EFFORT PROJECT ON ANTIMICROBIAL RESISTANCE AND TRANSMISSION CONDUCTED IN BULGARIA IN THE PERIOD 2013-2017

> Prof. Dr Hristo Daskalov NDRVI, BFSA



• Title:

"Ecology from Farm to Fork of Microbial Drug Resistance and Transmission"

- Grant agreement no: 613754
- Starting date 01/11/2013
- Final 30/11/2018
- Duration in months 60
- Total EU contribution: ≈ 9, 000, 000 €
- Project coordinator: Prof. Jaap Wagenaar (UUVM, NL)
- Website: www.effort-against-amr.eu



• EFFORT studies

- Complex epidemiology and ecology of antimicrobial resistance and the interactions between bacterial communities, commensals and pathogens in animals, the food chain and the environment.
- Conducted by a combination of epidemiological and ecological studies using newly developed molecular and bioinformatics technologies.

Focus on

- understanding the ecoepidemiology of antimicrobial resistance from animal origin and based on this,
- predicting and limiting the future evolution and exposure to humans of the most clinically important resistance by synthesising different sources of information in our prediction models.

Results

- Can support political decisions and
- Can prioritize risk management options along the food chain.

• EFFORT consortium

- 20 partners
- from 10 European countries:
- Belgium, Bulgaria, Denmark, France, Germany, Italy, the Netherlands, Poland, Spain and Switzerland.



AGAINST ANTIMICROBIAL RESISTANCE





Academic partners: UUVM (NL) UGent (BE) BEC (NL) TIHO (DE) UCM (ES) DTU (DK)

SMEs: SAFOSO (CH) Intomics (DK) ARTTIC (FR) Oevet (DK) PorQ (NL) Vetworks (BE)

Research organisations: CVI (NL) NVRI (PL) NDVRI (BG)

 Public non-profit bodies:

 ANSES (FR)
 BfR (DE)

 ILSI Europe (BE)
 IZSLT (IT)

Industrial: VION FOOD (NL)

CONSORTIUM







Bulgarian team

Dr Eva Gurova Dr Teodora Ivanova Dr Nikolay Cholakov Dr Krasen Penchev Mrs Petranka Marinova And

Prof. H. Daskalov

Activities 2014-2015
Sampling
20 pig farms
20 broiler farms

Samples

- Dust from all farms -160 samples
- Fecal samples 40 x 25 = 1000





• DATA COLLECTION IN POULTRY FARMS

- Questionnaire on: more then 200 questions
- antimicrobial consumption,
- management,
- biosecurity,
- health and welfare in poultry farms





• DATA COLLECTION IN PIG FARMS

Questionnaire on: more then 250 questions

- antimicrobial consumption,
- management,
- biosecurity,
- health and welfare in pig farms





Activities 2016

- Protocol for meat sampling and processing for qPCR analysis
- Samples
- 100 samples fresh poultry meat from 25 different cities - 2 from butchers and 2 from supermarkets
- 100 samples fresh pork meat from 25 different cities - 2 from butchers and 2 from supermarkets





• LAB WORK

Isolated strains *E.coli* more then 450 – not less then 10 per farm MIC tested – 400 strains

Meat - DNA extraction - for qPCR analysis

EpiData files for all data from visited farms!

25 000 km around Bulgaria!!!





CONCLUSIONS ONCLUSIONS ONCLUSIONS

- Good collaboration
- Important results
- Microbial resistance is a big threat for animals and people – high rate of resistance found
- Effective measures based on high quality data from different member states
- Together we are more powerful!!!

THANK YOU FOR YOUR ATTENTION!!!ALL AGAINST ANTIMICROBIAL RESISTANCE!

