



## Key knowledge gaps

### Activity Group 5

#### Objectives of the working group activity:

Split into smaller groups and each will address a set of questions following specific issues and themes around the uncertainties and knowledge gaps in our understanding of AMR in the environment

#### ➤ Task 1

At your table, discuss each of the suggested indicated questions and be prepared to make a brief summary plenary presentation of your key findings or discussion. You may look at the other questions, or indeed and preferably come up with your own questions or issues.

#### ➤ Task 2

One appointed spokesperson per each group will give their feedback to the rest in plenary session.

## QUESTIONS

### Governance

#### Table 1

What could be done across the member states to improve the governance of AMR in the environment?

How to move forward from the limited availability of data that forms the existing scientific evidence base of AMR in the environment?

#### Table 2

Given that the existing evidence base is weak for the environmental consequences of AMR – should we simply use the precautionary principle?

How much data is required on AMR in the environment to make policy recommendations?

Can we identify novel or comprehensive regulatory measures to control AMR?



### Table 3

How much data is required before regulators can develop regulations or guidance that could be adopted by the Member States?

Can we establish maximum discharge thresholds or values for AMR in the environment; if so, think about what the endpoints may be?

### Table 4

What is the likely public health impact of exposure to food under the influence of environmental AMR?

How would the environmental regulations need to change to accommodate legislation around AMR in the environment?

### Table 5

Is there sufficient quality data available to assess exposure risks from the consumption of animal derived products including fish derived from aquaculture or agriculture/ plant derived products including those produced with reused freshwater?

Can we move to developing guidelines or recommendations or best practice documents given the absence of scientific evidence about the negative impacts of AMR in the environment?

### Table 6

How do we protect the environment, people or animals from the impacts of AMR in the environment?

Are there major differences in how developed or less developed countries might tackle AMR in the environment?

What value may there be in developing integrated surveillance programs for AMR in the environment?



## Evidence

### Table 1

How would we/ can we assess the human and animal health risks from the environmental exposure of AMR?

Can ARG source tracking be implemented to explore potential exposure pathways? If so what new information will this provide, for example, to deal with pools of bacteria in untreated waste that can transfer through contaminated water sources?

### Table 2

Is surveillance of AMR or ARG important?

Is the measurement of AMR residues important, if so, what do we, should we, can we measure?

What needs to be measured and how, where and how often to measure it?

### Table 3

How can the results of any intervention in one sector be measured against the change in the environmental burden of AMR in another?

Are the selective pressures the most relevant drivers for ARG dissemination in the environment?

### Table 4

What are the complications inherent in comparing the results obtained using different methodologies for measuring AMR in the environment?

What are the data gaps in our understanding of the environmental issues for AMR?

### Table 5

Can AB residues in soils, water or animal feeds grown in contaminated environments result in *in vivo* selection in gut fauna of produced fish, poultry, livestock or wildlife?

Are there specific combinations of chemicals or pools of AMR that should be of greatest concern?



## Table 6

What is the extent of evidence that animals including fish or plants become colonised with AMR organisms from environmental sources?

What is the evidence that an antimicrobial residue in the farm environment negatively impacts on soil biodiversity or ecosystems or drives the acquisition of AMR genes?

**AB** - antibiotic

**ABR** – antibiotic residues

**AMR** – Anti Microbial Resistance

**ARG** – Anti resistance genes

**API** – Active Pharmaceutical Ingredient