Links between needs of the European Environment Agency and One Health EJP expertise

WP5 Science to policy translation to stakeholders

Responsible Partner: BfR, SSI

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LINKS BETWEEN NEEDS OF EEA AND ONE HEALTH EJP EXPERTISE

Introduction

One Health is defined as "a collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment"[1].

The central importance of environment in the One Health triad human-animal-environment has been recently underlined at the international [2, 3] and European level [4-6]. A salient example is the impact of climate change on vector-, food- and waterborne diseases [7-9]. It is clear that mitigation strategies should be coordinated at the EU level, as well as between sectors [10]. We wish to strengthen this collaboration.

The One Health European Joint Programme (EJP) aims to create a sustainable European framework by integration and alignment of medical, veterinary and food safety institutes that perform reference laboratory functions. The organisations unite forces through joint prioritization and conduction of research, integrative activities, and training and education exercises in the domains of foodborne zoonoses, antimicrobial resistance and emerging threats, thus matching the needs of European and national policy makers and stakeholders. Through this One Health approach, the consortium strengthens its preparedness according to the 'prevent-detect-response' concept.

All One Health EJP partners have the mandate of their national or regional authorities (i.e. ministries competent for foodborne zoonoses and antimicrobial resistance: mainly ministries of public health and agriculture, and national food agencies). As such, the One Health EJP has a privileged position when it comes to feeding back its outcomes to national and European policy makers and risk managers.

Although research is an important element for the One Health EJP activities, it predominantly focuses on bringing together scientists interested in public health, animal health and food safety. The essential objective of the One Health EJP is to stimulate this inter-sector collaboration by building capacities, sharing methodologies, databases and surveillance data, harmonisation of procedures, etc.

Connecting to other international organizations and networks obviously reinforces the One Health EJP's scientific objectives, broadens the scope of the One Health approach, offers exciting opportunities for research and adds to the international and global visibility of the One Health EJP.

Purpose

We have already active collaboration with ECDC and EFSA. In addition the One Health paradigm, on which our consortium is based, renders our activities potentially relevant for EEA, and we would be glad to create formal links with it.

The purpose of this document is to give an overview on the possible impact work carried out in the One Heath EJP can have for EEA and guide interested parties to collect more detailed information by visiting the One Health EJP website, joining our stakeholder committee or contact the research teams directly.

EEA identified need:	Highlight of OHEJP JIPs or JRPs
Effect of antimicrobials used in veterinary medicine (including aquaculture) and agriculture on the environmental resistome [11]. For example how microbiological contaminants, including AMR, from manure used as fertilizer might spill into watercourses affecting drinking and bathing water quality [12].	In January 2020 the following Joint Research Projects will start, with particular focus on environmental issues: DiSCoVeR will quantify the contributions of a number of reservoirs to the burden of foodborne zoonotic disease and antimicrobial resistance. These will include wildlife and environmental sources and their transmission routes. FULL FORCE will use genomic based surveillance to investigate the geographical differences and trends in antimicrobial resistance in the natural environment. It will also analyse the influence of animal husbandry on the occurrence and spread of antimicrobial resistance genes in the environment and in people living in proximity to farms. Our projects are also on the forefront of developing on-site, real-time and low-cost detection tools. WORLDCOM and FARMED focus on zoonotic bacteria and antimicrobial resistance in humans, animals, foodstuff and environment (including water).
Nature-based solutions to maximise co-benefits. Nature-Based Solutions are solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience (e.g. restoration of mangroves or salt marshes for coastal protection) [7].	The Joint Integrative Research projects MOMIRPPC is working on the development of preventive measures and/or control measures by the characterisation of pre-biotics, pro-biotics and nutraceutical products, for use in both animals and humans

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