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Recommendations to collect and analyse data of antibiotics use in companion animals – a European working group AACTING Companion Animals

AACTING Conference Vienna, 2024

Current Participants

- Clair Firth, Austria

- **Wannes Vanderhaeghen, Belgium**
- Maries Lissens, Belgium
- Suzanne Dewulf, Belgium
- Jeroen Dewulf, Belgium

- Lucie Pokludova, Czech Republic
- Jan Bernardy, Czech Republic

- Claire Chauvin, France
- Delphine Urban, France

- Giovanni Alborali, Italy

- **Roswitha Merle, Germany**
- Lothar Kreienbrock, Germany
- Wolfgang Bäumer, Germany
- Antina Lübke-Becker

- Christina Greko, Sweden

- Dagmar Heim, Switzerland
- Anaïs Léger, Switzerland

- **Inge van Geijlswijk, Netherlands**
- Nonke Hopman, Netherlands
- Pim Sanders, Netherlands

- Alan Radford, UK

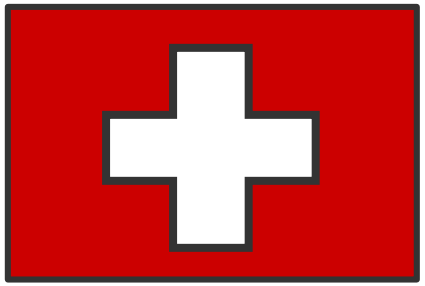
Regulation (EU) 2019/6, Art. 57

- Collection of data on antimicrobial medicinal products used in animals
  - From 2027 on, for all food-producing animal species
  - From 2029 on, for other animals which are bred or kept

→ Member States shall send collated data on the volume of sales and the use per animal species and per types of antimicrobial medicinal products used in animals to the Agency

Current status in countries

- Switzerland
  - System IS ABV for AMU data collection among veterinarians
  - Mandatory to record all AM treatments since 2019
  - Analysis (dogs, cats, horses) as
    - number of treatments with antimicrobials and percentage of critical substances thereof
    - average number of treatment days



- France
  - Declaration of sales by Marketing Authorisation Holders since 1999 (only veterinary medicinal products)
  - Project „Calypso“ running to evaluate use data

Current status in countries

- Germany
  - Mandatory notification of used antimicrobial substances in dogs and cats from 2025 on
  - Feasibility study published in 2021 (https://www.frontiersin.org/articles/10.3389/fvets.2021.689018/full)
  - Pilot study HKP-Mon running until mid 2024
    - Following examples extracted from project‘s data

Current status in countries

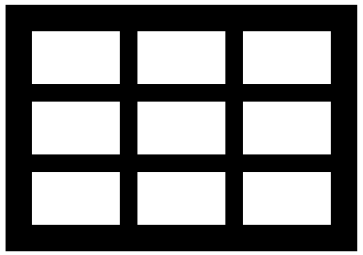
- Netherlands
  - Collection of sales data, veterinary medicinal products
  - Pilot study on AMU in CA in 2009-2011 in 68 practices, published in 2012
  - Pilot study on AMU in CA in 2012-2014 in 111 practices, published in 2019
  - Antimicrobial Stewardship programme implementation in 44 practices in 2016-2018, published in 2019
  - Improve project (EC) to implement collection of prescription data in veterinary practices CA by 2029

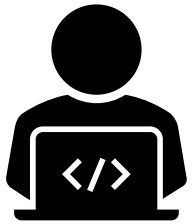
Current status in countries

- Belgium
  - National data-collection system Sanitel-Med (FAMHP)
    - Currently not fit to collect data of companion animals and horses
    - New generalized 'VetAMR'-system under construction (also FAMHP)
  - AMCRA working group working on advice
    - "Data collection companion animals and horses, and benchmarking of veterinarians"
      - Stakeholders from various fields (practicians, faculties, government, …)
      - Nearing finalisation, several discussion (denominator, benchmarking unit, …) points will be decided
  - Scientific project PET-AMR
    - " 'One Health' implications of the use of antibacterial agents in pet animals
      - WP1: antibacterial use and indications
      - WP2-4: AMR, WP5: risk for wider public

Challenges

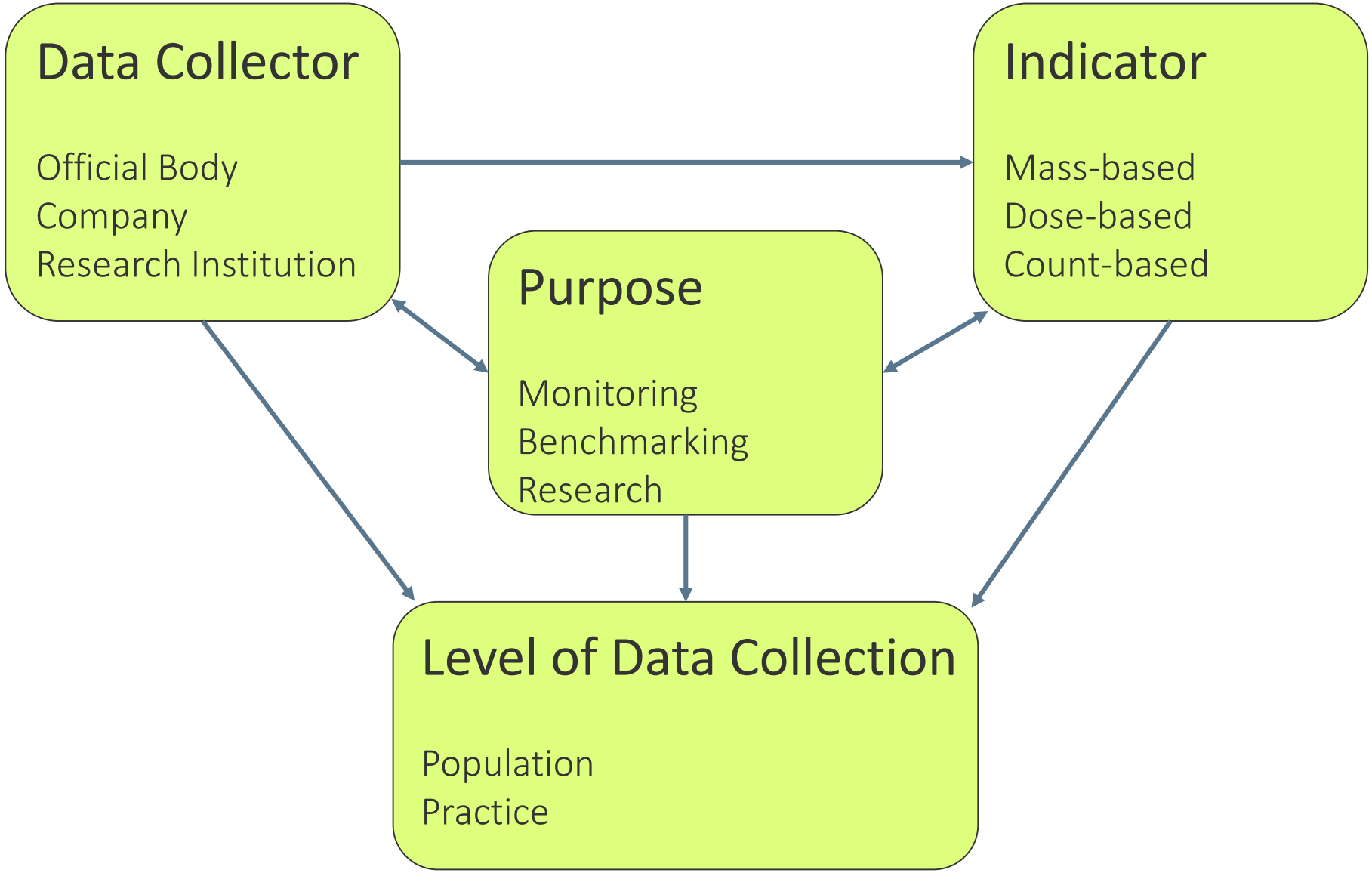
- How to collect the data?
- Which data?
- Which indicators?



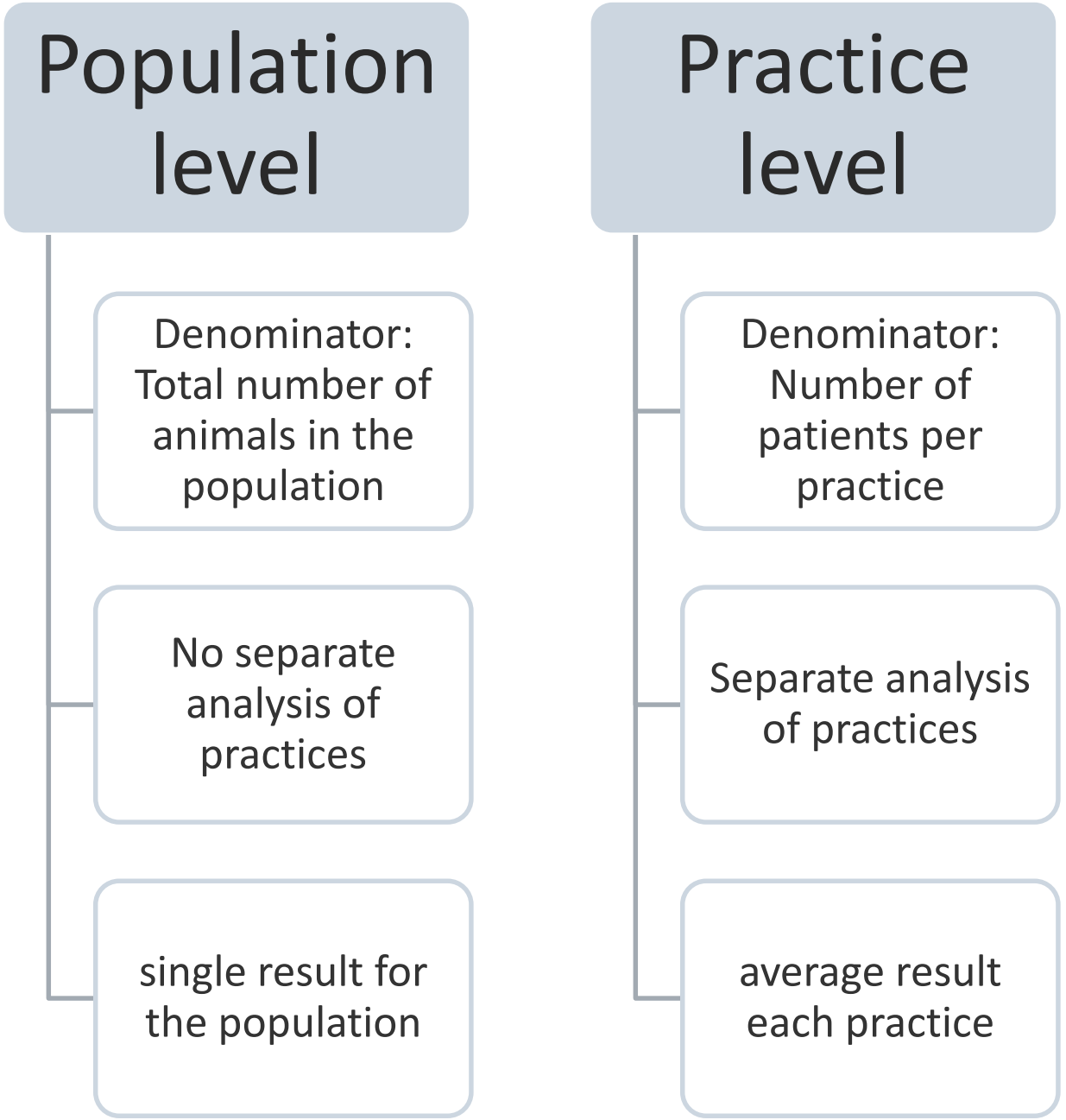


- Where can we have a denominator from?

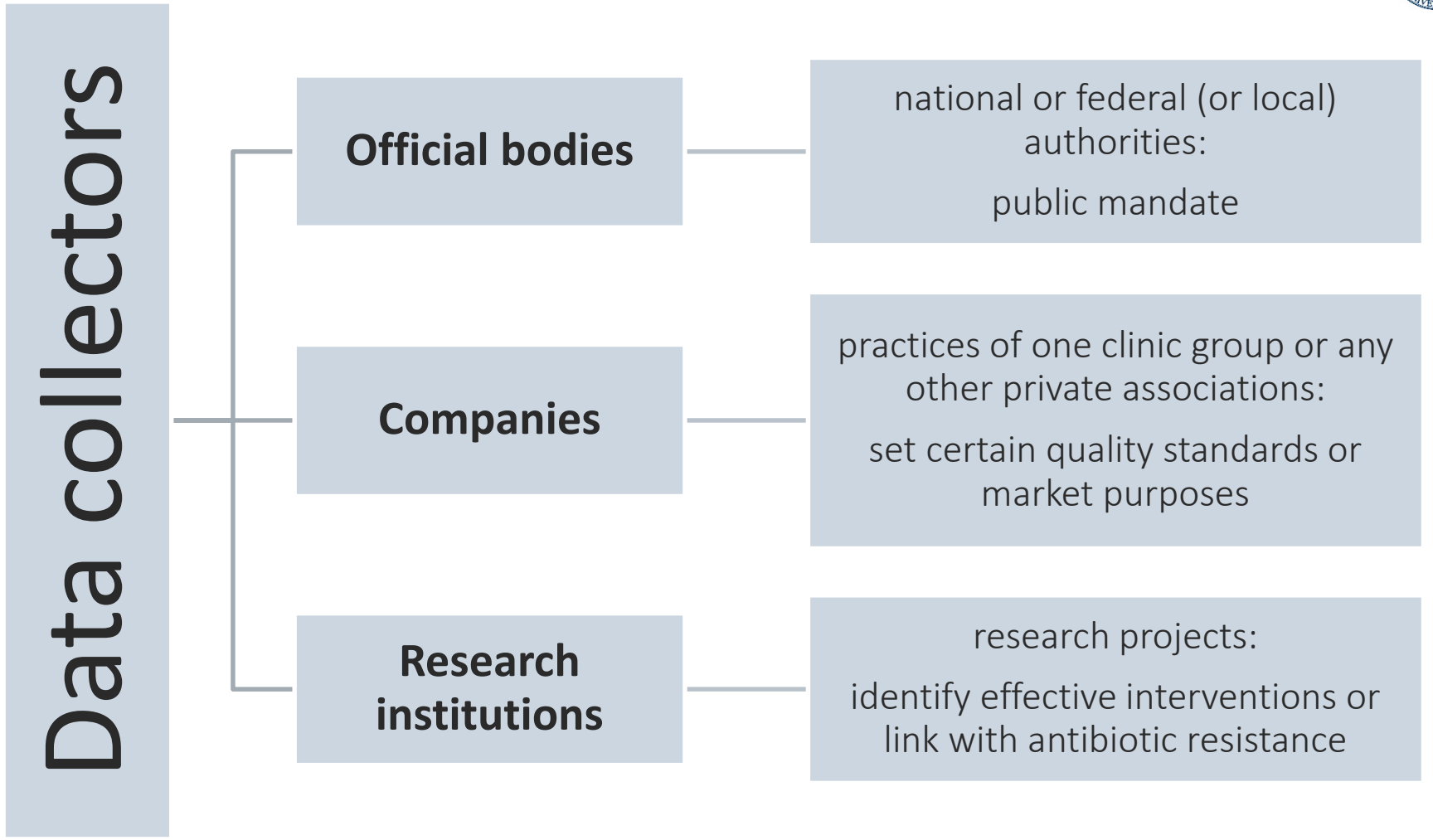
$$y = \frac{any\ count\ of\ treatment}{?}$$


Data Collector
Official Body
Company
Research Institution
Indicator
Mass-based
Dose-based
Count-based
Purpose
Monitoring
Benchmarking
Research
Level of Data Collection
Population
Practice

Level of data collection



Data collectors



Indicators

- Weight-based indicator
  - Amount in kg per substance

Indicators

- Dose-based indicators
  - Number of defined daily doses calculated from the amount per substance
  - Pro
    - Calculation
  - Con
    - Misinterpretation
    - Communication
    - Choice of dosage and weight
  - $$average\ nDDD\ per\ animal\ in\ \% = \frac{\sum_{i=1}^{n} \frac{total\ amount\ of\ substance}{defined\ weight \cdot defined\ daily\ dosage}}{\#\ patients\ presented\ to\ practice} \cdot 100,$$
    - i=substance 1 to n
  - Also possible: average number of courses in %

Indicators

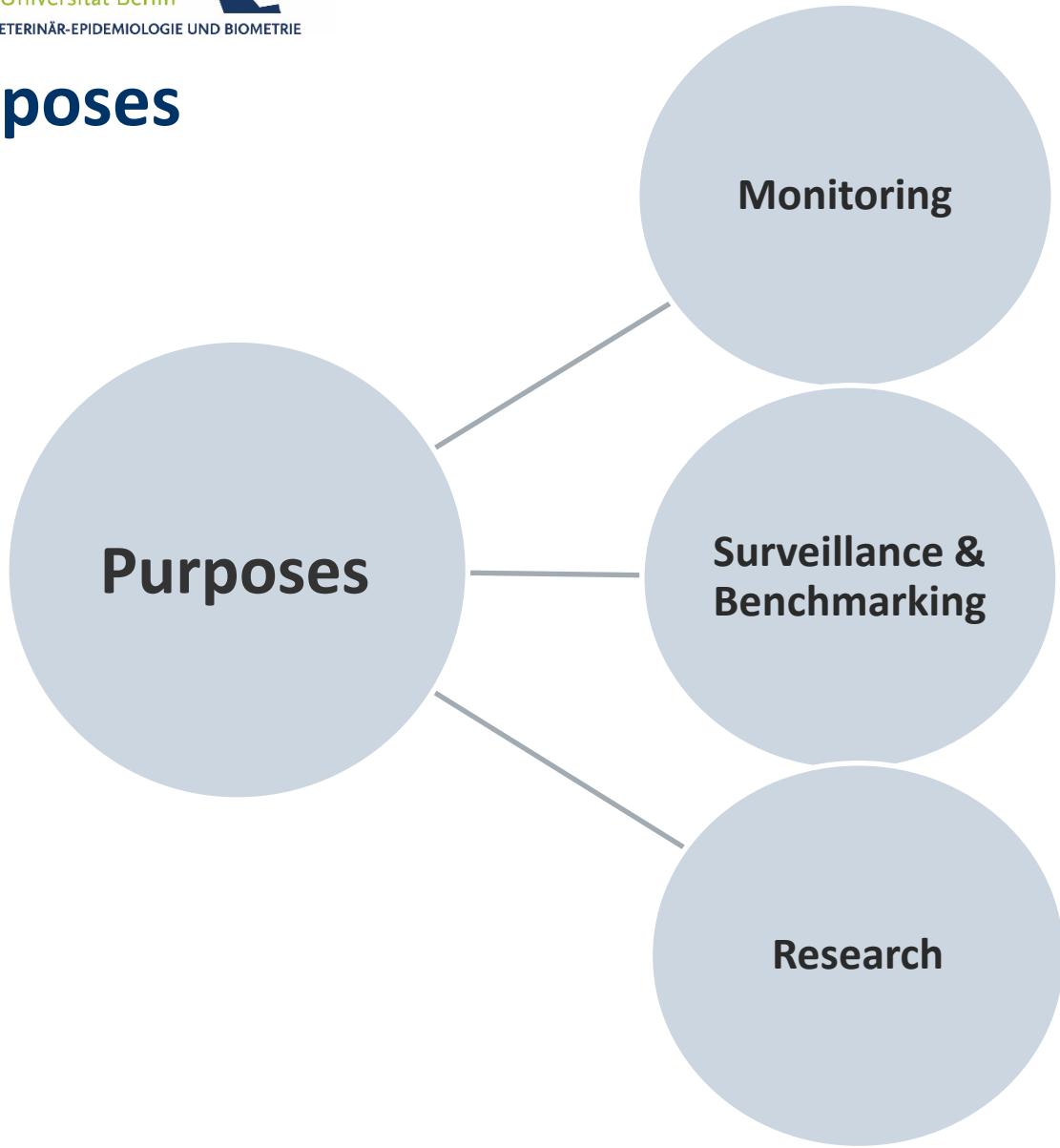
- Count-based indicators
  - Number of used daily doses calculated from the veterinarian‘s documentation: number of treatment days
  - Pro
    - Calculation
    - Communication
  - Con
    - High demand for data
    - No use of amount of antibiotics
  - $$average\ nUDD\ per\ animal\ in\ \% = \frac{\sum_{i=1}^{n} \#\ treatment\ days \cdot \#\ substances}{number\ of\ patients\ presented\ to\ practice} \cdot 100,$$
    - i = treatment course 1 to n
  - Also possible: average number of courses in %

Treatment days or courses?

- Prudent use focus: Course indicators more useful
  (How can it be prevented that an animal needs antibiotics treatment?)

- Antimicrobial resistence focus: Daily indicators might be more useful
  (Every day of medication increases the risk of selecting resistant strains.)

Purposes

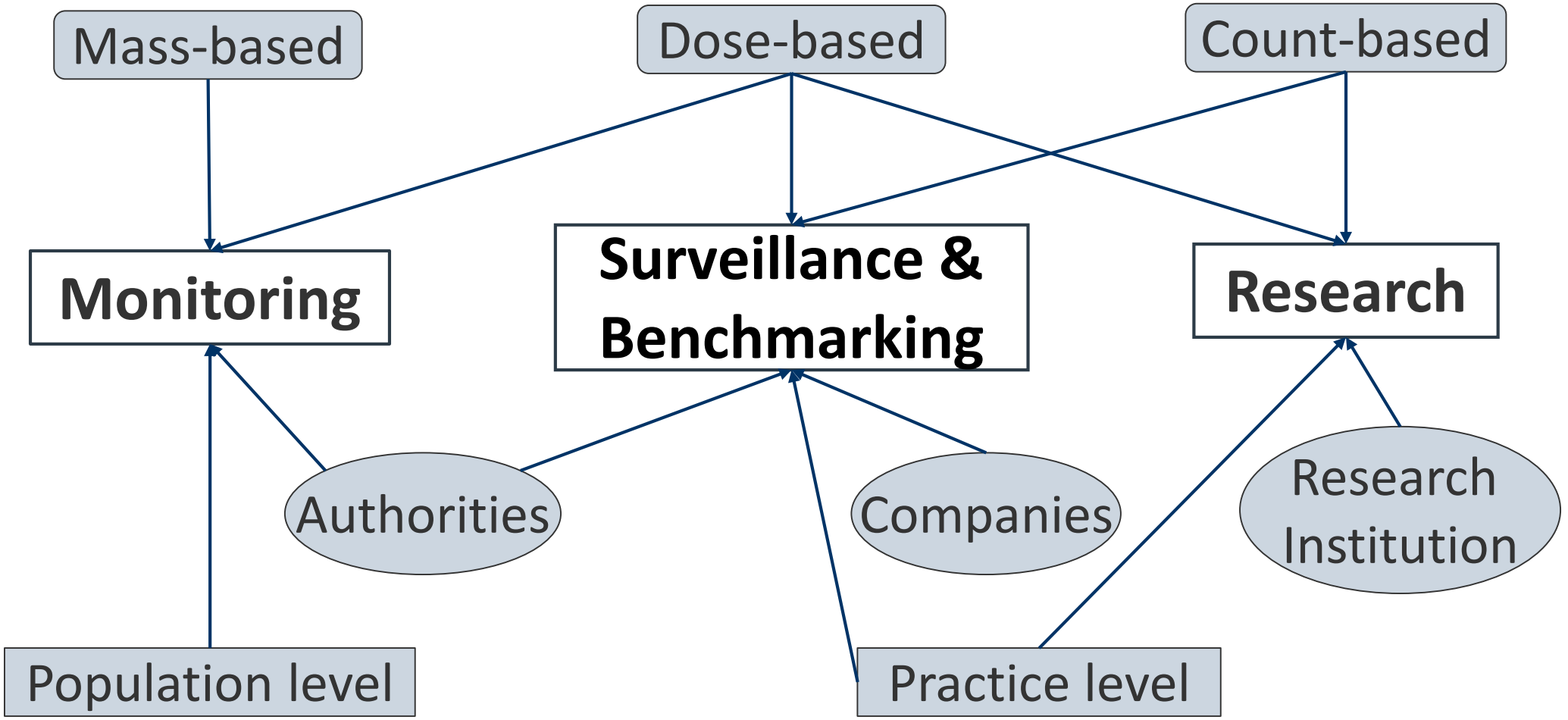


- Routine data collection
- Observe trends
- Follow-up interventions

- Actions to reduce antibiotics use
- Benchmark(s)
- Consequences for practices above thresholds

- Develop interventions
- Link to antimicrobial resistance

The recommendations



Benchmarking recommendations – current stage of discussion

- Initial phase
  - As easy as possible
  - Data that are recorded anyway, i.e. amount, number of consultations per year
  - Indicator: e.g. total number of treatment courses / number of consultations
  - Moving benchmarks, if at all
  - No consequences

- Later stages
  - Add more detailed indicators
  - Include benchmarks and respective consequences
  - Distinguish between first line practices/clinics and second/third line clinics
  - Introduce quality indicators related to antimicrobial stewardship including reporting of indications or abundance of certain substances

Any other business?

Many old friends

- Long-acting antimicrobials
- Defined animal weights (dogs!)
- Prudent use guidelines

More current

- Indication
- Denominator

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Thank you!