

PHARMACEUTICAL RESIDUES IN WATER

A MATTER OF CONCERN?

The Interreg IVB Northwest-Europe project “noPILLS” works on approaches and solutions to reduce the pharmaceutical load in waters, investigating the different input paths in the light of cultural differences and EU regulations like the Water Framework Directive (WFD).



The location of the hospital treatment facility at Marienhospital Gelsenkirchen (580 beds, 75.000 patients per year with a completed treatment of 60.000 m³ of waste water per year)

Water quality is an extremely important topic for most people – not only on an abstract legislative level but often at a very emotional, too. One very special aspect are pharmaceutical residues: Today, about 3.000 pharmaceutical active substances have a permit in Europe and investigations demonstrated that up to 70% of the consumed “medicine cocktail” may be excreted or washed off. The EU WFD takes the issue into account: Since July 2nd 2013 three pharmaceuticals were added to a “watch list” of emerging pollutants that could one day be placed on the list of priority substances. The European Commission is asked by the Parliament to develop a strategic approach to the risks posed by pharmaceuticals in the aquatic environment.

noPILLS, an Interreg IVB project with 6 partners from 5 EU member states which builds on cooperations since 2007, faces the impact on the environment and possible solutions, analysing the whole medicinal product chain. For example, research was

carried out on antibiotic resistant bacteria, on ecotoxicity, on effects of combined treatment techniques like membranes, ozone, activated carbon and sand filtration.

Primarily, partners worked on point source treatment, considering that in some catchment areas big hospitals may have an important impact on surface waters, even if a modern municipal biological waste water treatment is in place. In general, hospitals bear responsibility for up to 20% of the total emission, whereas the remaining 80% come from domestic waste water.

The investigated and tested technologies at point sources are promising in particular when concentrated, constantly discharged hospital waste water is treated. The clear disadvantages are the costs, the energy and resources demands. Moreover, transferring these techniques onto municipal facilities would lead to enormous costs for water users. But is there another option?

If the solution cannot be the “end of the pipe” treatment, then behavior changes and political approaches are the key tools to reduce pharmaceutical residues

in the environment. This strategy has to take cultural differences into account; for example “over the counter” trade of drugs is varying in the member states: in Germany medicine is only available in pharmacies whereas in some other countries painkillers are also sold in supermarkets. How can consumers’ environmental awareness and behavior be governed (different consumption/ prescription practice/ disposal, demand for green pharmacy)?

On May 27th/ 28th 2015 the noPILLS partnership will present the results in a final conference in Brussels.



noPILLS partners are the German water boards Emschergenossenschaft and Lippeverband, the Dutch Rijksinstituut voor Volksgezondheid en Milieu, the Luxemburgish research institute Centre de Recherche Public Henri Tudor, Glasgow Caledonian University and the Université de Limoges. The partnership is accompanied by an “Advisory Board” with representatives of the pharmaceutical industry, scientists and water authorities.

noPILLS will participate in the **2014 open days workshop** of the 4th meeting of the Committee of Regions/EC Technical Platform for Cooperation on the Environment “*Improving waste water management - support from the European Structural and Investment Funds*” on Oct. 8th, at an EFPIA and HCWH conference on 24th Oct. 2014 and an EPC workshop “Blue GOLD” on Oct. 29th, all in Brussels.

For further information and contact details please visit the project on www.no-pills.eu