Update on AMR related issues in several reviews of environmental legislation

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AMR One Health Network 26 January 2022

One Health Aspect in Environmental Policies

"A Healthy Planet for Healthy People"

- Green Deal initiatives
  - Biodiversity Strategy
  - Farm to Fork Strategy
  - Chemicals Strategy
  - Zero Pollution Action Plan

European Commission

Existing Strategies

- Strategic Approach to Pharmaceuticals in the Environment
  - Adopted March 2019
- Recent Fitness Checks
  - Contaminants of Emerging Concern

- One Health Action Plan on AMR
  - Adopted June 2017
- New Initiatives
  - Reduce Overall EU Sales of Antimicrobials for Farmed Animals and in Aquaculture by 50% by 2030

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Strategic Approach to Pharmaceutical in the Environment

adopted March 2019

Six Areas of Action

- Increase Awareness and Promote Prudent Use of Pharmaceuticals
- Support Development of Pharmaceuticals Intrinsically Less Harmful for the Environment and Promote Greener Manufacturing
- Improve Environmental Risk Assessment and Its Review
- Reduce Wastage and Improve the Management of Waste
- Expand Environmental Monitoring
- Fill other Knowledge Gaps

Strategic Approach to Pharmaceutical in the Environment

- Actions on Antimicrobial Resistance (AMR) in general
  - Limit the Preventive Use of Veterinary Antimicrobials
  - Encourage Action in Third Countries Where Emissions Contribute to AMR
  - Consider Feasibility of Monitoring Antimicrobial Resistant Microorganisms and Antimicrobial Resistance Genes, e.g. in LUCAS Soil Survey
  - Support Research into Links between Antimicrobials in the Environment and AMR
  - Support Research into Cost-Effective Methods for Reducing Presence in Slurry, Manure and Sewage Sludge

Strategic Approach to Pharmaceutical in the Environment

Water Framework Directive/Environmental Quality Standards Directive/Groundwater Directive

- Review of the Pharmaceuticals in the ongoing revision process of the Priority Substances List under the Water Framework Directive and the lists of substances in the Groundwater Directive e.g. diclofenac (timeline end 2022)
- Update of the Watch list to include more antibiotics
- WG Chemical: Exchange good practice on monitoring and monitoring schemes, i.a. of biota; sediment; resistant microorganisms and antimicrobial resistant genes"
- a method* to target the genes which encode for the resistance is being developed by DG JRC. Link to the antibiotics, methods has been developed for macrolides, beta-lactam, sulfonamide, quinolone, and for the class of tetracycline

* the method is based on based on quantitative Polymerase Chain Reaction

Strategic Approach to Pharmaceutical in the Environment

Industrial Emissions Directive

- Action: “When the Industrial Emissions Directive is next evaluated, assess whether it should address intensive dairy farming.” At present, only intensive pig and poultry farming are covered (http://eippcb.jrc.ec.europa.eu/reference/irpp.html).
- Addressing the intensive rearing farming also dairy / cattle has been assessed in the impact assessment.
- Discussions are on improving coherence between water legislation and legislation on industrial emissions.

Strategic Approach to Pharmaceutical in the Environment

Urban Waste Water Treatment Directive

- Actions on Wastewater Treatment
  - Invest in Removal of Pharmaceuticals and Antimicrobial Resistance Genes
  - Investigate Feasibility of Upgrading Selected Urban Waste Water Treatment Plants to More Advanced Treatment Technologies
  - Support Development of “Greener” Pharmaceuticals that Degrade More Readily to Harmless Substances

Urban Waste Water Treatment Directive

- Revision of UWWTD,
  - Ongoing Impact Assessment
  - Possible selective upgrading of WWTPs (urban centres / worst surface water quality), producer responsibility, lowering thresholds for requiring collective treatment
  - Commission proposal to be finalised by summer 2022

Urban Waste Water Treatment Directive

- Waste water treatment plants are a potential entry point of antimicrobial-resistant genes and organisms in the environment.
- Wastewater treatment may contribute to the removal of these from the effluents (e.g. through disinfection or membrane filtration).
- Today there is no obligation to monitor AMR either in the receiving waters or at the outlet of the treatment facilities.
- On the basis of best practices in place for COVID 19 surveillance (recommendation adopted by EC), a measure being considered is "Regular monitoring of AMR and if need be, additional actions to avoid the dissemination of AMR from larger agglomerations or in areas where there is a risk of exposure to the public (e.g bathing areas)

Strategic Approach to Pharmaceutical in the Environment

Sewage Sludge Directive

Objective: evaluation of the Sewage Sludge Directive 86/278/EC – contributing to the **Action** on "Reducing Presence in Slurry, Manure and Sewage Sludge"

State of play

- Support studies recently finalised
  - On evaluation: to assess effectiveness, efficiency, coherence, relevance and EU added value
  - Exploratory study: factual analysis of certain elements such as:
    - Identify and prioritise pollutants that pose risks in sludge,
    - Assess & compare costs and benefits of recycling/recovery uses & disposal routes of sludge,
    - Create a baseline scenario and business as usual projection.
  - Screening of pollutants, & GHG emissions from sludge uses

Sewage Sludge Directive

Outcome from the support studies related to AMR:

- Currently there is very limited information on the pathways for AMR between the environment and humans and on the contribution of sewage sludge (other key source = manure)
- During the waste water treatment process, a large proportion of AMR bacteria and AMR genes are removed from the water phase and partitioned into the sludge phase, resulting in possible* high concentrations of AMR genes in sludge and biosolids.
- It is noteworthy that not all AMR genes pose the same risk level to human health.
- Further monitoring data is required to better understand what sludge treatment technology and management options are adequate to reduce AMR risks.

* depends on local conditions

Sewage Sludge Directive

Next steps

- Adoption of evaluation planned on the third quarter of 2022
- Findings from the studies will inform COM on whether to progress with an Impact Assessment for a proposal to revise the Sewage Sludge Directive.

Thank you

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