials higher in animals than in humans
  - But more use of e.g. cephalosporins in humans than in animals
- Restrictions in place on the animal sector (e.g. no authorisation of carbapenamases)
- CVMP recommendations to reduce overall use of antimicrobials.
- CVMP recommendations to phase out preventive use of antimicrobials, except in some justified circumstances

Further information

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