



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

European Surveillance of Veterinary Antimicrobial Consumption (ESVAC) Results and state of play

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An agency of the European Union





Outline

- ESVAC mandate
- Trends in the sales of veterinary antimicrobial agents in 9 European countries for 2005-2009
- Collecting standardized overall sales data on antimicrobial VMPs at package level from the MSs
- *Ad hoc* working groups on collecting data per animal species and on units of measurement



Brief summary Commission mandate on the ESVAC project [SANCO/E2/KDS/rz D(2008) 520915]

Commission requests the EMA to

- ✓ To identify the existing data/surveillance systems on use of antimicrobial VMPs in the MSs
- ✓ Develop a harmonised approach for collection and reporting of data on antimicrobial VMPs
 - based on national sales figures
 - combined with estimations of usage in at least major groups of species (poultry, pigs, veal, other ruminants, pets and fish);
- ✓ Collect the data from MSs and manage the data base;



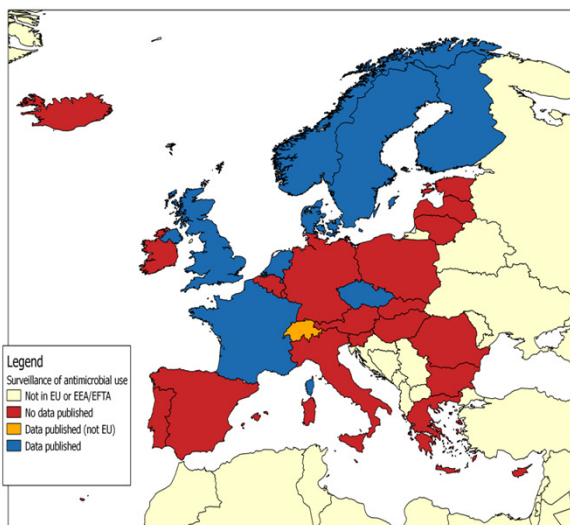
Mandate ESVAC project: Purpose of collecting data on usage of veterinary AM agents

(Reference document: EMEA/507682/2008)

- To obtain reliable data for
 - Input into risk profiling and risk assessment regarding AMR
 - Setting risk management priorities regarding AMR
- As a basis for evaluation of control measures being implemented
- To assess the impact of measures taken in relation to prudent use
- To identify emerging use of veterinary AM agents, e.g. of specific classes of AM agents such as those identified by WHO as critical important for human medicine
- To aid comparison of usage of antibacterial drugs between time periods, countries etc



Ongoing data/surveillance systems on veterinary antimicrobial agents in the MSs in 2009



- 8 EU/EEA countries collected overall sales data annually for 5 or more years; but not in a harmonized manner
- 5 EU countries by species: Denmark, France, the Netherlands, Sweden and the United Kingdom
- Switzerland collected data annually from 2006



Historical data collected and reported in a harmonized manner from countries with ongoing surveillance programs

- **Sales data**

- Harmonised aggregated sales data of defined classes of veterinary antimicrobials collected retrospectively for the years 2005-2009
- 7 countries reported 100% coverage, 2 countries reported 98% coverage
- Countries considered to have established a valid baseline
- Concluded that the data gives a valid picture of sales in the 9 countries

- **Animal population**

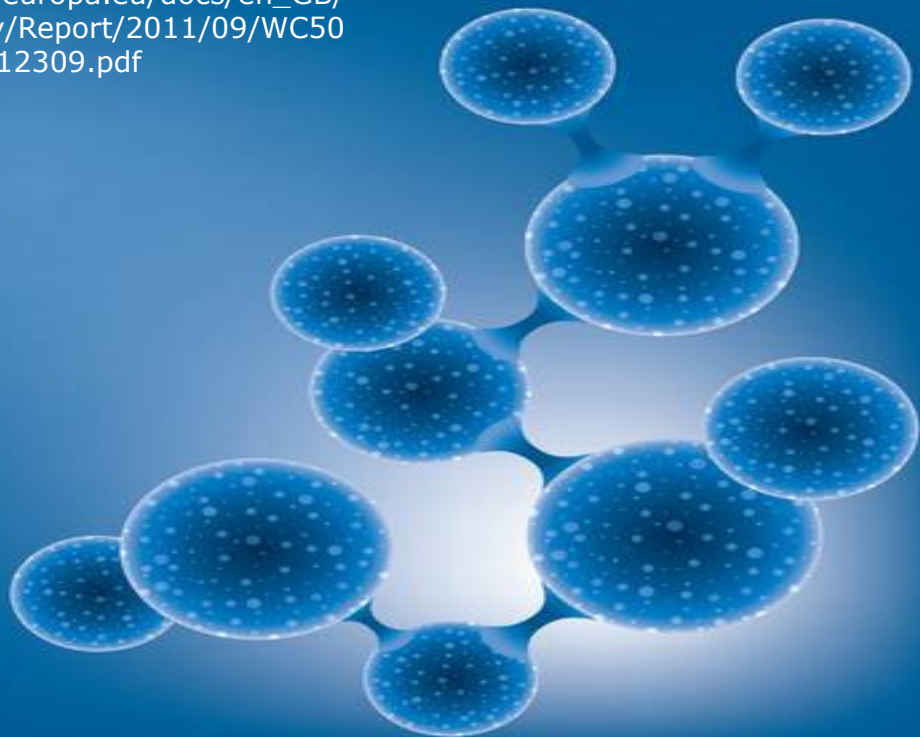
- Data normalised by taking into account the animal population by use of a population correction unit (PCU); includes the estimated weight of livestock and slaughtered animals and takes into account transport of animals for fattening and slaughter in another MS



Trends in the sales of veterinary antimicrobial agents in nine European countries

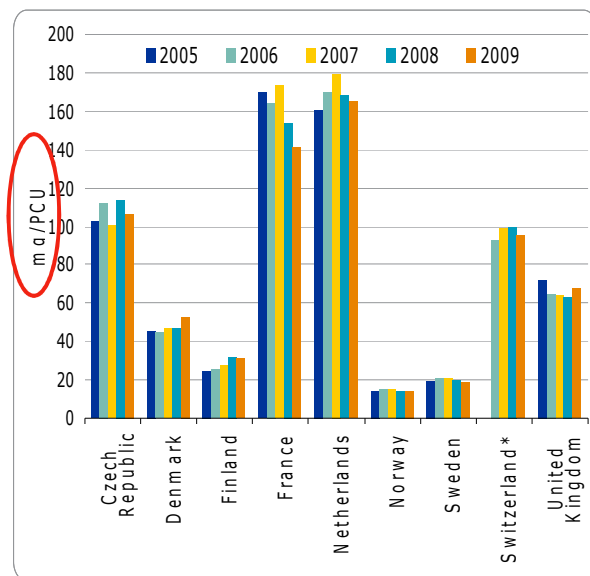
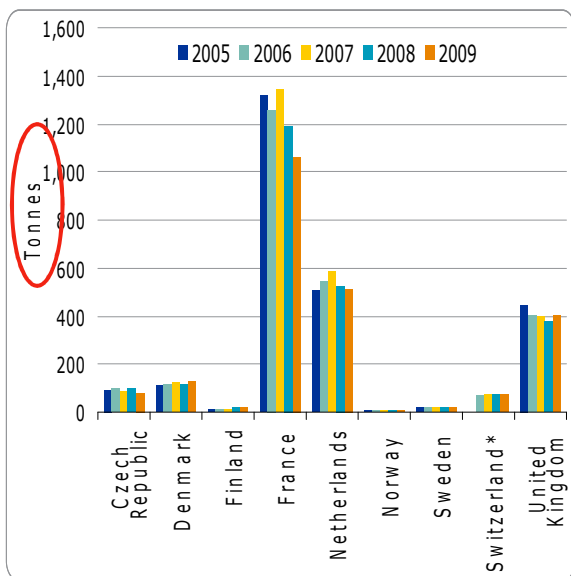
Reporting period: 2005-2009

http://www.ema.europa.eu/docs/en_GB/document_library/Report/2011/09/WC500112309.pdf



➤ Sales data show 190-220 fold differences between the least- and most selling countries when given in tonnes while only 12 fold difference when given as mg/PCU. Shows the importance of correcting the sales figures by animal population

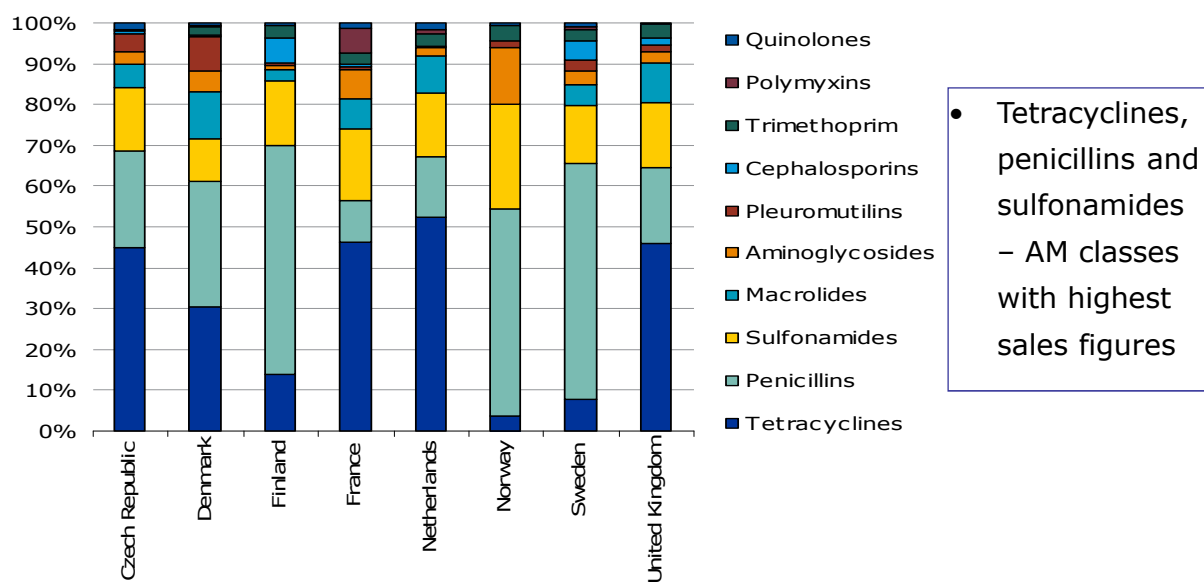
➤ 8.3% decline in sales, in mg/PCU, aggregated by 8 EEA/EU countries from 2005-2009. Major proportion accounted for by France



*Switzerland: 2006-2009

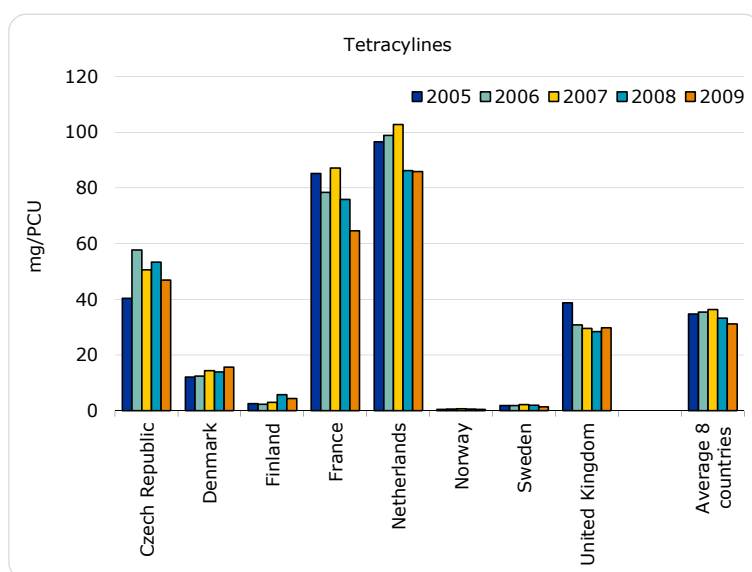


Substantial differences in prescribing patterns of various AM classes between the 8 EU/EEA countries (2009 data) - % of total mg/PCU





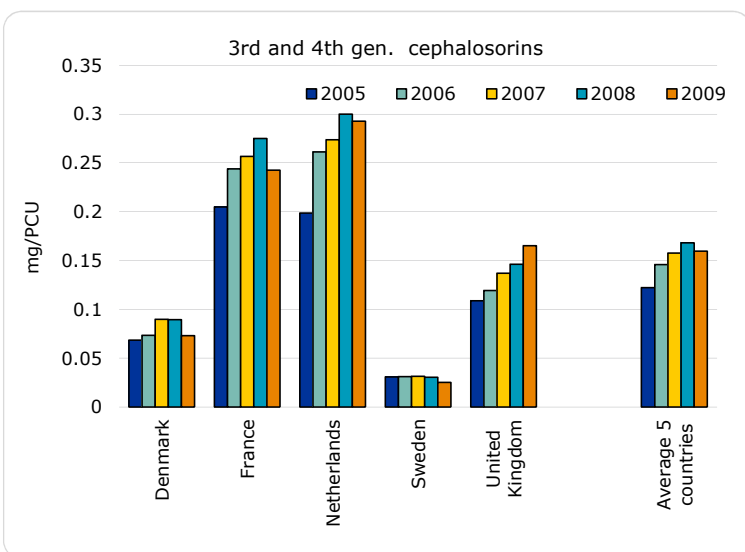
Trends in sales of tetracyclines, in mg/PCU, by 8 EU/EEA countries in the period 2005-2009



- A decline in the sales of tetracyclines, in mg/PCU, for several of the countries observed
- Aggregated by 8 countries an 18% decline was observed; mainly accounted for by France and the Netherlands



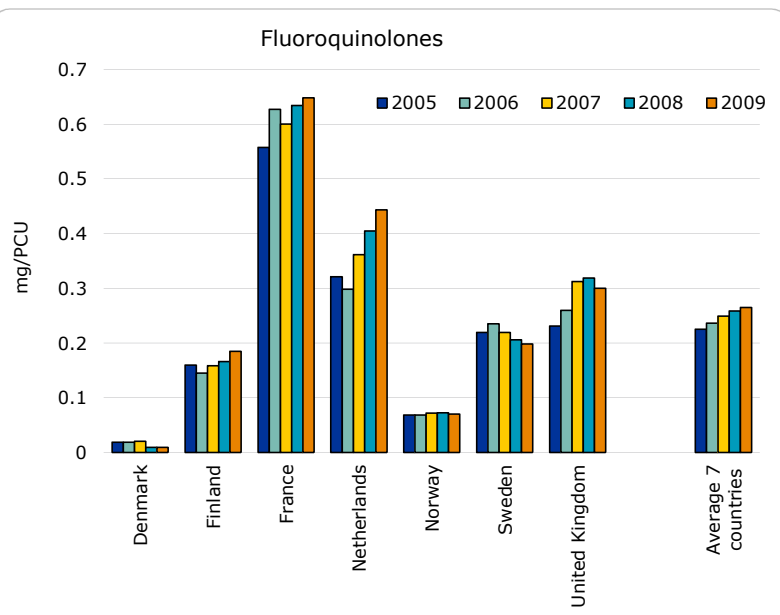
Trends in sales of 3rd and 4th gen. cephalosporins, in mg/PCU, by 5 EU/EEA countries in the period 2005-2009



- An apparent increase in sales of 3rd and 4th gen. Cephalosporins, in mg/PCU, in some of the countries
- Note that the sales of 3rd and 4th gen. cephalosporins accounts for a low proportion of overall sales
- The dosing is lower compared to e.g. tetracyclines
- Important to correct for differences in dosing



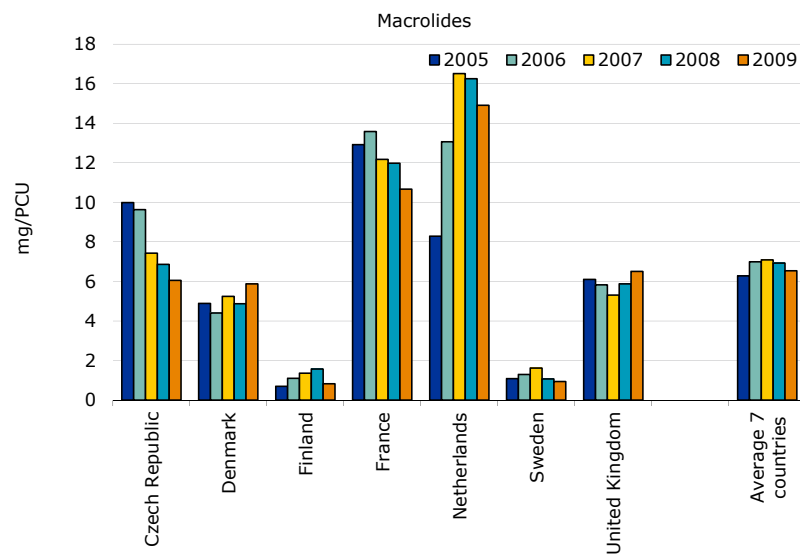
Trends in sales of fluoroquinolones (FQ), in mg/PCU, by 7 EU/EEA countries in the period 2005-2009



- An apparent increase in sales of FQs, in mg/PCU, in some of the countries
- Note that the sales of FQs accounts for a low proportion of overall sales
- The dosing is much lower than compared to e.g. tetracyclines
- Important to correct for differences in dosing



Trends in sales of macrolides, in mg/PCU, by 5 EU/EEA countries in the period 2005-2009



- An increase in sales of macrolides from 2005-2009 is observed, in mg/PCU, in some of the countries while in others a decline is observed



Summary- trends in the sales for 2005-2009

- Sales data gives a valid picture of the sales in the included countries
- Significant differences in
 - prescribing patterns observed
 - mg sold of AM agents/PCU between countries observed.
 - differences cannot be described by differences in animal demographics alone
- Declined of 8.3% in sales, in mg/PCU, aggregated by 8 countries
- Apparent increase in sales of critical important antimicrobial agents observed



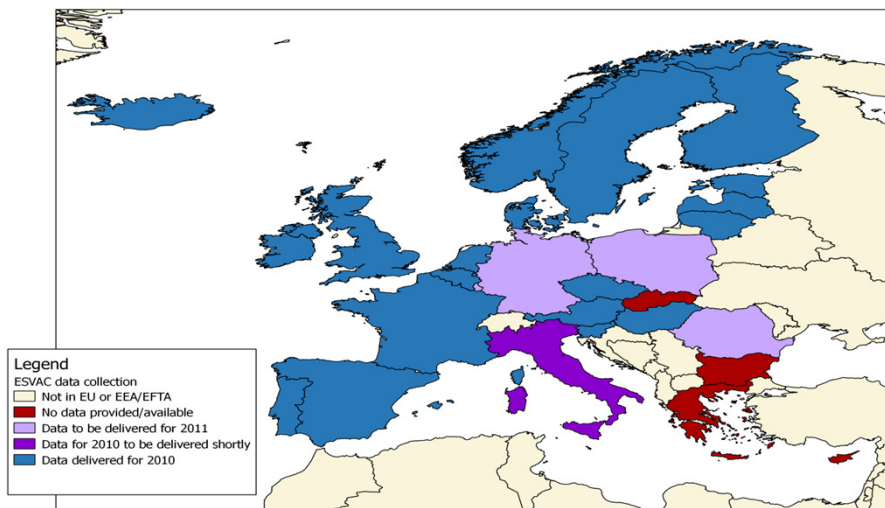
Acknowledgements – report on trends in sales

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State of play ESVAC project – collecting harmonized sales data from MSs at package level



- Detailed data that allows for identification of e.g. herd treatment
- Countries delivered/to deliver data for 2010 – 18 MSs + Iceland and Norway



Obtaining harmonized data

- Initially, a Technical Consultancy Group (TCG) established in order to assist the development of the ESVAC protocol and the data collection form (ESVAC template)
- TCG consisted of experts from
 - 9 European countries of which 9 were MSs already collecting data
 - ESAC (European Surveillance on Antimicrobial Consumption– Antwerp University until 31 June 20011 when transferred to ECDC), ECDC, EFSA and EURL-AMR in order to harmonize with surveillance programs on AMR and on consumption in human medicine



Obtaining valid data - major hazard points difficult to address

➤ Under-reporting – e.g.

- Data provider do not provide all sales for the antimicrobial VMP in question and/or not all antimicrobial VMPs included

➤ Double/triple reporting – e.g.

- Too high sales figures for the antimicrobial VMP in question delivered by some data providers in some MSs
- Only sales to end user such as veterinarians and farmers to be reported but sales e.g. between wholesalers also included
- As risk that cross-border sales of medicated feed can be recorded in both the exporting and importing country



Obtaining valid data - major hazard points difficult to address cont

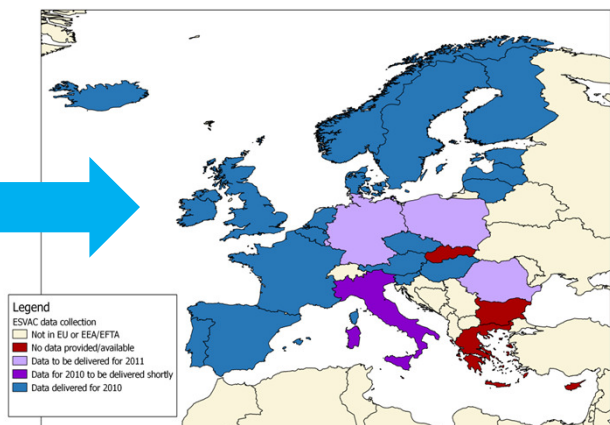
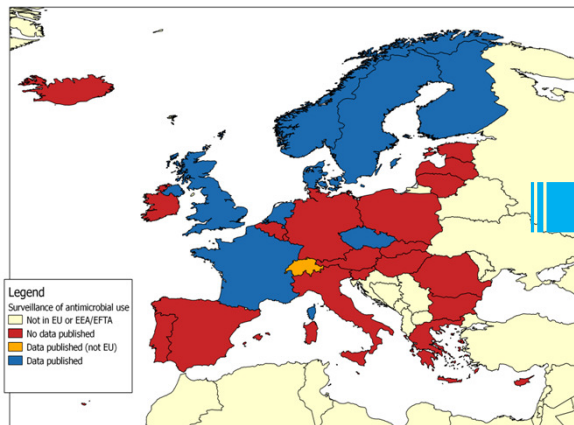
- ESVAC annual network meeting February 2012 concluded it takes at least 3 years to establish a valid base line
- This has to be taken into account for the ESVAC data from countries collecting data for the first time as these countries do not have baseline data to compare with
- Use of these data for management purposes should therefore be done with care



State of play

8 EEA/EU countries established surveillance programs in 2009

20 EEA/EU countries delivered/to deliver ESVAC data for 2010



The 7 EU countries accounted for approx. 37% of the slaughtered biomass of cattle, pigs, poultry, sheep and goat in EU

The 18 EU countries accounts for approx. 80% of the slaughtered biomass of cattle, pigs, poultry, sheep and goat in EU



Overall sales vs consumption data by species

- Overall sales data important 1st step in order to
 - Document the situation
 - Identify rough trends
 - Validate data collected by animal species
- Consumption data by species, production category (laying hens, broilers) and age class (weaning pogs, slaughter pigs) is vital in order to implement targeted and risk based management measures



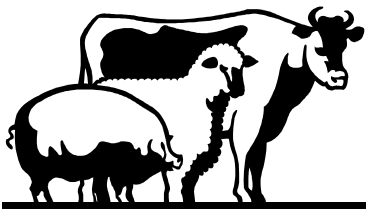
State of play/next steps –collecting data by species and correcting for differences in dosing

- *Ad hoc* working group on collecting data by species established (5 MS + WHO AGISAR)
 - Terms of reference agreed on
 - First step to develop a reflection paper to be released for consultation
- *Ad hoc* working group on unit of measurement in order to correct for differences in dosing established (5 MS + expert from WHO CC on Drug Statistics Methodology)
 - Terms of reference agreed on
 - First step to develop a reflection paper to be released for consultation



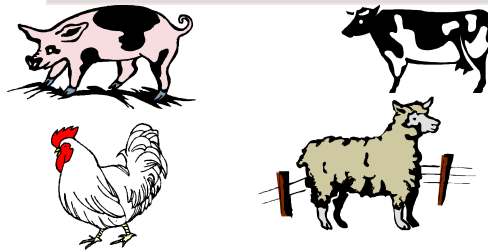
Future

Overall sales data (core data) collected from all **27 MSs** reported as mg/PCU – important to document the situation and validate data collected by species



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Collecting data by animal species for risk analysis purposes



Use of Defined Daily Dose or other units of measurement in order to correct for differences in dosing of the various antimicrobials