AMR in the Real World: AstraZeneca Perspective and Opportunities

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11th September 2015
Human Medicinal Products in the Environment
APIs can be detected in Surface Waters
Human Medicinal Products in the Environment

Stakeholder Pressures

• EC Strategic review
• Antibiotics proposed on WFD Watch List
• UN SAICM
• Stakeholder focus on production

Study on the environmental risks of medicinal products

FINAL REPORT
Executive Agency for Health and Consumers
12 December 2013
Human Medicinal Products in the Environment
Research Needs from an Industry Perspective

- Greater understanding on the origins, evolution, selection, co-selection, regulation and persistence of AMR.

- Quantitative models to track AMR gene flow between the environment and clinic/patient and vice versa.

- Need for sustainable and affordable technologies to reduce AMR in effluents or at hot spot point sources.

- Development of science based protection goals for AMR in the environment;
  - Current environmental policy tools (e.g. environmental risk assessment) do not address AMR.
EMERGING INFECTIOUS DISEASES

Review Article
Human Health Risk Assessment (HHRA) for Environmental Development and Transfer of Antibiotic Resistance

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Human Health Risk Assessment (HHRA) is a useful risk assessment technique that uses scientific data and expert judgment to evaluate the potential impact of environmental development and transfer of antibiotic resistance on human health. This review article discusses the importance of HHRA in the context of antibiotic resistance, highlighting the need for interdisciplinary approaches to address the complex issues associated with the environmental impact of antibiotic resistance. The article emphasizes the importance of understanding the transmission dynamics of antibiotic-resistant bacteria and the role of environmental factors in shaping the spread of resistance. The authors also discuss the challenges in conducting HHRA for antibiotic resistance and suggest areas for future research to improve the assessment framework. The review concludes with an overview of the key principles and considerations necessary for effective HHRA in the context of environmental development and antibiotic resistance.
How does antibiotic resistance develop in the environment?

PhD student Aimee Murray talks through her research into one of the biggest threats to human health for a century, antibiotic resistance.