

# Strategic Research and Innovation Agenda presentation



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# Strategic Research and Innovation Agenda (SRIA)

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One Health EJP Final Meeting

Paris, 11-12 September 2023



## Strategic Research and Innovation Agenda



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 773830


## OUR LEGACY

Attaining sustainability of the main outcomes and impacts of the One Health EJP to ensure the legacy of our work.

Broadening the scope of One Health and helping to consolidate an aligned One Health collaboration among European stakeholders responsible for public health, animal health and the environment for future initiatives.

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Interactive document, follow  
the links for more  
information



# SRIA: a strategy document for the sustainability of the OHEJP



Towards collaborative and coordinated, multi-disciplinary networks where surveillance, laboratory procedures, risk assessment methodologies and intervention approaches are aligned across sectors and across borders, thus maximising the health of animals, humans and the environment

# Introduction-The past

## 1 INTRODUCTION

### 1.1 The past: background and context of the One Health EJP

The main objective at the start of One Health EJP was to enhance the prevention, detection and control of zoonoses and antimicrobial resistance



# Introduction-The past

- Threat of zoonoses and antimicrobial resistance
- A holistic approach to prevention, detection and control
- The role of the Med-Vet-Net Association at the initial stages of the One Health EJP
- Pursuing common goals
- The vision of One Health EJP-Towards a shared landscape
- The overarching ambition...”creating a sustainable European framework”
- Outputs and outcomes of the One Health EJP
- The One Health EJP network
- Dissemination of the One Health EJP outcomes



# OHEJP specific objectives

Introduction

About

Vision

Priority topics

Activities

Structure

Approach

1 →

The One Health European Joint Programme

# Strategic Research Agenda

July 2019

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HEALTH EJP

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6 specific objectives

# Introduction-The present

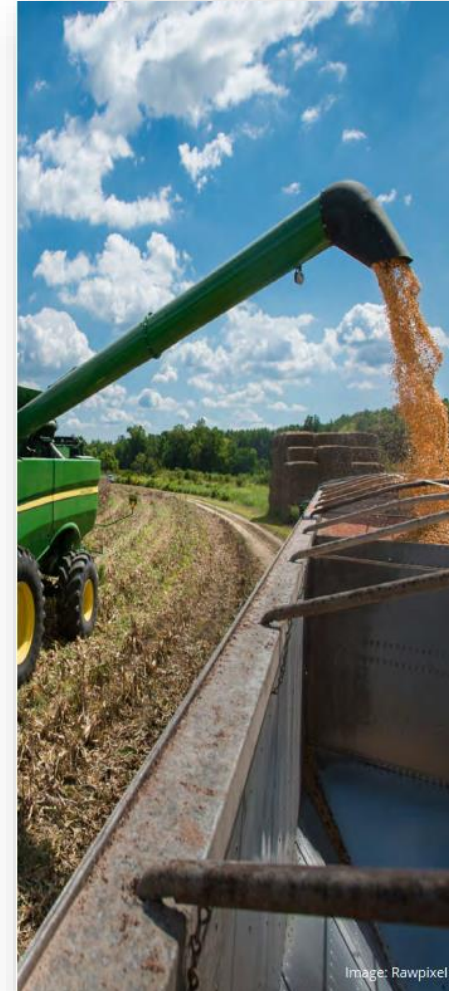
- **The present: current challenges and opportunities-  
Policy**
- **The need of international collaboration**
- **The environmental pillar of One Health and policy**





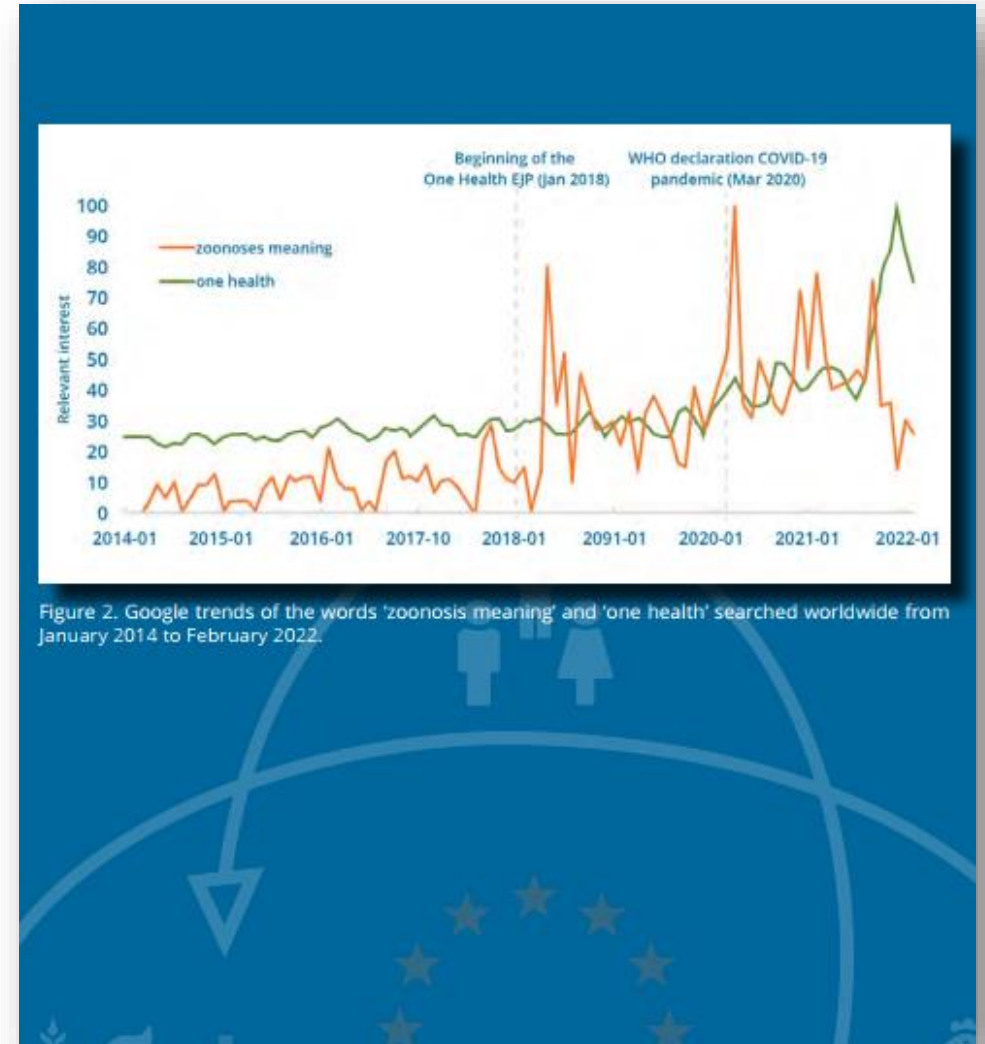
# Introduction-The present

- **The COVID-19 pandemic**
- **One Health approach and preparedness against possible pandemics**
- **Food safety and food security**
- **State-of-the-art in One Health science and technology**
- **Society**
- **One Health EJP progress and challenges**



# Introduction-The future: actual needs of stakeholders

- **Citizens' priorities**
- **Policy needs**
- **Globalisation and international cooperation**



# Introduction-The future

- Environment, ecosystem health and wildlife
- Climate change
- AMR in the environment, with focus on water
- One Health approach to tackle AMR



# Introduction-The future

- **Sustainable food systems**
- **Emerging trends: edible insects, synthetic meat, synthetic biology**
- **Harmonisation of methods and data between sectors**
- **Animal welfare and new human animal interrelationships**
- **Sharing of information, communication with the public, and science to policy translation**



# Objectives

## *Updated specific OHEJP objectives*

**Objective 1.** *To bring together the major representatives of the European scientific community in the domains of FBZ, AMR and ET*

**Objective 2.** *To implement scientific projects related to the prevention and control of FBZ, AMR, and ET*

**Objective 3.** *To stimulate scientific excellence by co-funding dedicated joint research projects*

**Objective 4.** *To foster the harmonization and standardization of the reference methods and tests by bringing together scientific and technical expertise in the domains of FBZ, AMR and ET*

**Objective 5.** *To exchange and communicate with all national and international stakeholders*

**Objective 6.** *To promote and develop food safety research in the EU by training, education and communication*

## *Additional objectives*

# One Health EJP addresses the UN Sustainable Development Goals (SDGs)



# Expected impacts

- ✓ Society
- ✓ Science and technology
- ✓ Policy
- ✓ Economy

- Increased food safety
- Improved public health
- Improved animal health
- Improved One Health
- Advancement of science
- Increased networking, collaboration and knowledge sharing
- Bringing stakeholders together
- Support to related strategies

# Priority research and integrative topics

- Priority topic AMR
- Priority topic One Health

JPIAMR

EUP AH&W

IMPACTS	Therapeutics	
SEARCH	JPIAMR	PAHW
<p><i>Discovery of new antimicrobials and therapeutic alternatives, and the improvement of current antimicrobials and treatment regimens <b>for humans</b></i></p> <ul style="list-style-type: none"> <li>• Find new antimicrobials and targets</li> </ul>	<p><i>Discovery of therapeutic alternatives, and the improvement of current antimicrobials and treatment regimens <b>for animal diseases</b></i></p> <ul style="list-style-type: none"> <li>• Promote the development of novel antimicrobial compounds</li> <li>• Repurpose existing antimicrobials (look at MPC etc.)</li> </ul>	
<p><b>AVAILABILITY</b></p> <ul style="list-style-type: none"> <li>• Develop new chemical entities and scaffolds</li> <li>• Improve pharmacokinetics and pharmacodynamics of antimicrobials, including neglected antimicrobials</li> </ul>	<ul style="list-style-type: none"> <li>• Improve pharmacokinetics and pharmacodynamics of antimicrobials for efficient treatment of diseased animals of different livestock and companion animal species</li> </ul>	
<p><b>MINATION</b></p> <ul style="list-style-type: none"> <li>• Use personalised medicine and artificial intelligence to improve therapies</li> <li>• Develop alternatives for antimicrobials</li> </ul>	<ul style="list-style-type: none"> <li>• Use of Artificial Intelligence in mathematical modelling to improve therapies including the farming environment (e.g. SMART farming) and veterinary hospitals</li> <li>• Develop alternatives to antibiotics</li> <li>• Test alternatives to antimicrobials to treat diseased animals with a focus on final validation that new alternatives work in the field</li> </ul>	
<p><b>LEDGEMENTS</b></p> <ul style="list-style-type: none"> <li>• Develop treatment protocols based on combination therapy using new and existing antimicrobials</li> </ul>	<ul style="list-style-type: none"> <li>• Develop alternative treatment schedules for antimicrobials considering also treatment of groups of livestock for metaphylaxis and long-term efficiency of treatment schedules with the aim of prudent use</li> <li>• Develop treatment guidelines for prudent use of AM in livestock and companion animals</li> </ul>	
<p><b>NEXES</b></p> <ul style="list-style-type: none"> <li>• Develop policy measures and economic stimuli to minimise barriers for the development, availability and introduction of new therapies and alternatives</li> <li>• Assess how regulation modifies and influences production and use of antimicrobials</li> </ul>		



# Sustainability plan

Aim: “to guide and/or recommend actions that will result in maintaining major outcomes of the One Health EJP so that the benefits will persist in the future...”



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SUSTAINABILITY

## 6 SUSTAINABILITY PLAN 2021-2030

**INTRODUCTION**

The aim of the sustainability plan for 2021-2030 is to guide and/or recommend actions that will result in maintaining major outcomes of the One Health EJP so that the benefits will persist in the future, after the end of the project in 2023. The research and integrative projects have advanced the state-of-the-art outputs in the domains of foodborne zoonoses, antimicrobial resistance and emerging threats, and created novel tools and solutions, paving the way to continuing innovation. The many outcomes delivered by the One Health EJP have made and will continue to make important improvements in the animal health, public health and food safety arenas in Europe. Moreover, expanding the involvement of additional One Health fields and related initiatives will all together contribute to build a stronger and truly integrated One Health in Europe. The actual needs of the EJP's Stakeholders have been central to the prioritisation of the One Health EJP activities, efforts have been directed to address these evolving requirements and this is still the focus of the sustainability strategies outlined in this SRIA.

**VISION**

**OBJECTIVES**

**IMPACTS**

**RESEARCH**

For any sustainability mechanism to be effective, however, it will be important to put emphasis on equity and fair representation, as One Health collaboration, being it cross-border or cross-sectoral, is based on trust. In addition, there is increasing realisation that health threats affect many aspects of society, therefore fair representation implies going a step further from simple balance among the classical One Health triad.





# Key instruments for the sustainability of the One Health EJP

- ***The MedVetNet Association***



***European Partnerships:*** *Animal Health & Welfare, Sustainable Food Systems, Pandemic Preparedness, One Health AMR, Biodiversa*

***One Health Initiatives and initiatives dealing with zoonotic infections:*** *strategic links established and developments (OHEJP), Global One Health initiatives: One Health High-Level Expert Panel (OHHLEP)*

- ***European funding of One Health research, development, innovation, networking and training***

- ***Dissemination instruments***



# Priority outcomes, activities and actions of the OHEJP to be sustained and further developed in the future

JOINT INTEGRATIVE PROJECTS (JIP)	INTEGRATIVE STRATEGIC ACTIVITIES	JOINT RESEARCH PROJECTS (JRP)				
		FOODBORNE ZOOSES	ANTIMICROBIAL RESISTANCE (AMR)	EMERGING THREATS		
MATRIX: solutions to support and advance One Health surveillance	Design and implementation of surveillance activities	AIR-SAMPLE: air filters to detect <i>Campylobacter</i> in broiler houses				
COHESIVE: pathway analysis of detection of outbreaks		NOVA: code to model disease spread and explore disease surveillance options				
OH-HARMONY-CAP: diagnostics, laboratories capabilities, capacities and interoperability collection tool	Laboratory methods	METASTAVA: Guidelines for sequence based metagenomic disease surveillance	IMPART: updated and improved	TOX-Detect: database of protein		
		TOXOSOURCES: Harmonised I for detecting <i>Toxoplasma gondii</i> contamination in fresh products	CARE: database of strains and genomes for quality control analysis in food safety	Reference material and data	LISTADAPT: Algorithm for selecting strains to explore the diversity of strains circulating	ARDIG: collection of large number of genomes that can be used as reference material for AMR confirmation
			ORION: framework for understanding and information exchange - One Health Surveillance Codex	Interpretation of surveillance data	ADONIS: decision making tool to determine causes and best interventions in human <i>S. Enteritidis</i> infections	ARDIG: Comparability between antimicrobial usage and AMR data to improve AMR surveillance
			COVRIN: models for risk assessment of SARS-CoV-2		BeONE: integrative solutions for foodborne pathogens surveillance	FULL-FORCE: data on plasmid structure and variability of drug resistant organisms
			COHESIVE: information system that stores genomics data and metadata of pathogens from different countries (demo)		DISCoVeR: models and methods for attributing human foodborne infections to animal, food and environment sources	
					TOXOSOURCES: methods to evaluate the relative contribution of different sources of <i>Toxoplasma gondii</i> infections	
					MedVetKlebs: Multicentric Study of <i>Klebsiella Pneumoniae</i> in European food products	
			COHESIVE: Risk Analysis System for zoonoses; FoodChain-Lab web application to trace suspicious food items; quantitative shiny Risk application assessment toolbox; risk assessment Decision Support Tool	Cross-sector communication of data	BIOPIGEE: education and training activities	FULL-FORCE: tool box for Single Molecule Real Time sequencing for AMR surveillance
			NOVA: mathematic models for data combination and analysis for One Health syndromic surveillance systems		FED-AMR: new data on the role of extracellular DNA as an AMR source and on AMR spread in agricultural environment	
		ORION: solutions for interoperability to improve data FAIRness - OHEJP Glossary, One Health Linked Data Toolbox, Health Surveillance Ontology			RaDAR: modelling methodology for AMR specific source attribution, disease burden	
		COHESIVE: review on economic analysis of foodborne zoonoses	Action (prevention and response)	MoMIR-PPC: Prevention & Control Measures against <i>Salmonella</i> at the poultry production level		
				BIOPIGEE: biosecurity measures for		



# Sustainability plan



One Health EJP outcome or activity to be sustained	How the outcome or activity can be sustained in the future, instruments and opportunities that can be applied to achieve sustainability	Timeline
<b>COLLABORATION, COMMUNICATION, ADVOCACY AND POLICY</b>		
The One Health EJP network	Med-Vet-Net Association	Ongoing and continuing until 2030 and beyond
	Advocate to launch a European One Health consortium/network, possibly with funding from Horizon Europe or a Coordination and Support Action	Initiated in 2022
Synergies and complementarities with other One Health actors	Links with other JPI or relevant initiatives, European Partnerships PREZODE, ERRAZE, ZODIAC, Epizone, STAR-IDAZ, Collaborative Working Group on European Animal Health & Welfare Research, Med-Vet-Net Association	Ongoing and continuing until 2030 and beyond depending on the initiative
Promoting the environmental pillar of One Health	Any (future) One Health initiative should stress the importance of the environment for One Health (e.g. Med-Vet-Net Association, EUP Biodiversa)	Ongoing and continuing until 2030 and beyond
Consolidating	Continue communication with stakeholders,	Ongoing and continuing

One Health EJP outcome or activity to be sustained	How the outcome or activity can be sustained in the future, instruments and opportunities that can be applied to achieve sustainability	Timeline
<b>COLLABORATION, COMMUNICATION, ADVOCACY AND POLICY</b>		
Working towards SDGs	Promote scientific and technological advance for the sustainable development of Europe and the protection and improvement of the quality of the environment. Website to Med-Vet-Net Association	Ongoing and continuing until 2030 and beyond
Communication to target audiences	Website to Med-Vet-Net Association	From 2023 and beyond
<b>SCIENTIFIC ACTIVITIES</b>		
R&D, R&I	Horizon Europe, EU partnerships, national funding	Ongoing and continuing
Scientific deliverables and outcomes developed by the One Health EJP	Presentation and promotion of publications, repositories, collection of strains, sequences, tools, etc. to interested parties (i.e. programme owners (PH, AH, FS authorities), diagnostic and reference laboratories, risk assessors and risk managers) that deal with FBZ, AMR and ET with the objective to encourage their application, for instance to expand and improve actual surveillance programmes, to use harmonised detection and characterisation protocols, etc.	Ongoing and continuing until 2030 and beyond
Training and education	COST, Marie Skłodowska-Curie Actions,	Achieved, ongoing and

# Dissemination

- **Areas for Dissemination**
- **Dissemination Sustainability**
- **Target Audiences**

AUDIENCE	INFORMATION	COMMS FUNCTION	COMMS OBJECTIVES	COMMS CHANNEL
One Health EJP Partners	All internal and external communications.	Maintain good relationships and lines of communication.	Foster integrative and collaborative work approaches. Demonstrate One Health EJP impact/scientific outcomes. Demonstrate use of funds.	Website, social media, newsletters, email marketing, editorial, conferences, PR.
Stakeholders	Internal and external (relevant) communications.	Maintain good relationships and lines of communication.	Transparency of project and progress. Demonstrate use of Grant. Demonstrate One Health EJP impact/scientific outcomes.	Website, social media, newsletters, editorial, conferences, PR.
Policy Makers	External communications.	Brand awareness. Foster relationships to grow network. Sustainability of project. To affect change.	To inform and open dialogue. Demonstrate One Health EJP impact/scientific outcomes.	Social media, website, external newsletter, editorial, PR.
International bodies	External communications.	Brand awareness. Foster relationships.	To inform.	Social media, website, external newsletter, editorial, PR.
Scientists -external	External professional communications.	Brand awareness. Foster relationships.	To inform.	Social media, editorial, website, external news, email marketing, networking, conferences, PR.
Healthcare Professionals -external	External professional communications.	Brand awareness. Foster relationships.	To inform.	Social media, editorial, website, external news, email marketing, networking, conferences, PR.
Students, Early Career Researchers	External communications.	Brand awareness. Create the next generation of One Health EJP collaborators and One Health scientists.	To inform, educate and inspire.	Social media, website, editorial, email, marketing, networking, conferences.

Table 7. Communication strategy to target audiences

Thank you for your  
attention!



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