

noPILLS in waters – an exciting project finishes with a Final Conference in Brussels

Final Conference of the *noPILLS*-Project in Brussels

The successful final conference of the EU-funded Interreg-Project *noPILLS in waters* took place in Brussels from May 27th to May 28th at the EU's North-Rhine-Westphalia Representative Office. During the two-day conference the *noPILLS* project partners together with stakeholders on local, regional, national and EU level elucidated various solutions to handle pollution of the aquatic environment. They explained the social, political and strategic goals targeting pollution of water by pharmaceutical substances. The conference reached a broad audience of about 100 participants each day including representatives of the European Commission.

Public awareness of general pollution of watercourses has been raised by the media for some time, however specific pollution by residues of pharmaceuticals (micropollutants) is less well known. These compounds might end up in our rivers via excretion into the wastewater system. If and how these micropollutants influence humans by drinking water is partially unknown, but potential effects on environmental flora and fauna are known. Using both state of the art and/or conventional technologies for wastewater treatment it is not possible to eliminate all micropollutants completely. The European project partners in the *noPILLS* project evaluated what can be done to reduce or prevent the occurrence of micropollutants in waters.

This project developed from one of the key findings in the previous *PILLS* project: that even by applying the latest, complex, expensive and energy-intensive technologies for wastewater treatment at point sources, e.g. hospitals, only partial reduction of the micropollutants load can be achieved. The *noPILLS* approach targeted different points within the pharmaceutical chain: pharmaceutical industry; doctors; pharmacists and the general public by changing attitudes before these substances end up in the wastewater at all.

The European project partners from the Netherlands – Rijksinstituut voor Volksgezondheid en Milieu, France – Université de Limoges, Scotland – Glasgow Caledonian University, Luxembourg – Luxembourg Institute of Science and Technology and Germany – Emschergenossenschaft and Lippeverband focused on different goals.

The Dutch partners developed an approach to reduce or even prevent the emission of pharmaceutical residues in waters based on the life-cycle of medicines. The French and the Scottish partners focused on public attitudes to medicines (consumption, storage and disposal) and raising awareness, the French additionally analysed the level of antibiotic resistant bacteria in wastewater and sewage sludge comparing centralised and decentralised treatment of hospital wastewater.

The Luxembourgish partner and the German Emschergenossenschaft implemented a urine separation campaign in radiology departments. This study aimed at patients collecting their urine containing Iodinated X-ray Contrast Media (ICM) in special urine bags and disposal via waste incineration plants instead of excreting ICM into the toilet and flushing into the wastewater.

In Dülmen a city of North-Rhine-Westphalia, the German partner Lippeverband organised a

community-wide communication campaign in both the general population and in the medical and pharmaceutical professionals to analyse the influence of raising awareness on the reduction of water pollution. Reduction in pollution could be achieved by applying behavior modification to prescription, consumption and disposal of pharmaceuticals. During the final conference's second day problems for Europe's public authorities became apparent. Areas of conflict were apparent, on the one hand international regulations for handling micropollutants are required, as are suitable technical solutions for the various range of micropollutants, on the other hand reasonable economic arrangements have to be made. It was clear that a solely technical solution would most likely not lead to sustained success. Moreover advanced packages of measures are needed which strengthen the rising awareness in the population regarding handling pharmaceuticals to achieve a successful and long-term reduction of micropollutants in waters. Monitoring, accumulation of reliable data, risk assessment, product optimization, technical innovation, cost-benefit analysis but also social aspects like awareness raising, targeted education and information of the population should support the aim of reducing micropollutants in the aquatic environment in the future.