

The VetStat cluster: Research in antimicrobial use based on VetStat data

CPH Pig Seminar, January 2025

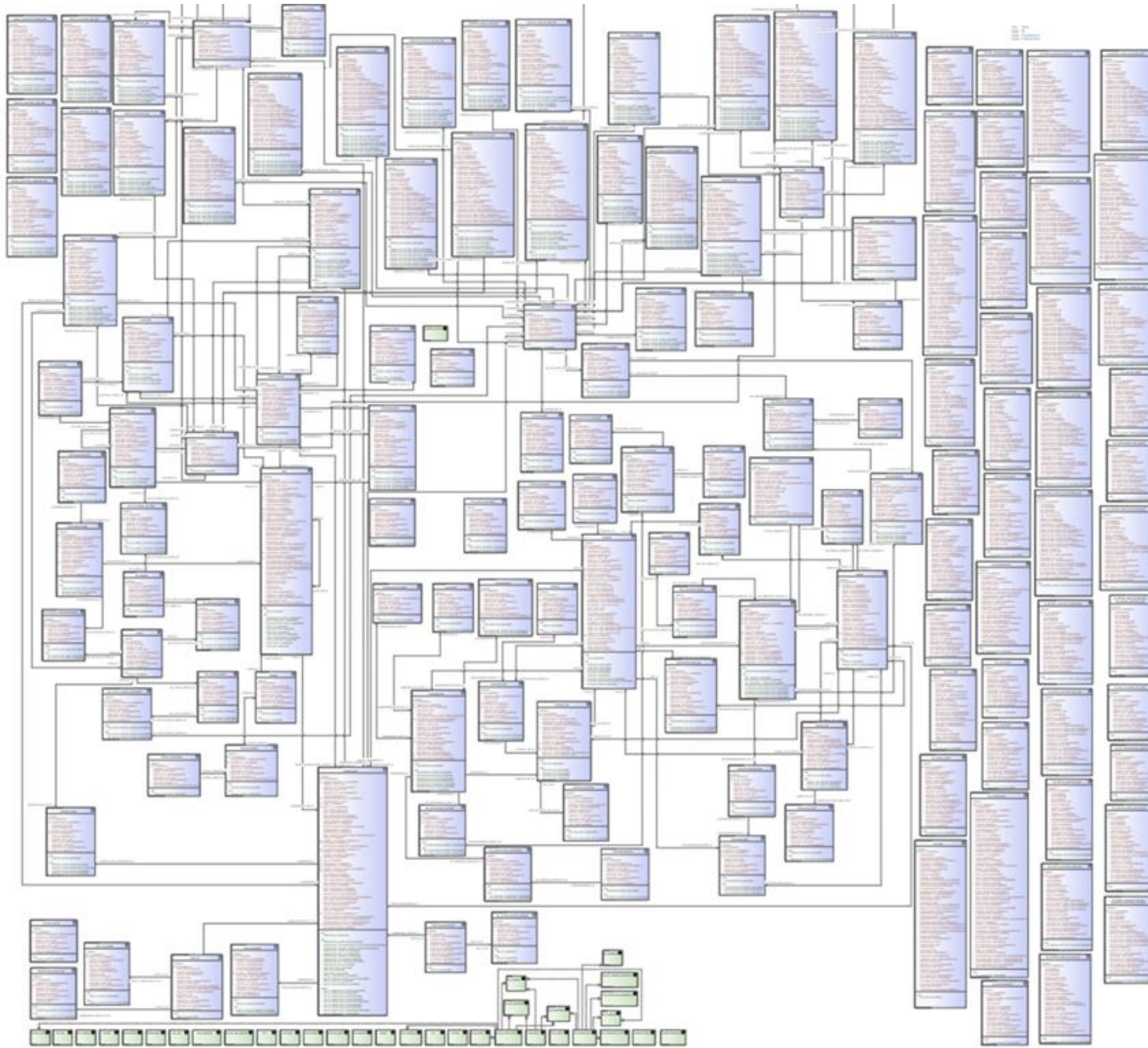
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VetStat

Records of sales of veterinary medicine in Denmark since 2000 (based on prescription)

Owned and administered by The Danish Veterinary and Food Administration (DVFA)

Prescription data are used as a proxy for antimicrobial use



The VetStat cluster

A part of the Danish Veterinary Consortium (DK-VET)

- Established for the performance of the veterinary public service agreement

Research

Build and maintain competences in evidence-based use of VetStat data

Specific research tasks for DVFA

- Either in the DK-VET work program or by individual agreements

PhD projects

Supporting research activities

- Externally funded projects

Advisory service

Service and maintenance tasks

Data management

Supporting other DK-VET groups with customized data extractions

- Access to VetStat and CHR through a data warehouse (KU-IT)

The VetStat cluster



Amanda Brinch Kruse
Assistant professor



Leonardo de Knecht
Associate professor



Kimmie Kyed Lyderik
PhD student



Helle Stege
Associate professor



Jeanette Kristensen
PhD Student



Alice Puk Skarbye
Postdoc



Maya Katrin Gussmann
Special consultant



Liza Rosenbaum Nielsen
Professor

Other sources of data

CHR data

Movement data

Manure data

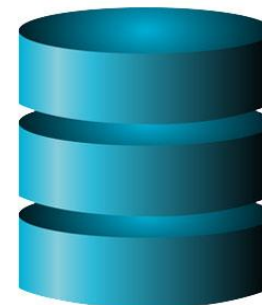
Meat inspection data

Productivity data

SPF data

Qualitative data

- Interviews with vets or farmers



Centrale Husdyrbrugsregister - CHR

Forside | Om CHR | Kontakt



Søg i CHR ved at vælge relevant tema



Ejendomme



Besætninger



Ejere og brugere

Om siden

Siden tilbyder dig en række selvbetjeningsløsninger.

I CHR kan du således:

- Søge ejendomme med husdyr
- Søge besætninger
- Søge ejere og brugere af besætninger
- Danne en liste med alle akvakulturbrug
- Søge forsyningskæder for svinebesætninger
- Søge kreaturer
- Udskrive kvægpas
- Danne besætningsliste for kvægbesætninger



Genvej til

Indberetning af besætninger på landbrugsindberetning.dk

Indberetning af kvæg, får og geder på Webdyr

Indberetning af svineflytninger

Projects in the DK-VET work program

1. Antimicrobial use in pig and cattle herds 2018-2023

Follow up on previous report from DTU

Focus on specific events:

- Jan 2022: The new Veterinary Medical Product Regulation came into force
- June 2022: Medical zinc oxide was phased out

Approach

- Analyses of VetStat data (amount, indication, antimicrobial classes, route of administration)
- Herd-level data (CHR and Manure data)



Projects in the DK-VET work program

2. Effect of the new Veterinary Medical Products Regulation on antimicrobial use in pigs

All veterinary medicine products must be used as stated in the SPC

- SPC = Summaries of Product Characteristics, treatment dose and duration

In Denmark, doses were often lower and treatment duration shorter

- Expectation: Increase in antimicrobial use or shift in use of specific products

Approach: Focus on changes at product level and antimicrobial class level

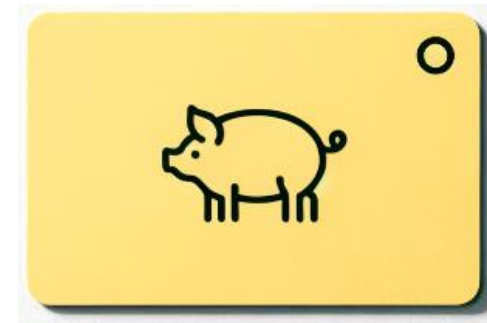
- This must be supported by additional information



Supporting Research activities: Externally funded projects

DK-VET projects: Focus on monitoring and control of antimicrobial use

- However, the consequences for the industry and the individual farmer are equally important
- This is investigated in projects funded by **The Pig Levy Foundation**
- High degree of synergy between DK-VET and externally funded projects



Current projects funded by the Pig Levy Foundation

2024: Consequences of initiatives to reduce antimicrobial use and resistance with focus on phasing out the use of colistin and medical zinc oxide

2025: Consequences of restrictions on antimicrobial use with special focus on the new Veterinary Medical Products Regulation

Project group in 2024 and 2025



Leonardo Víctor de Knegt
Associate professor



Amanda Brinch Kruse
Assistant professor



Lis Alban
Chief Scientist/Adjunct professor

- Amanda Brinch Kruse is the principal investigator
- Lis Alban (The Danish Agriculture and Food Council) is following the project

Project funded by the Pig Levy Foundation in 2024 - Highlights

2024: Consequences of initiatives to reduce antimicrobial use and resistance in Danish pig production with focus on phasing out the use of colistin and **medical zinc oxide**

Weaner herds (N=88 with data in both 2021 and 2022)

Antimicrobial use (VetStat)
Significant increase

Productivity data (SEGES)
A slight increase in mortality

Vaccination against E coli and Lawsonia (VetStat)
Initiation of vaccination in 2022 were associated with consequences of zinc stop (increase in antimicrobial use, increase in mortality and decrease in average daily weight gain)

Project funded by the Pig Levy Foundation in 2025

Consequences of the new Veterinary Medical Products Regulation

Interview with Vets in pig practice in Denmark

Which parameters impact the choice of products used for treatment in pigs?

- The new product regulation, legislation in general (including the yellow card), resistance, price, products in back order, etc.

How are these challenges handled in practice?

Inputs will form the basis for our analyses of VetStat data



New PhD Project (financed by KU SUND)

Kimmie Lyderik is starting in February 2025

- Supervisors: Leonardo de Knegt, Lis Alban and Amanda Kruse
- Project title: *Validating and monitoring antimicrobial use in Danish pig productions using VetStat data and time-series models*



Three work packages:

WP1: Validation of VetStat data in relation to farm treatment records

WP2: Development of time-series models for monitoring of VetStat data

WP3: Using time series models to detect patterns and deviations in antimicrobial use

SAFE THE DATE!!!
November 20th, 2025
VetStat seminar

Research in antimicrobial use based on
VetStat and other data sources