

Antimicrobial resistance (AMR) is one of the major threats to the global public health. The European Centre for Disease Prevention and Control (ECDC) estimates that AMR leads annually to 25000 deaths and the related costs are over €1.5 billion. Defining the boundaries between the use of antimicrobials in animals and humans and the environment is extremely challenging. EFFORT will study the complex epidemiology and ecology of antimicrobial resistance in animals, the food chain and the environment. EFFORT results will support future evidence based policies, and the prioritization of risk management options along the food chain

About the project

EFFORT is an EU-FP7 5 years project (2013-2018), led by Jaap Wagenaar, Utrecht University (NL). The consortium of 20 partners from 10 European countries is structured into 8 inter-related scientific work packages (WPs) and 2 WPs on knowledge translation.

Objectives

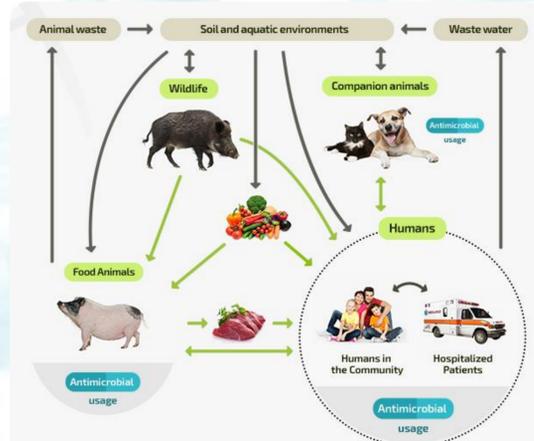
- Understanding the epidemiology of antimicrobial resistance in the food chain
- Understanding the ecology of antimicrobial resistance in the microbial communities
- Understanding the relative contribution of the exposure routes of antimicrobial resistance from animals to humans
- Understanding the economic impact and animal welfare aspects of antimicrobial resistance in the food chain

Methodology

A combination of epidemiological and ecological studies will be conducted, using newly developed molecular and bio-informatics technologies.

EFFORT will include:

- exposure assessment of humans from animal and environmental sources,
- ecological studies on isolates (*in vitro* and *in vivo*),
- real-life intervention studies,
- prediction models.



Expected Outcomes

By the end of the project, we expect to have answers to the following questions:

- What is the impact of antimicrobial usage in food-producing animals on human exposure to AMR determinants?
- What are the most important transmission routes and sources of human exposure to AMR determinants?
- What is the impact on human health of the transfer of AMR determinants between commensals and pathogenic microorganisms?
- How can human exposure to AMR determinants through food-producing animals be reduced?
- What is the most cost-effective way of monitoring antimicrobial resistance occurrence in food-producing animals and in the food chain?

Partners

