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Wrap up, conclusions and outlook on follow-up project activities

PILLS final conference

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Conclusions of the PILLS project

- The fraction of pharmaceuticals distributed in hospitals compared to what is distributed in the communities is relatively low (around 20%).
- The contribution of the hospital is different for each waste water treatment plant catchment, depending on the amount of beds and natural inhabitants connected to the facility. The range normally found varies between 5-50 beds per 1000 inhabitants.
- The diversity of gene cassettes is lower in hospital waste water than in municipal waste water,
- Sewer overflows from municipal sewer systems may lead to discharge of hospital waste water into the receiving waters; a potential risk of spreading the mentioned resistant bacteria and pathogens.
- Advanced treatment is necessary to eliminate most pharmaceuticals from waste water. Biological treatment is not enough.

Follow-up project NoPILLS

Main topics

- Awareness raising (by development of communication tools and advising campaigns on sub catchment levels to address the target groups:
 - Hospitals and clinicians
 - Doctors and pharmacists
 - Broad public
 - Stakeholders and decision makers
- Impact assessment of the advising campaigns and recommendations for strategic approaches to face pharmaceuticals input to wastewater.

"On the Paths of Micropollutants" in the city of Dülmen

Analysis of sources/ pathways and Sensitization

1

Mass-flow analysis of micropollutants

Social discourse on dealing with micropollutants

Awareness raising to avoid or reduce emissions at the source

Implementation of an activated carbon treatment step (PAC) at the wwtp Dülmen

2



Investigations on the activated carbon treatment

3

Evaluation of removal efficiency of micropollutants

Acquisition of operating experience under practical conditions

Evaluation of costs-benefit ratio under practical conditions

