



## Antibiotic Resistance in Wastewater

Transmission Risks for Employees and Residents  
around Wastewater Treatment Plants

# NEWSLETTER

Volume 1 | June 2018

### IN THIS EDITION...

- A message from the coordination
- Progress meeting 2018
- Epidemiology and sampling
- Modelling and characterization
- Communication and coordination
- Next steps

### CONTACT US!



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[www.aware-study.eu](http://www.aware-study.eu)

### A MESSAGE FROM THE COORDINATION

Welcome to the first newsletter for the AWARE study!

Our project was funded by the [JPI AMR](#) initiative as part of the 3rd call on Transmission Dynamics. I am [Prof. Dr. Ana Maria de Roda Husman](#) leading the [AWARE](#) consortium. What we aim to find out with our research is to tell you if being near wastewater makes you resistant to antibiotics. To answer our research question, we work together with a group of scientists around Europe specifically in [Germany](#), [Sweden](#), [Romania](#) and [the Netherlands](#). In a large number of treatment plants around Europe that clean up our wastewater we look in the water and in the air for bacteria that carry resistance to antibiotics, their genes and the antibiotics. Additionally, we investigate how waste water is



treated in wastewater treatment plants. We interview wastewater workers and nearby residents. We develop methods and models for data analysis. If you want to find out more about our study, go to our website [www.aware-study.eu](http://www.aware-study.eu).

Enjoy your read!

**Prof. Dr. Ana Maria de Roda Husman**  
Study Coordination



## PROGRESS MEETING



### Progress meeting in Bilthoven, May 2018

This year's annual progress meeting for AWARE took place at the National Institute for Public Health and the Environment (RIVM) from the Netherlands. Nine of our team members from all four participating countries met in Bilthoven to exchange information about our progress and to explore ideas for our next steps into the project.

**AWARE project members at the RIVM (Bilthoven, The Netherlands)**

*Top row, left to right: Dr. Carl-Fredrik Flach, Prof. Dr. Joakim Larsson, Prof. Dr. Ana Maria de Roda Husman, Dr. Hetty Blaak, Dr. Heike Schmitt. Bottom row, left to right: Prof. Dr. Carmen Chifiriuc, Dr. Luminita Marutescu, Dr. Laura Wengenroth and Daloha Rodriguez-Molina.*

## ABOUT THE AWARE STUDY AND HOW IT WORKS

### EPIDEMIOLOGY AND SAMPLING

#### MORE INFO

- Work Package 1: [Epidemiological studies](#)
- Work Package 2: [Sampling campaign](#)

The AWARE Project is divided into [six work packages](#) that harmoniously integrate to answer our research questions. Work packages 1 and 2 refer to epidemiological studies and sampling campaign.

#### Epidemiology studies and sampling campaign

A crucial component of our project is to conduct an epidemiological study investigating carriage of resistant bacteria and resistance genes in workers working at wastewater treatment plants and in residents living in different distances to these wastewater treatment plants. Planning this study requires careful alignment of sample selection and sampling procedures.

Our sampling campaign focuses on setting up sampling plans and protocols for three countries with low and high antimicrobial resistance, including human and environmental sampling. The three countries chosen for our data collection are Germany, Romania and the Netherlands.



### Exposure modelling and characterization of resistant bacteria and resistance genes

Part of our aim is to describe the resistance carriage profile of workers and residents around wastewater treatment plants in relation to the profile of their environment in and around these plants. In depth characterization of resistant bacteria and resistance genes allows us to describe these profiles.

In addition, the AWARE team will generate exposure models and perform geospatial analysis to determine the degree of exposure to antimicrobial resistance at different distances from wastewater treatment plants.

#### MORE INFO

- Work package 3: [Characterization of resistant bacteria and resistance genes](#)
- Work package 4: [Exposure modelling](#)

A full description of our work packages, including work packages 3 and 4, is available on our webpage: [www.aware-study.eu](http://www.aware-study.eu)

## COMMUNICATION AND COORDINATION

### Dissemination of results and project management & coordination

A complex project of this magnitude needs to take into account project management and coordination techniques in order to be successful.


Also, our project takes into account methods and media for communicating methods and results to interested stakeholders and the general public. Check out our webpage [www.aware-study.eu](http://www.aware-study.eu) and social media accounts on [Twitter](#) and [Facebook](#) if you're interested in staying up-to-date with our announcements.

#### MORE INFO

- Work package 5: [Dissemination of results](#)
- Work package 6: [Project management and coordination](#)

Make sure you follow us on social media!

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## NEXT STEPS IN THE AWARE STUDY

- Finalizing guidelines and templates for sample collection
- Inviting wastewater treatment plants to participate in the AWARE study
- Starting the first sampling campaign

## PARTICIPATING INSTITUTIONS



National Institute for Public Health  
and the Environment  
*Ministry of Health, Welfare and Sport*



## SUPPORTING INSTITUTIONS



Deutsches Zentrum  
für Luft- und Raumfahrt  
German Aerospace Center



Bundesministerium  
für Bildung  
und Forschung



AWARE (Antibiotic Resistance in Wastewater: Transmission Risks for Employees and Residents around Wastewater Treatment Plants) is supported by the European Commission (JPI-EC-AMR ERA-Net Cofund grant no 681055).

