

Bilbao Annual Meeting March 12th and 13th 2025

Session 2:

Improving implementation of IPC and AMS
in a One Health perspective
Shared objectives, synergies and targets





I- Introduction

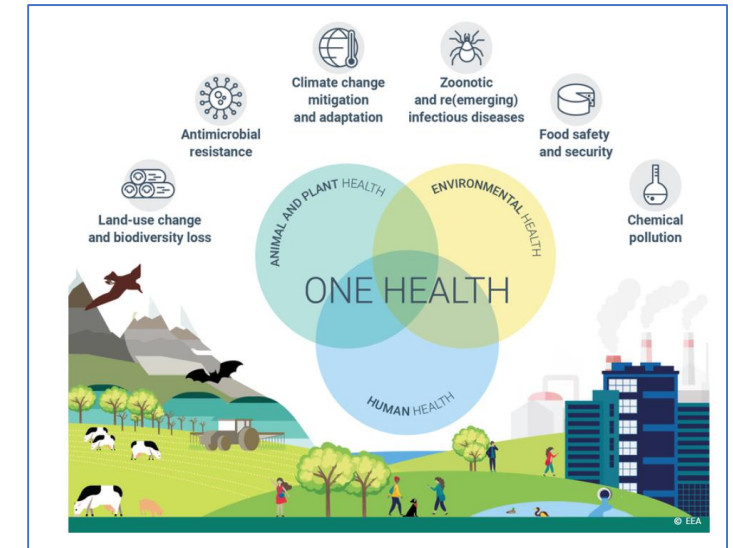
Why linking AMS and IPC?

Introduction video on linking AMS and IPC

- "thank you jamrai team communication for video production"

IN CONCLUSION

- It is essential that everyone understands the approaches and perspectives of others
- Willingness from authorities and sectors to work together in IPC and AMS is key
- Implementation is HARD work and requires a continuous effort - standards and guidelines cannot do it alone





Our work on AMS and IPC actively address the EU Council recommendations

IMPLEMENTATION OF THE GRANT AGREEMENT:

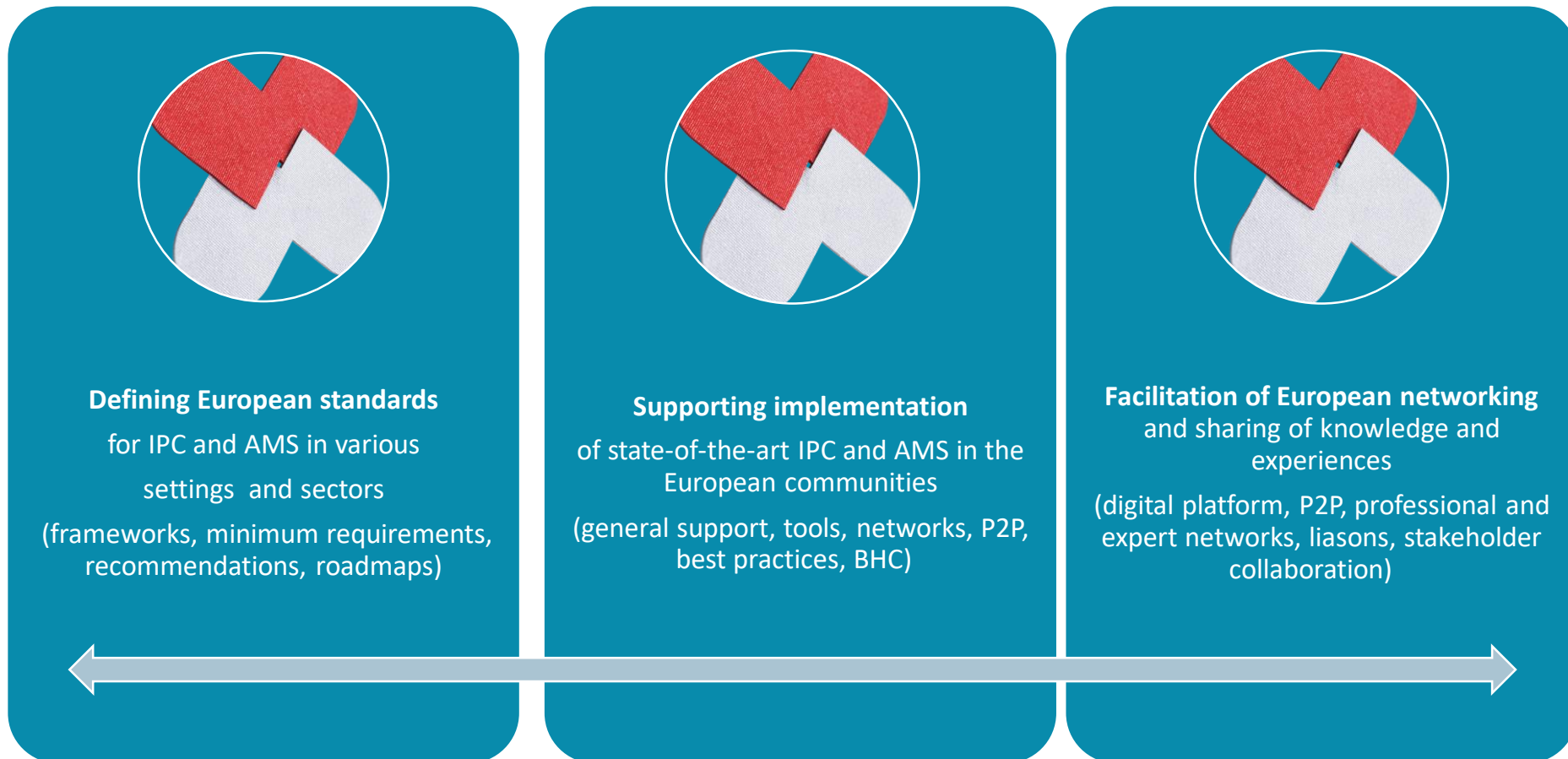
- Continuous collaboration and dialogue between the AMS and IPC levels and across sectors
- Close collaboration with our stakeholders
- Defining European standards in various settings and sectors
- Peer-to-peer programmes, professional networks and sharing of experiences
-

EU Council recommendations June 2023 – AMS and IPC overall:

- (3) Tackling AMR requires a high level of collaboration across sectors and between countries
- (16)...Prudent use of antimicrobials and high standards of IPC at all levels are essential aspects
- (23)...Education and training of professionals working in all sectors of AMR, on IPC and on the OH approach plays an important role....
- (F24a) Providing professionals working in the sectors with updated information materials on effective IPC, environmental risks, biosecurity and AMS....
-

Shared objectives for AMS and IPC in the three sectors

- enforce implementation of core elements and core competencies by:





2- First panel discussion :

**The importance of AMS & IPC strategies to
reduce AMR**



Scan and submit your question to the
panellists

Panel discussion: The importance of AMS & IPC strategies

Iwona Decewicz,
European Commission Unit F5



Gabriel Birgand,
EUCIC



Diamantis Plachouras,
ECDC



Jeroen Schouten,
Drive-AMS



Bruno Gonzalez Zorn
UCM





3- Behaviour change in IPC and AMS

EU-JAMRAI 2



Behaviour change in IPC

Michael A. Borg (Mater Dei Hospital, Malta)

Minttu Palsola (Finnish Institute for Health & Welfare)

jamrai7-4@gov.mt



- AMR continues to increase in practically all EU countries despite >2 decades of awareness campaigns and surveillance
- IPC (and antibiotic stewardship) practices continue to be suboptimal

ECDC Point Prevalence Survey 2022/3:

- Levels of alcohol hand rub consumption suggests hand hygiene compliance of around 25% in tertiary hospitals.
- Surgical prophylaxis >24 hours was exceeding common in the majority of participating hospitals

Eurobarometer survey (2022)

- >50% of ambulatory care antibiotics in the EU were prescribed for colds, flu, sore throat & COVID-19
 - Primarily viral conditions

- Explained by a behavioural - rather than medical - rationale.

Progress of individual EU/EEA countries in achieving targets for bloodstream infections with carbapenem-resistant *Klebsiella pneumoniae* (European Commission 2024)

Change 2019–2023

Target reached		Progress		Regress	
Austria	+ 45.0 %	Italy	+ 10.2 %		
Belgium	+ 74.1 %	Latvia	N/A†		
Bulgaria	+ 246 %	Liechtenstein	N/A†		
Croatia	+ 277.5 %	Lithuania	+ 35.2 %		
Cyprus	+ 275.5 %	Luxembourg	+ 87.5 %		
Czechia	+ 188.9 %	Malta	- 54.5 %		
Denmark	+ 14.3 %	Netherlands	+ 100 %		
Estonia	N/A†	Norway	+ 100 %		
Finland	- 66.7 %	Poland	+ 167.4 %		
France	N/A†	Portugal	+ 43.0 %		
Germany	+ 25.0 %	Romania	+ 181.2 %		
Greece	+ 64.3 %	Slovakia	+ 155.8%		
Hungary	+ 744.4 %	Slovenia	+ 1140 %		
Iceland	N/A†	Spain	+ 26.3 %		
Ireland	- 63.6 %	Sweden	+ 300 %		

Only **7%** of participants in the WP7.4 behaviour change workshop received any sort of training in behaviour change, as part of their specialisation in infection control and/or antibiotic stewardship.



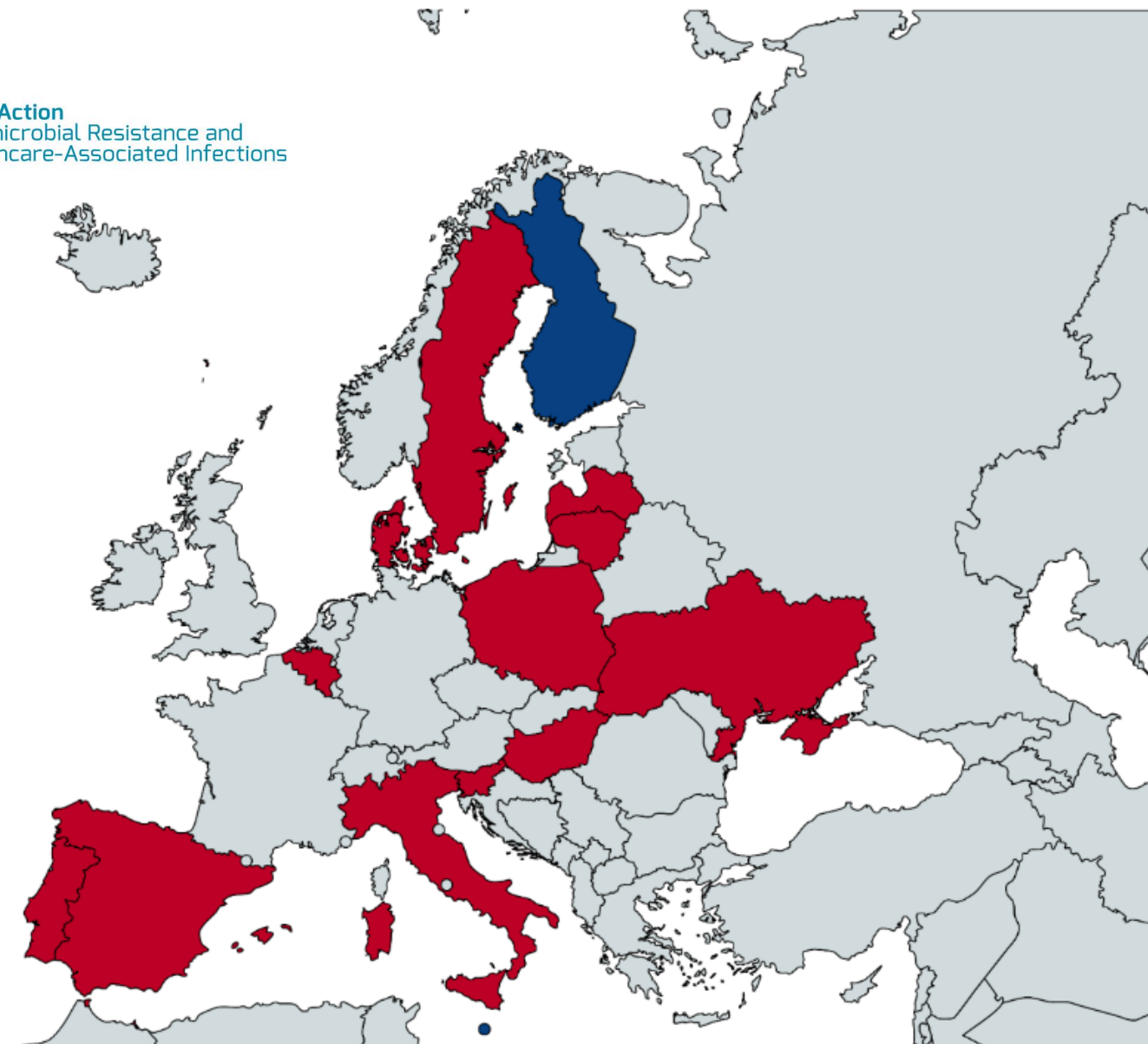
Vision

- To enhance the use of behavioural sciences to support the implementation of IPC practices at different levels of healthcare systems.

Mission

- Establish a pool of IPC practitioners trained and competent in implementation science who can generate interventions informed by evidence-based behaviour science
 - Support effective IPC behaviour change in their own settings

■ Participants
■ Coordinators



Coordinators:

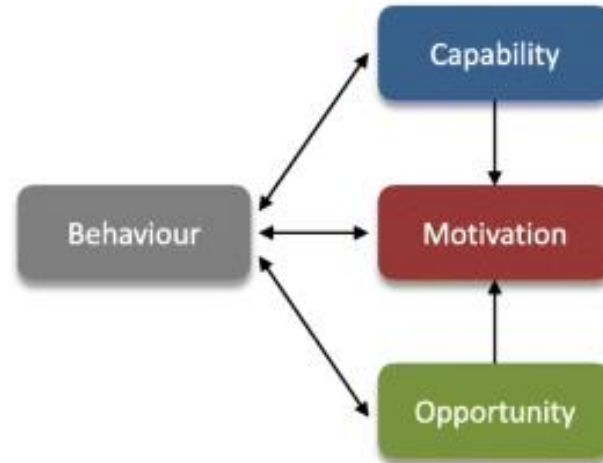
- Malta
- Finland

Participants:

- Denmark
- Hungary
- Italy
- Latvia
- Lithuania
- Poland
- Portugal
- Slovenia
- Spain
- Sweden
- Ukraine

Each participating hospital will:

- identify a priority IPC behaviour
- explore local drivers and facilitators through:
 - Theoretical Domains Framework (TDF)
 - Organisational culture analysis
- develop and execute theory-based behaviour change interventions using COM-B and Behaviour Change Wheel models



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Oct 2024

- **Workshop (Malta)**
 - Training in behaviour science & effective IPC implementation

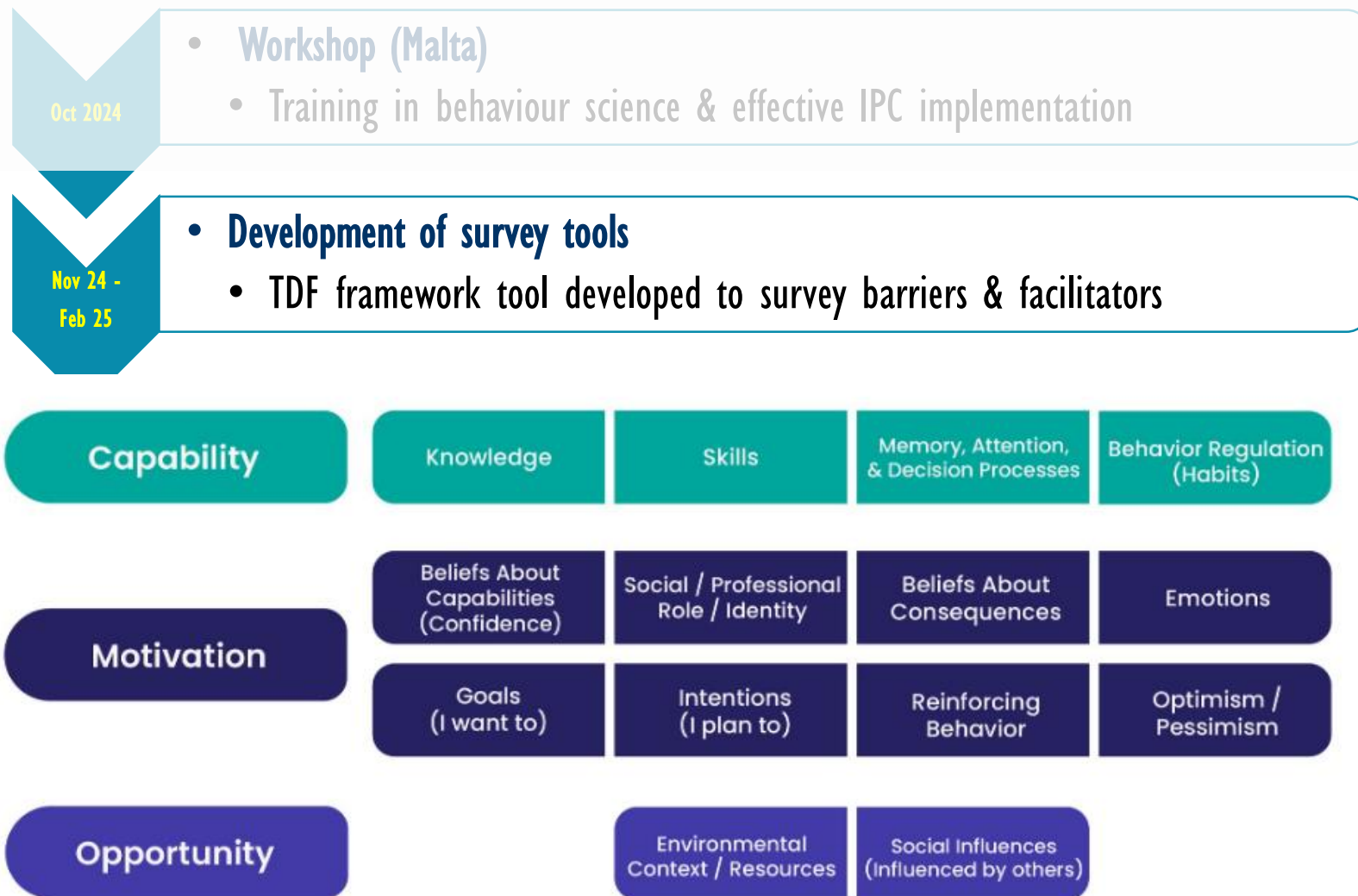


- >150 registrations
- Day 1 (hybrid)
 - Understanding human behaviour & its relevance to IPC practices
 - Cultural determinants and their impact on IPC behaviour
 - Introduction to behaviour change frameworks
- Day 2 (in person)
 - Hands-on workshops on using COM-B framework to:
 - Define the IPC practice in behavioural terms
 - Select & specify target behaviours
 - Identify what needs to change



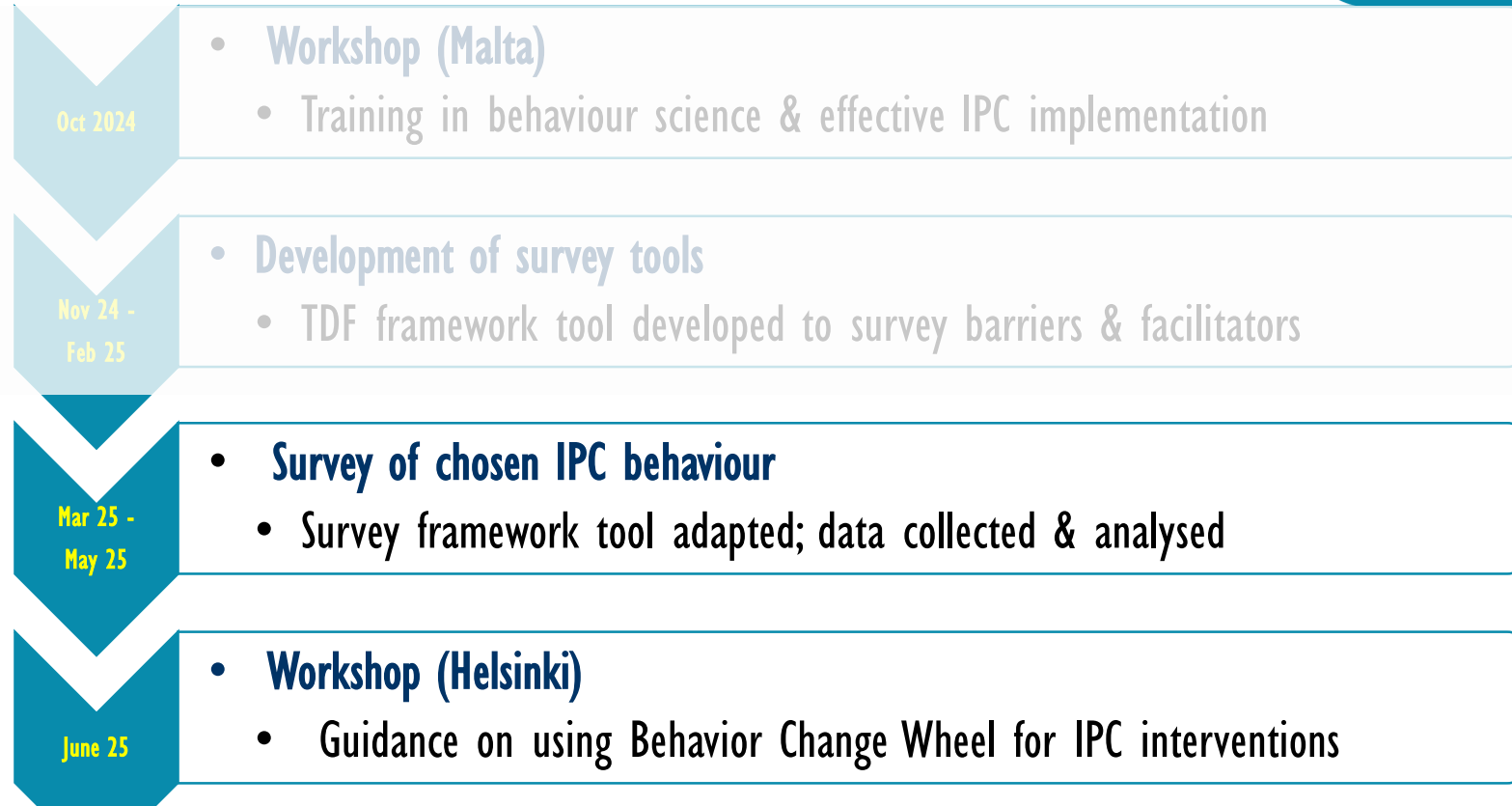
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- Identifying behaviour change intervention functions
- Characterising policy options & intervention activities
- Understanding organisational culture

The WP will:

Enhance adoption of behaviour sciences to support better IPC implementation in the participating hospitals by:

- identifying a priority IPC behaviour
- exploring local drivers and facilitators:
 - Theoretical Domains Framework (TDF)
 - Organisational culture analysis
- developing and executing theory-based behaviour change interventions using COM-B and Behaviour Change Wheel models

Oct 2024

- **Workshop (Malta)**
 - Training in behaviour science & effective IPC implementation

Nov 24 -
Feb 25

- **Development of survey tools**
 - TDF framework tool developed to survey barriers & facilitators

Mar 25 -
May 25

- **Survey of chosen IPC behaviour**
 - Survey framework tool adapted; data collected & analysed

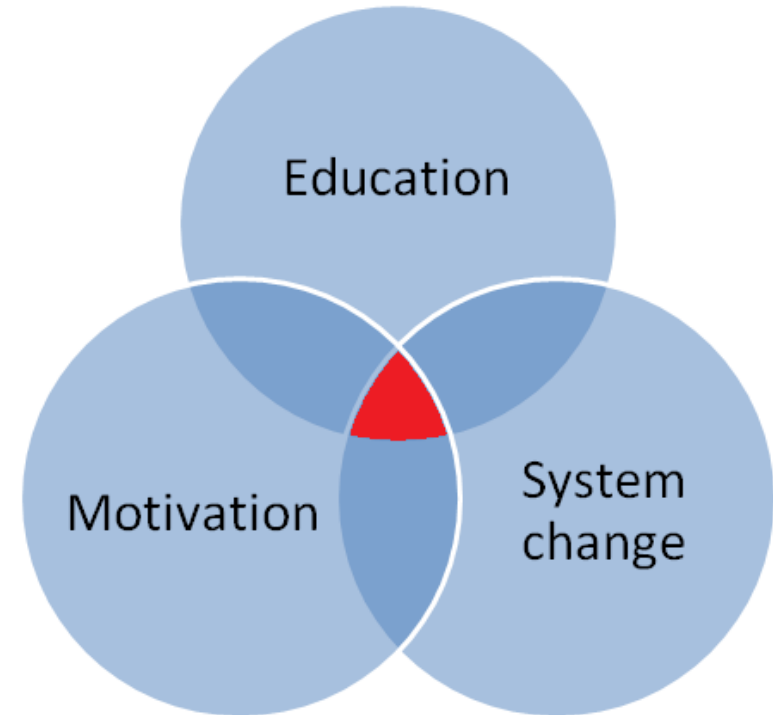
June 25

- **Workshop (Helsinki)**
 - Guidance on using Behavior Change Wheel for IPC interventions

Aug 25 -
Dec 26

- **Behaviour change intervention**
 - Pilot intervention on priority IPC behaviour and evaluation

- We need a **different approach** from the past 2+ decades of surveys, guidelines & policies....
- Infection prevention and control **is primarily about behaviour**
- Behaviour change approaches are therefore **key to achieve better outcomes**
- **Education & information** — on their own — do not change behaviour
- **Interventions need to be multi-modal** and informed by implementation and social sciences to be effective. This requires:
 - Improved behaviour change knowledge, skills and competence among IPC professionals
 - Cultural awareness to adapt BC tools to local circumstances



Thank you!



Participants at the WP7.4 kick-off meeting

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**BUILDING A
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to reduce Antimicrobial Resistance (AMR)

Behaviour Change Strategies for AMS



Instituto de Investigación
Sanitaria Aragón



**Universidad
Zaragoza**

@EU-JAMRAI



José Ramón Paño
Hospital Clínico Universitario. Zaragoza



Why behaviour change strategies for AMS?

- The **mission of AMS** is to contribute to **improve antimicrobial use...**

30-50% of antibiotic prescriptions can be improved

- ...and **prescribing** is a (complex) **behaviour**



Why behaviour change strategies for AMS?

Can We Influence Prescribing Patterns?

John A. Sbarbaro

University Physicians, Inc., University of Colorado Health Sciences Center, Denver

Clinical Infectious Diseases 2001;33(Suppl3): S240-S244

Why behaviour change strategies for AMS?

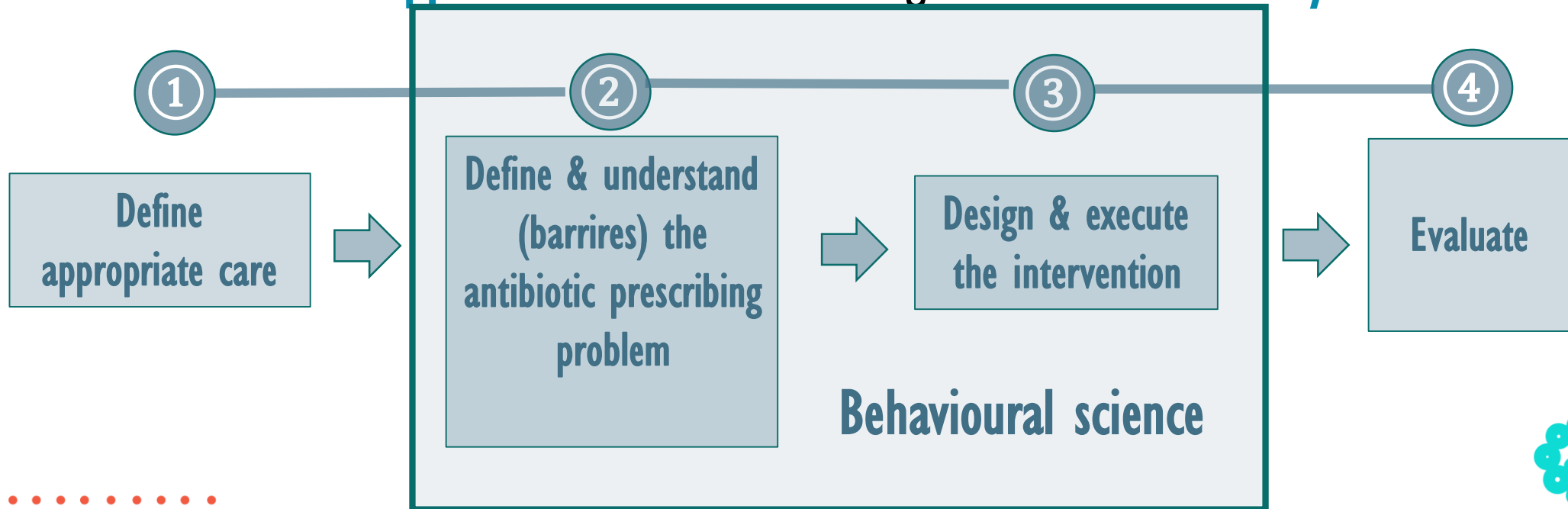
- “*Changing physician behavior is considered by many to be an exercise in futility*”
- “—an *unattainable goal* intended only to produce *premature aging in those seeking the change*”
- “The more *optimistic* might describe the process as *uniquely challenging*”

Clinical Infectious Diseases 2001;33(Suppl3): S240-S244

Why behaviour change strategies for AMS?

The implementation / behaviour change trail

A **systematic / scientific approach** to behaviour change in AMS is **necessary**



Why behaviour change strategies for AMS?

Scientific approach to behaviour science: **Behavioural Science**

BC Theory

#1
#2
#3
#4
#5
#n

- Explains mechanisms of behaviour change

Simplified into
→

BC Model

#1
#2
#3
#4
#5
#n

- Visual representation of BC theory

Operationalized
through
→

BC Framework

- Guides intervention design

Why behaviour change strategies for AMS?

- A **systematic / scientific approach** to behaviour change in AMS is **necessary**
- But a **behavioural approach** has **seldomly** been **adopted** by **AMS Teams** and stewards

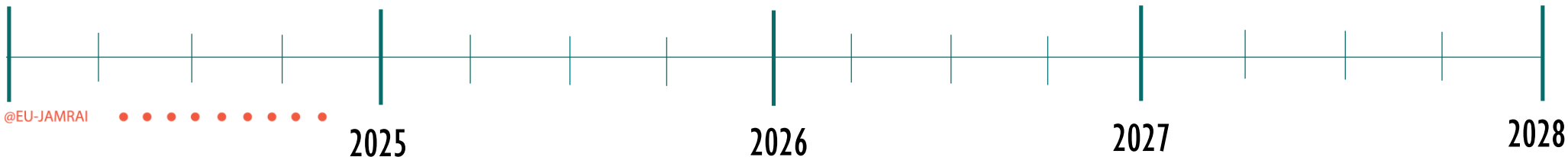
How to adopt a behaviour change approach to AMS?

**1. Analyzing Behavior
Change Models**

**2. Developing a Practical Toolkit for Implementing
the Behavior Change Framework in AMS**

**3. Selecting and Prioritizing Antimicrobial Prescribing Opportunities for
Behaviorally Oriented Interventions**

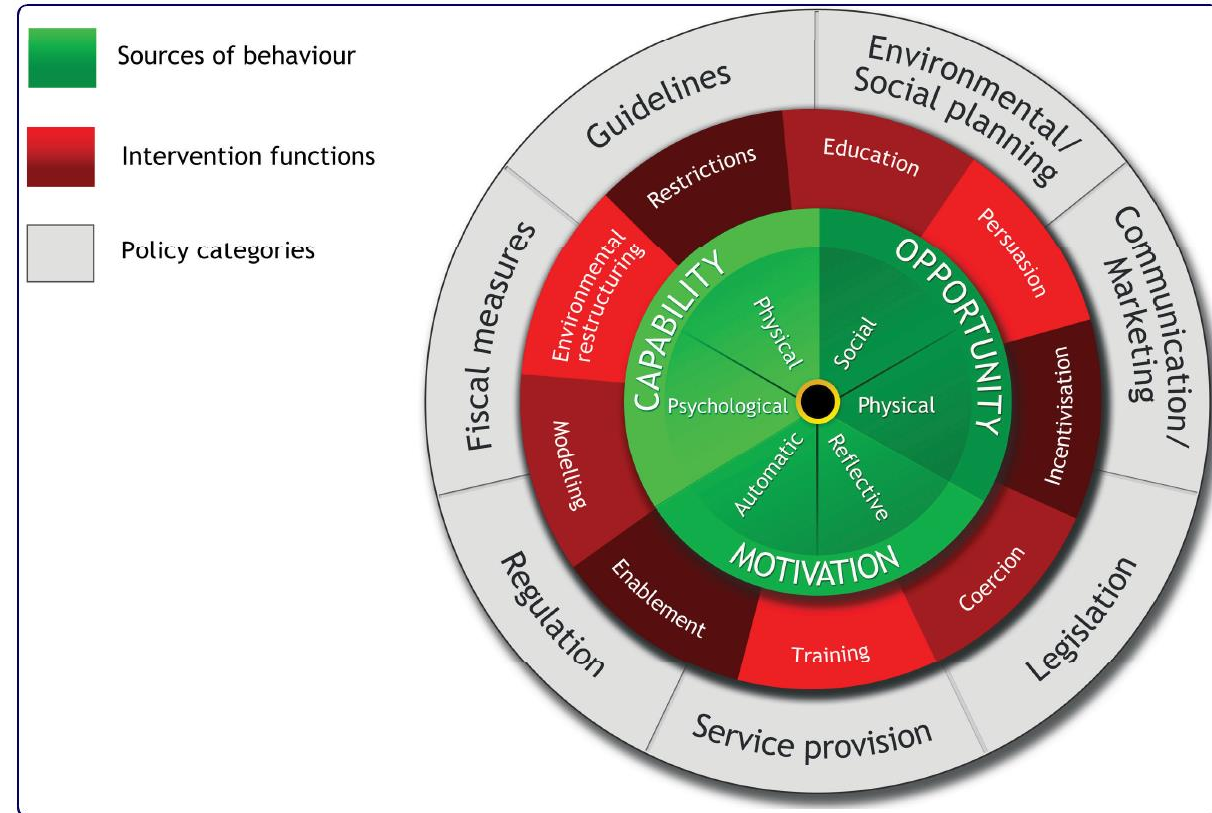
**4. Designing an Education and
Training Program**



I. Selection of the best-fit behavioural change model in AMS (humans-animals-environment)

- Behavioral change frameworks for AMS have been evaluated across human-animal-environment domains
- We found **insufficient utilization of behavioral change theories** in AMS interventions, with gaps in measurement, theoretical construct validation, and testing
- The **COM-B model** (Michie et al., 2011) **was selected as the best-fit framework** due to its evidence-based foundation and widespread adoption across healthcare sectors

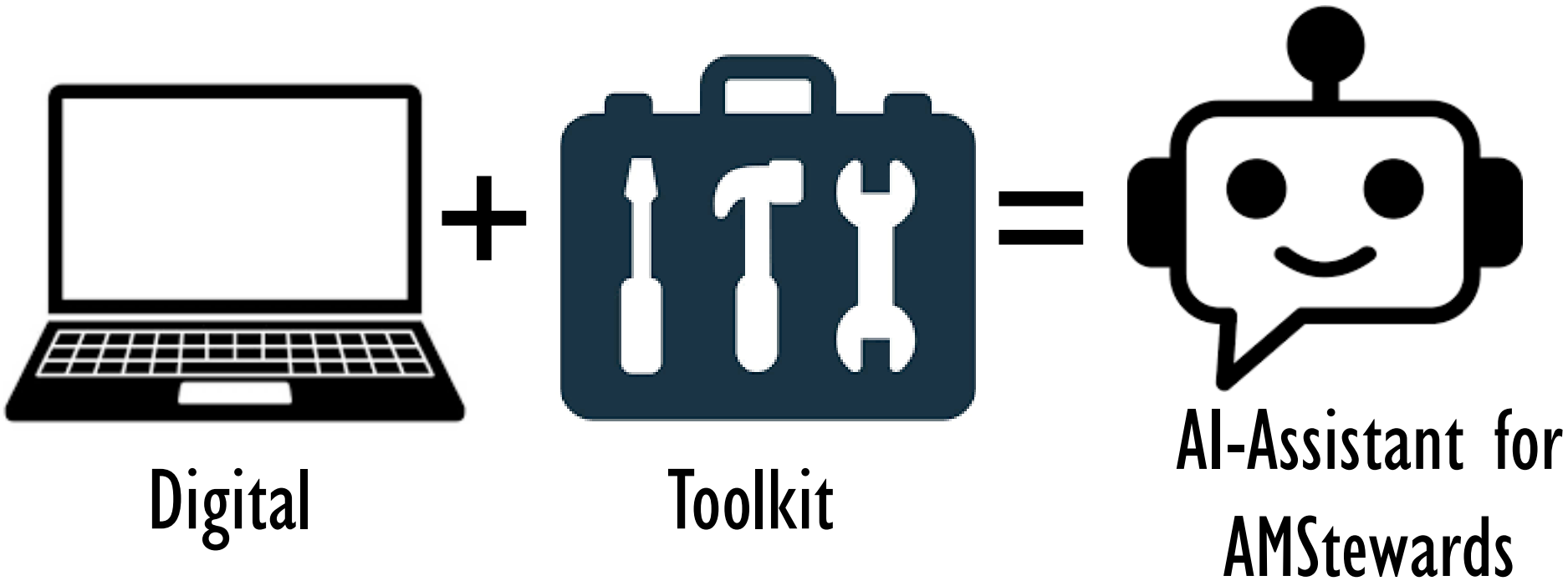
I. Selection of the best-fit behavioural change model in AMS (humans-animals-environment)



Michie et al. Implementation Science 2011, 6:42

2. Developing a Practical Toolkit for Implementing the Behaviour Change Framework in AMS

- Goal: Create interactive **digital toolkit** to help antimicrobial stewards design and implement behaviorally-informed AMS interventions (**COM-B Framework**)



#STEWARDSHIP



II. Developing a Practical Toolkit for Implementing the Behavior Change Framework in AMS

Platform: AI-powered, COM-B based GPT (RAG/Agent) solution for user-friendly guidance

Toolkit capabilities

- Define & “diagnose” antimicrobial prescribing behaviors
- Identify barriers & facilitators (COM-B)
- Select appropriate behavior change techniques (COM-B / TDF)
- Design tailored AMS interventions



2. Developing a Practical Toolkit for Implementing the Behavior Change Framework in AMS

Buscar

ChatGPT

English Linguistic Mentor

Tutor-Pan

Innovator

Consensus

Clinical Guidelines Assis...

El Repasador

Dr. Diagnostician

Dr. Reason, Clinical Rea...

Antimicrobial Stewardsh...

Presentator

Docencia Enf Infecciosas

Antimicrobial Stewardship Interventions' Design >

I need to overall reduce antimicrobial use in an internal medicine ward in the context of an outbreak of C. difficile

Great! Reducing antimicrobial use in an **internal medicine ward** during a **C. difficile outbreak** is a high-impact intervention. Let's structure this using the **COM-B model** and **Behaviour Change Wheel (BCW)** to ensure effectiveness.

Step 1: Define the Target Behavior (AACTT Framework)

- **Action:** Reduce inappropriate antimicrobial prescribing
- **Actor:** Physicians and other prescribers in the internal medicine ward
- **Context:** During a C. difficile outbreak in a hospital setting
- **Target:** Prescribers treating patients with infections (or suspected infections)
- **Time:** Immediate and ongoing during the outbreak

Antimicrobial Stewardship Interventions' Design

Enviar un mensaje a

@EU-JAMRAI



#STEWARDSHIP



2. Developing a Practical Toolkit for Implementing the Behavior Change Framework in AMS



Q Buscar

 ChatGPT

 English Linguistic Mentor

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 Dr. Reason, Clinical Rea...

 Antimicrobial Stewardsh...

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Antimicrobial Stewardship Interventions' Design >

Only one behaviour? Help me to choose the most relevant behaviours

Good point! To **effectively reduce antimicrobial use** during a **C. difficile outbreak**, we should **prioritize the most impactful prescribing behaviors** rather than tackling everything at once.

Step 1: Generate Possible Target Behaviors

Here are some key antimicrobial-related behaviors that could help control C. difficile:

Before or at the time of prescribing

- Avoid prescribing high-risk antibiotics** (e.g., fluoroquinolones, cephalosporins, clindamycin)
- Increase use of narrow-spectrum antibiotics** when possible
- Perform a diagnostic workup before prescribing antibiotics** (e.g., order procalcitonin, C-reactive protein, cultures)
- Use institutional guidelines for antibiotic selection**

 **Antimicrobial Stewardship Interventions' Design**

Enviar un mensaje a





#SLEWARDSHIP



#STEWARDSHIP

3. Selection and Prioritisation of antimicrobial prescribing opportunities

Key objectives

- ① Identify & prioritize key AMS behaviors (human, animal and environment)
- ② Develop model behaviorally-oriented interventions using BCW/COM-B framework
 - Co-creation workshops (3): AMS + BC experts



4. Designing an online, scalable, education and training Program on behavioral sciences principles applied to AMS

- Aim 1. To design scalable education/training programme on behavioural science principles for AMS
- Aim 2. To train participants to use COM-B model for identifying barriers/enablers



Q&A

Submit your questions by this Form.

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the QR code**

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Thank you!

Dr Jossé Ramon Paño Pardo

Co-leader 6.4.

Email: jrpanno@unizar.es

Dr Katerina Iliopoulou, RN

Co-leader T.6.4

Email: a.iliopoulou@eody.gov.gr



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to reduce Antimicrobial Resistance (AMR)



Session 2 — 2nd half:

**Improving implementation in AMS & IPC in
a One health perspective**

Bilbao Annual Meeting March 12th and 13th 2025

Strengthening IPC and AMS in Europe

José Luis Trillo Contreras

PhD Pharmacist and Scientific officer in EU
JAMRAI 2 Task 6.1
Andalusian Health Service (SAS)
Andalusian Public Foundation Progress and
Health (FPS)

Fortunato "Paolo" D'Ancona

Research Director, MD Specialist in Infectious diseases
Department of Infectious Diseases
Istituto Superiore di Sanità (ISS)



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Vision and collaboration among AMS and IPC



Aligning IPC and AMS creates a comprehensive strategy to reduce AMR, enhance patient care, optimize resource use, and improve healthcare and patient safety.



A coordinated perspective integrates efforts across sectors, preventing siloed initiatives and ensuring patient-centered care.



Synergies focused on common objectives: developing IPC/AMS elements and competencies, bridging training gaps and overcoming implementation challenges.





57

EU-JAMRAI

Joint Action
Antimicrobial Resistance and
Healthcare-Associated Infections

29

Stakeholders on stage



ESCMI

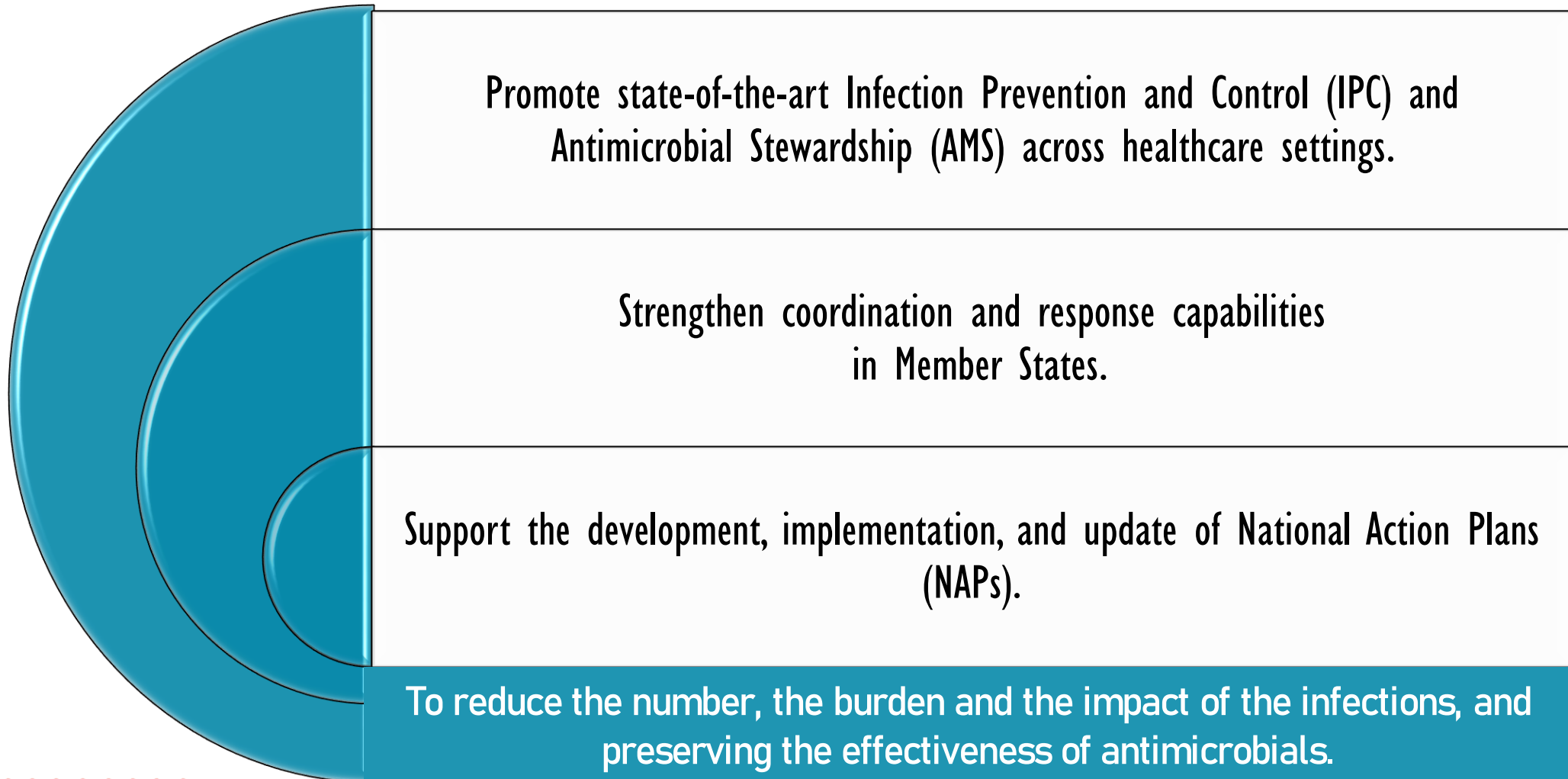


World Health Organization





Setting the scene: the general goals



Setting the scene: the specific goals



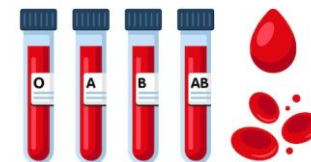
Developing Core
Elements &
Competencies for IPC
& AMS.



Digital Platform
Development for
supporting IPC and
AMS implementation



Strengthening
Diagnostic
Stewardship.



Supporting Pilot
Projects and
innovative IPC and
AMS tools



Promoting
Knowledge
Sharing &
Networking





Main goals

Identify core elements and core competencies in NAPs on AMR. Follow-ups and online meetings to reach coincidence to each healthcare setting (hospital, primary care and LTCF)

Network of Contact Points on AMS across Europe

A toolkit for self-assessment on antimicrobial stewardship programmes

A platform that will support peer-to-peer (P2P) exchanges, including mentorship and observership programs and webinars with experts



Developing Core Elements & Competencies for IPC & AMS



Promoting Knowledge Sharing & Networking



Supporting Pilot Projects and innovative IPC and AMS tools



Digital Platform Development for supporting IPC and AMS implementation



Strengthening Diagnostic Stewardship

Supporting evidence-based AMS- IPC strategies.
Reviewing training frameworks for IPC professionals
Aligning with ECDC core competencies recommendations

Coaching and mentoring, peer-to-peer exchanges, and the sharing of best practices across EU member states

Collect and disseminate Pilot project experiences

Facilitating networking and training
Monitoring IPC implementation status at subnational and national level

Recommendations for optimal blood culture practices

How we progress . . . Results Athens Workshop January 21st and 22nd 2025



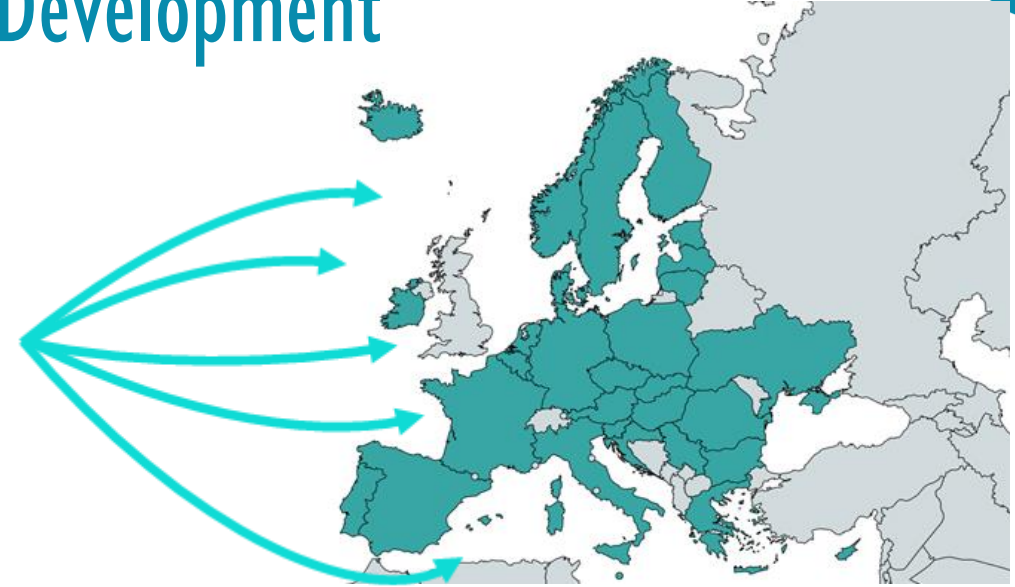
Advancing AMS: Cutting-Edge Tools in Development

Surveys to
AMR NAPs

Hospital: Completed

Primary Care:
Completed

LTCF: Under review



Digital
Platform

To support P2P exchange and
matching

To pilot P2P programmes





How we progress



Developing Core Elements & Competencies for IPC & AMS

Preliminary version of a Self-Assessment Tool to evaluate IPC core competencies



Promoting Knowledge Sharing & Networking

Surveys to identify partners' needs.
Program of Peer-to-Peer activities with EUCIC



Supporting Pilot Projects and innovative IPC and AMS tools

Launched a survey to collect ordinary and innovative tools for IPC
Started a survey to collect information on all the pilot project in WP 7
Pilot project template development



Digital Platform Development for supporting IPC and AMS implementation

Designed Self-Evaluation System for the system to monitor the status of IPC core components implementation at national/subnational level



Strengthening Diagnostic Stewardship

Systematic review for optimal blood culture practices

Advancing IPC: Cutting-Edge Tools in Development

Platform for
dissemination of
the existing tools

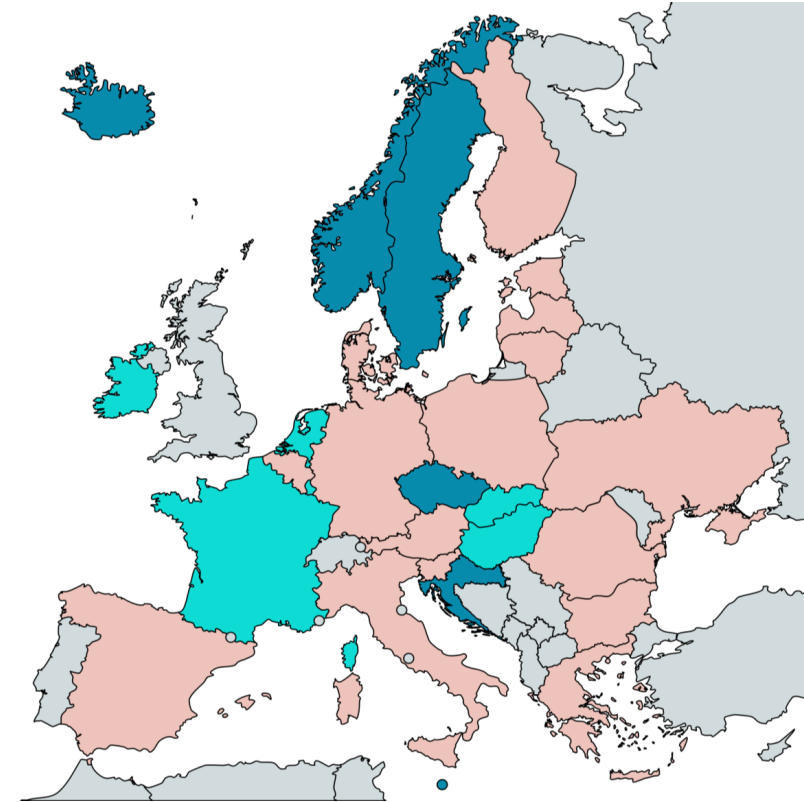
EU-JAMRAI 2 partners

Platform for a system
to monitor the
implementation of IPC
core components

EU-JAMRAI 2 member states for
national/subnational analysis

Platform for mentoring
online

EU-JAMRAI 2 member states through
dissemination





Results Barcelona Workshop (03-04/12/2024)

ECDC activities supporting IPC in the EU/EEA

Status of IPC implementation in Europe and possibilities of support to EU-JAMRAI 2 (WHO)

How EUCIC can support the institutions participating to EU-JAMRAI2

Break out session on Blood cultures indication: adaptation to the EU context



Pilot project template presentation

Survey presentation: Tools and guidance to implement IPC strategies effectively across healthcare settings

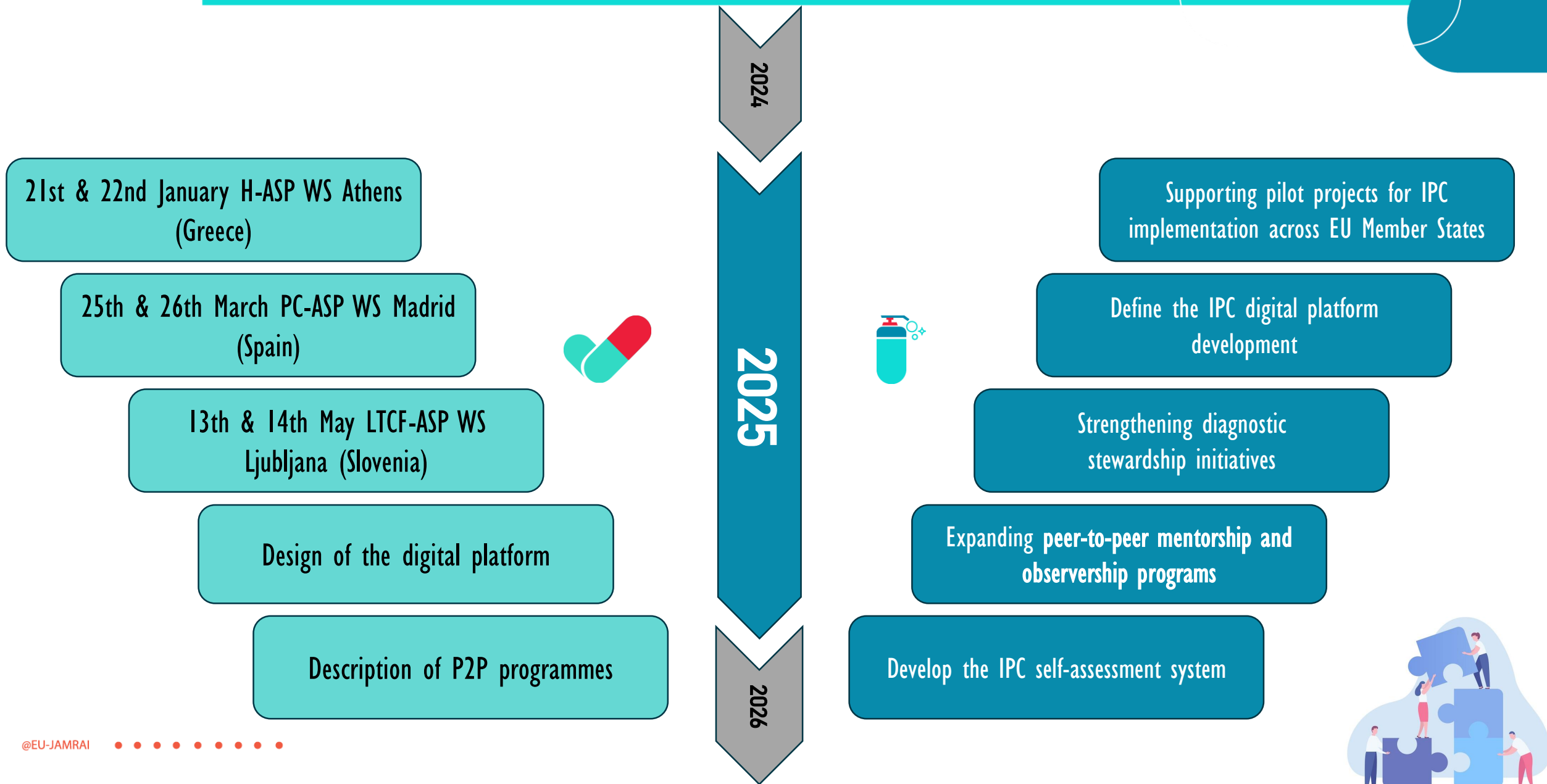
Partners' experience sharing (NIPH and Murcia)

Break out sessions and brainstorming

Highlighted the need to support our partners and to invite them all to a 1:1 meetings



Paving the Way Forward in 2025





Integrated Strategy: Aligning AMS and IPC efforts enhances AMR reduction, patient safety, and healthcare sustainability.

Capacity Building & Training: Developing core competencies, self-assessment tools, and peer-to-peer exchanges support best practices and implementation.

Digital Transformation: Monitoring platforms and networking tools drive real-time collaboration and implementation tracking.

Next Steps: Continue expanding training, refining standards, and strengthening synergies for impactful outcomes.

Q&A

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José Luis Trillo Contreras

Fortunato "Paolo" D'Ancona



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to reduce Antimicrobial Resistance (AMR)



Bridging Antimicrobial Stewardship and Infection Prevention & Control

A collaborative approach for animal health

Anne A.M.J. Becker (DGZ, BE) — Task 7.2

Isaura Wayop (UU, NL) — Task 6.2

March 12th, 2025 — Bilbao, Spain



Utrecht
University



agencia española de
medicamentos y
productos sanitarios



@EU-JAMRAI



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Synergy in Action



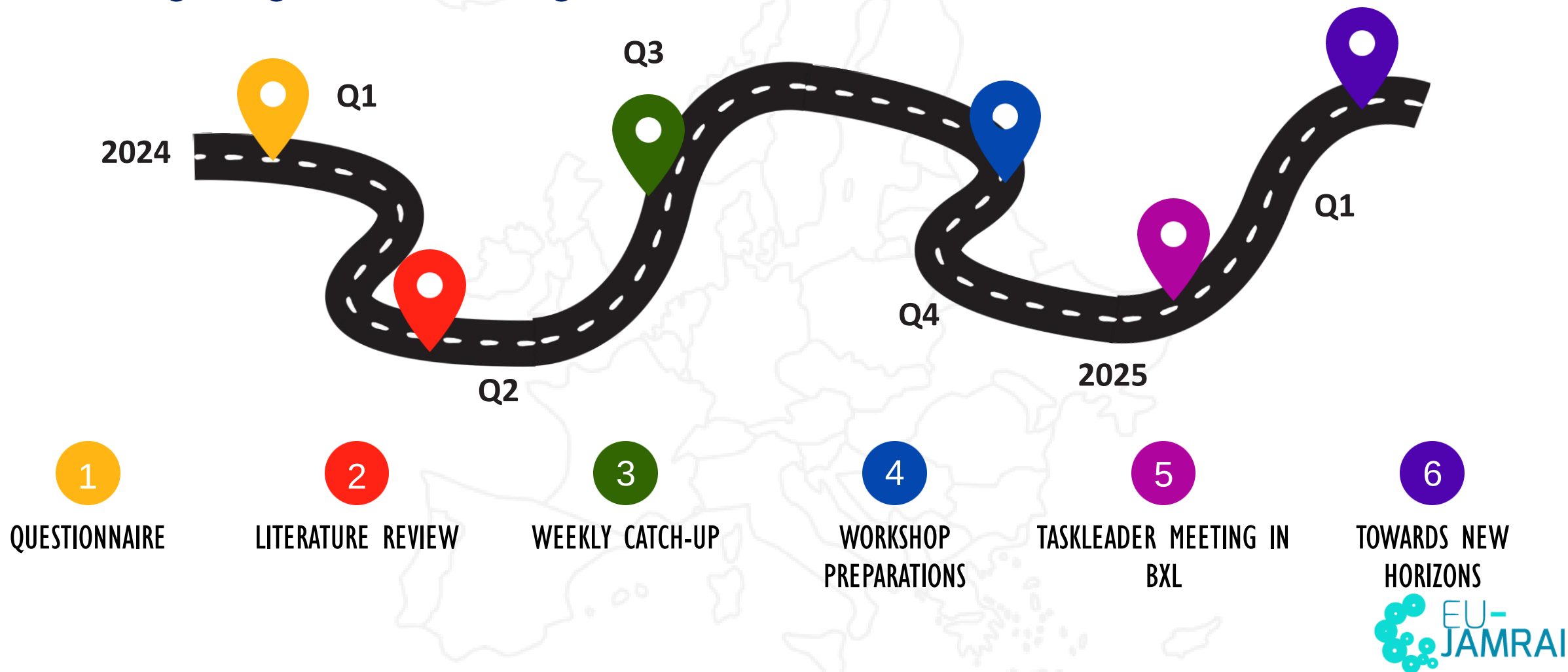
About yesterday... AMS/IPC in Animal Health Workshop





Navigating the Path Together

6.2 & 7.2 ROADMAP AMS & IPC IN ANIMAL HEALTH





Navigating the Path Together



Weekly
catch-
up



Shared
folders

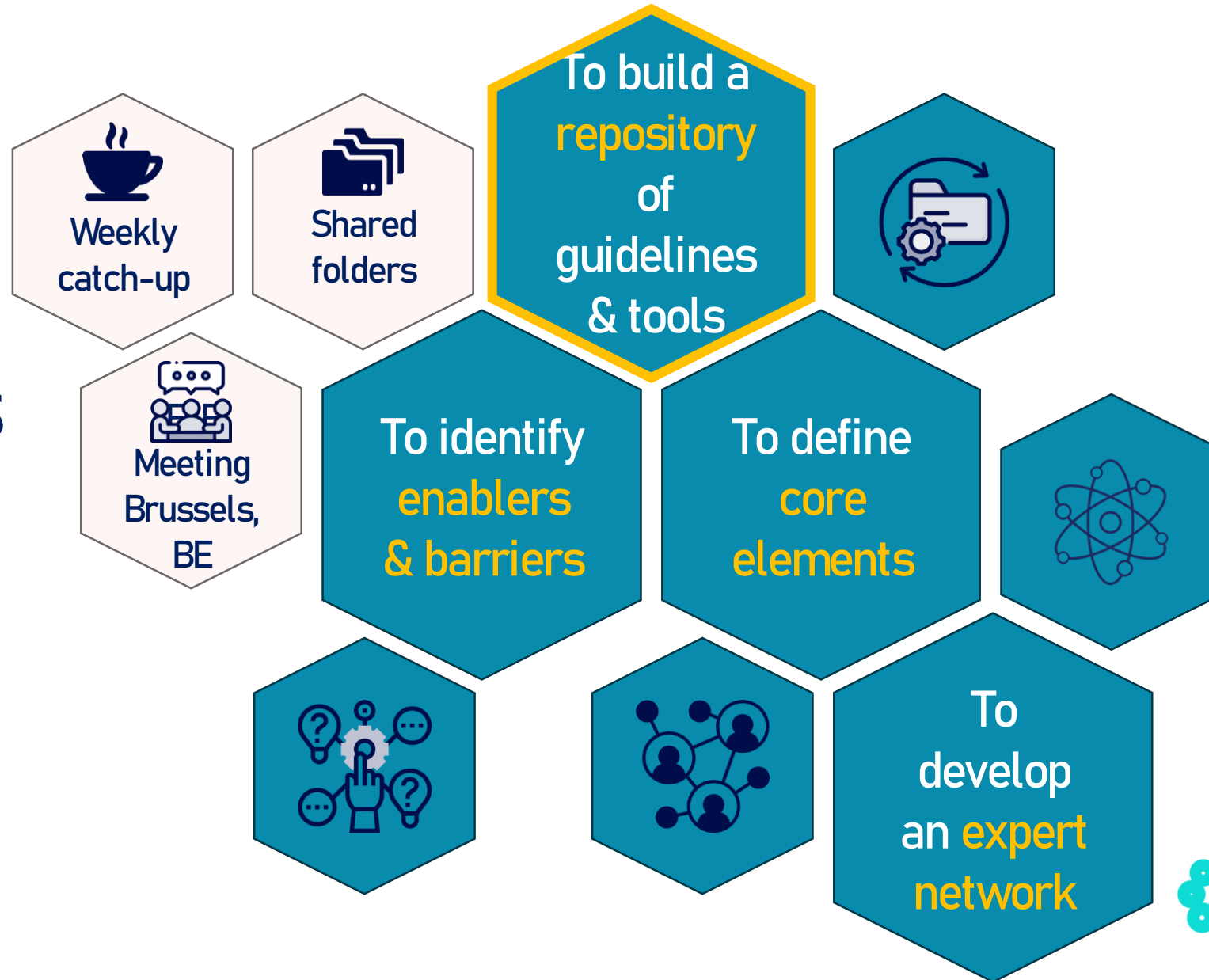


Meeting
Brussel
s, BE





Four Cornerstones of Collaboration

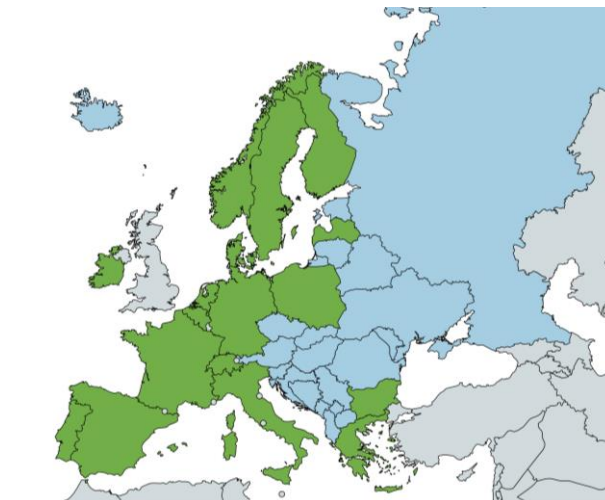




To build a **repository** with guidelines, tools and implementation methods for AMS & IPC

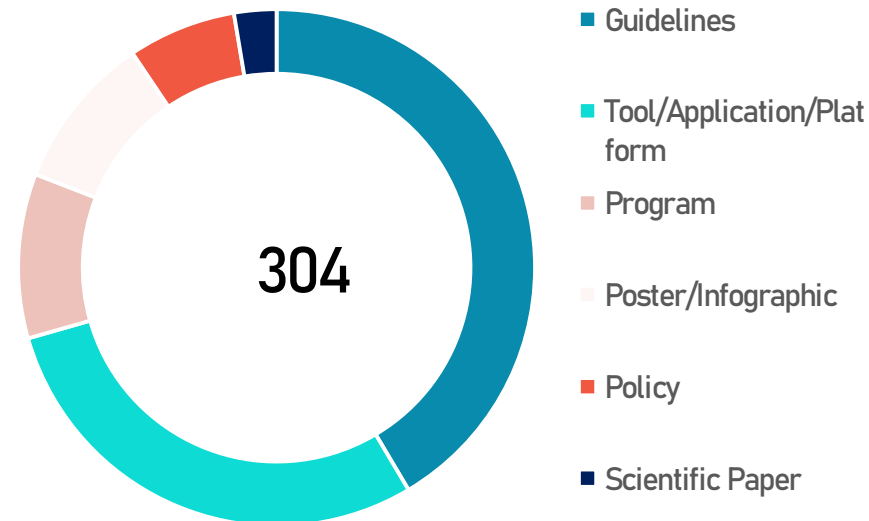


Joint Questionnaire Animal Health
Actors/stakeholders
AMS & IPC programs, guidelines & tools



*Mapping the response to Excel Q
(green= response; blue= no Excel Q sent)*

30 partners, 17 countries

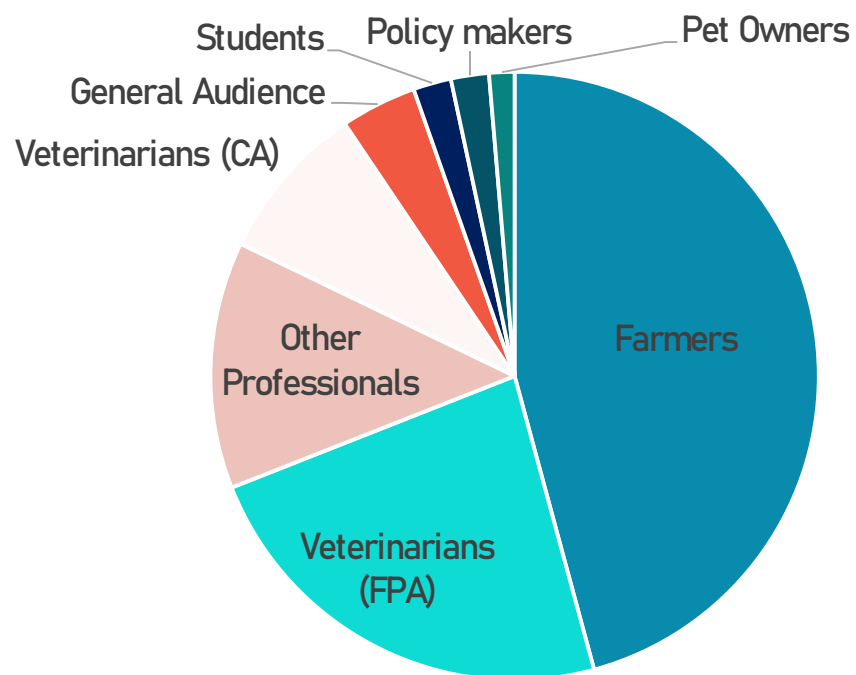


Diverse range of tools and list with 384
different actors/stakeholders for AMS and IPC
in the animal health sector

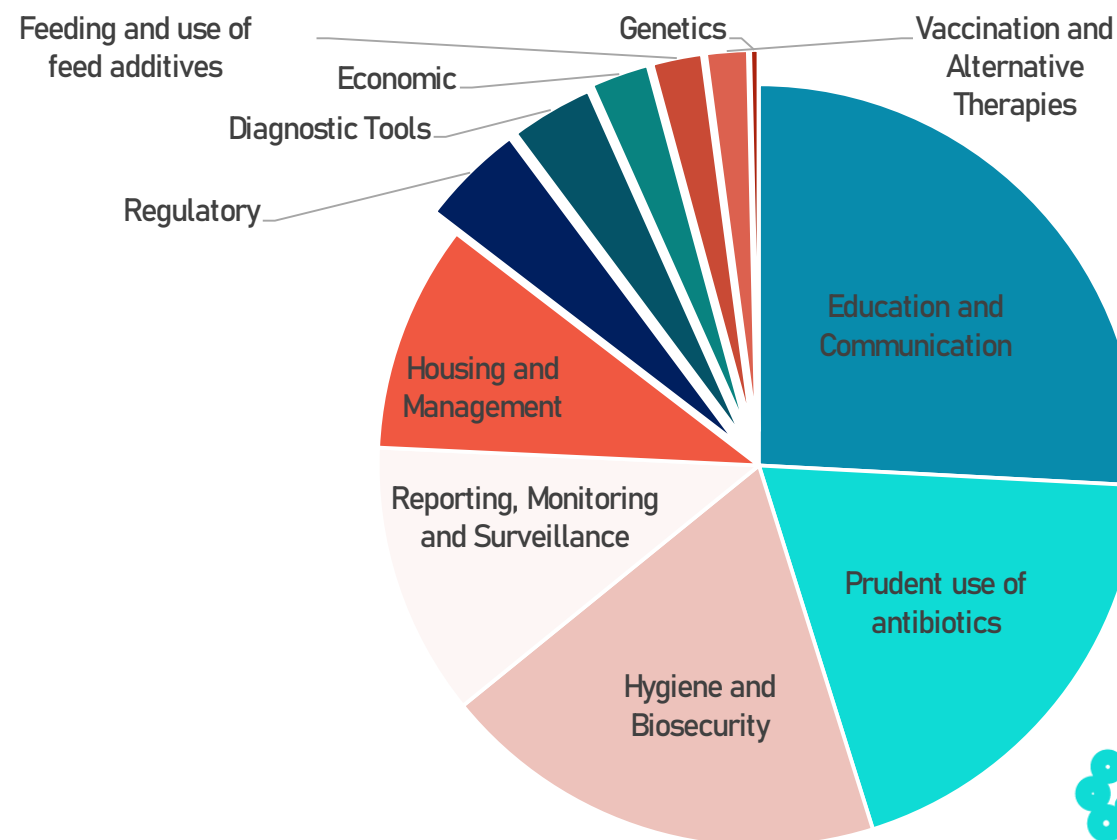


Unlocking the Needs for Progress & Driving Change

Heterogenous target audience



Wide range of topics





Unlocking the Needs for Progress & Driving Change

How can these guidelines and tools best support concrete actions for the implementation of Antimicrobial Stewardship and Infection Prevention and Control in animal health?



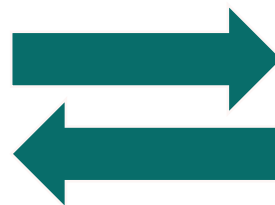
Create an EU-wide digital repository or Join existing platforms?!

- Accessibility
- Collaborative learning & knowledge sharing
- Data Dashboards & Benchmarking tools



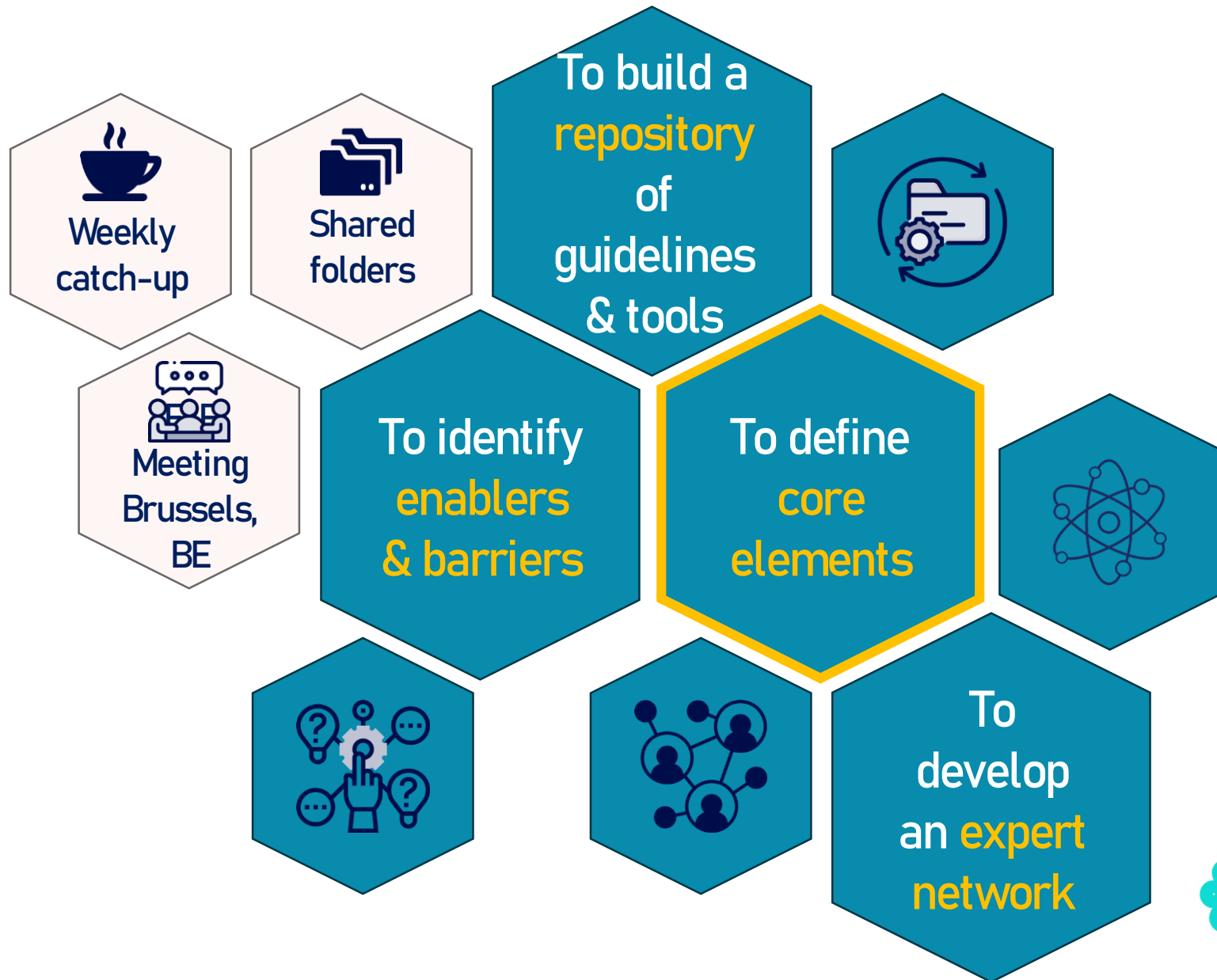
Coordinated efforts

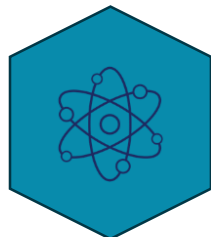
- National level
- European Partnerships
- Professional Associations
- Industry representatives





Four Cornerstones of Collaboration





To define **Core elements** at the European level for AMS & IPC programs in Animal Health



Existing core elements at national and facility (hospital) level

Infection Prevention and Control (IPC)

Human health

- The 2016 WHO guidelines¹⁰
- The 2019 WHO Minimum Requirements¹¹

Antimicrobial Stewardship (AMS)

Human health

- The 2019 WHO Antimicrobial stewardship toolkit¹²

→ Gaps to address

- Adapted to the EU?
- Develop core competencies at national and facility level for animal health?



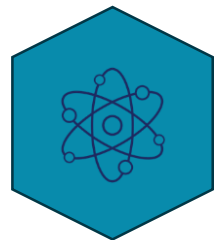
Literature Review in both Companion Animal and Food-Producing Animal Sectors

- AMS Guidelines, Programs and Practices
- IPC Guidelines, Programs and Practices



Federation
of Veterinarians
of Europe





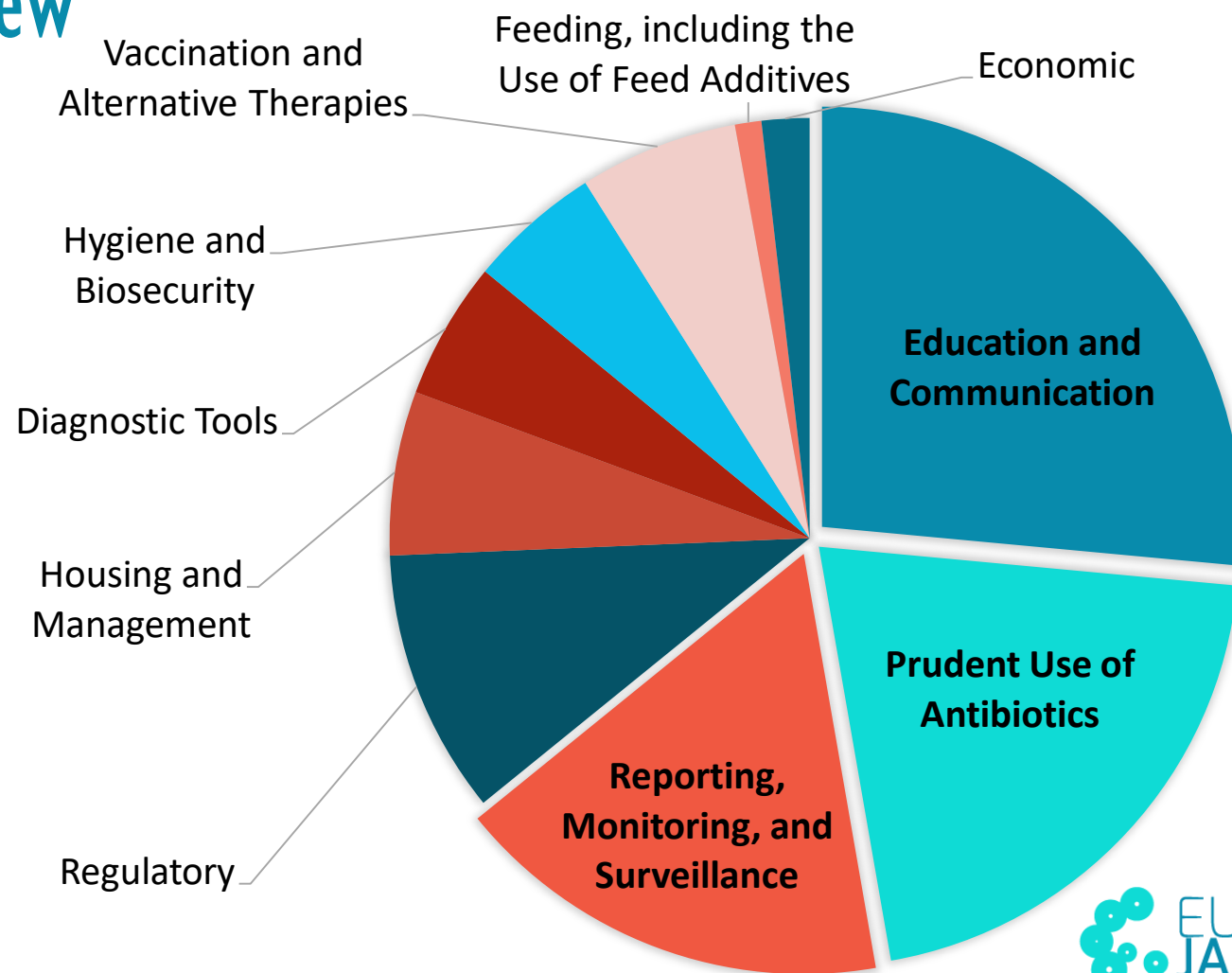
Results Literature Review

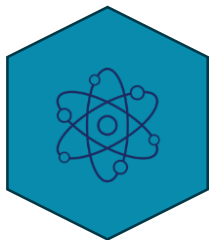
12377 publications



353 after screening

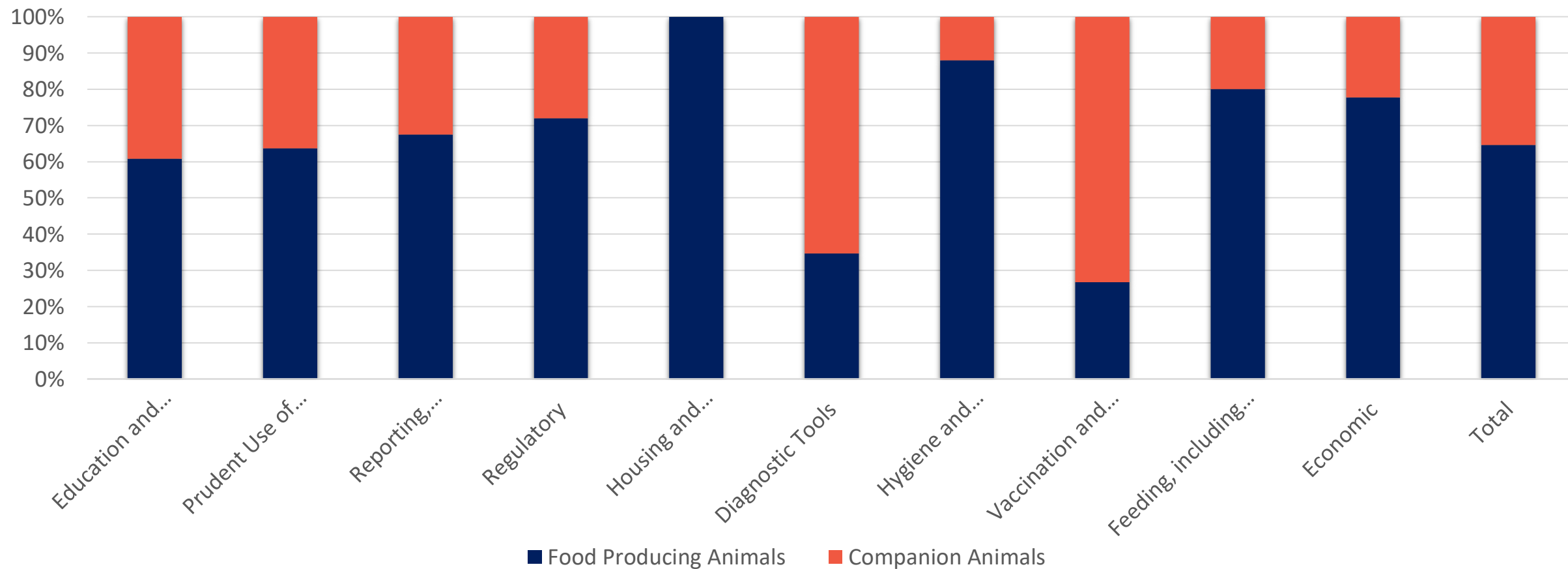
- 237 Food Producing Animals
- 116 Companion Animals





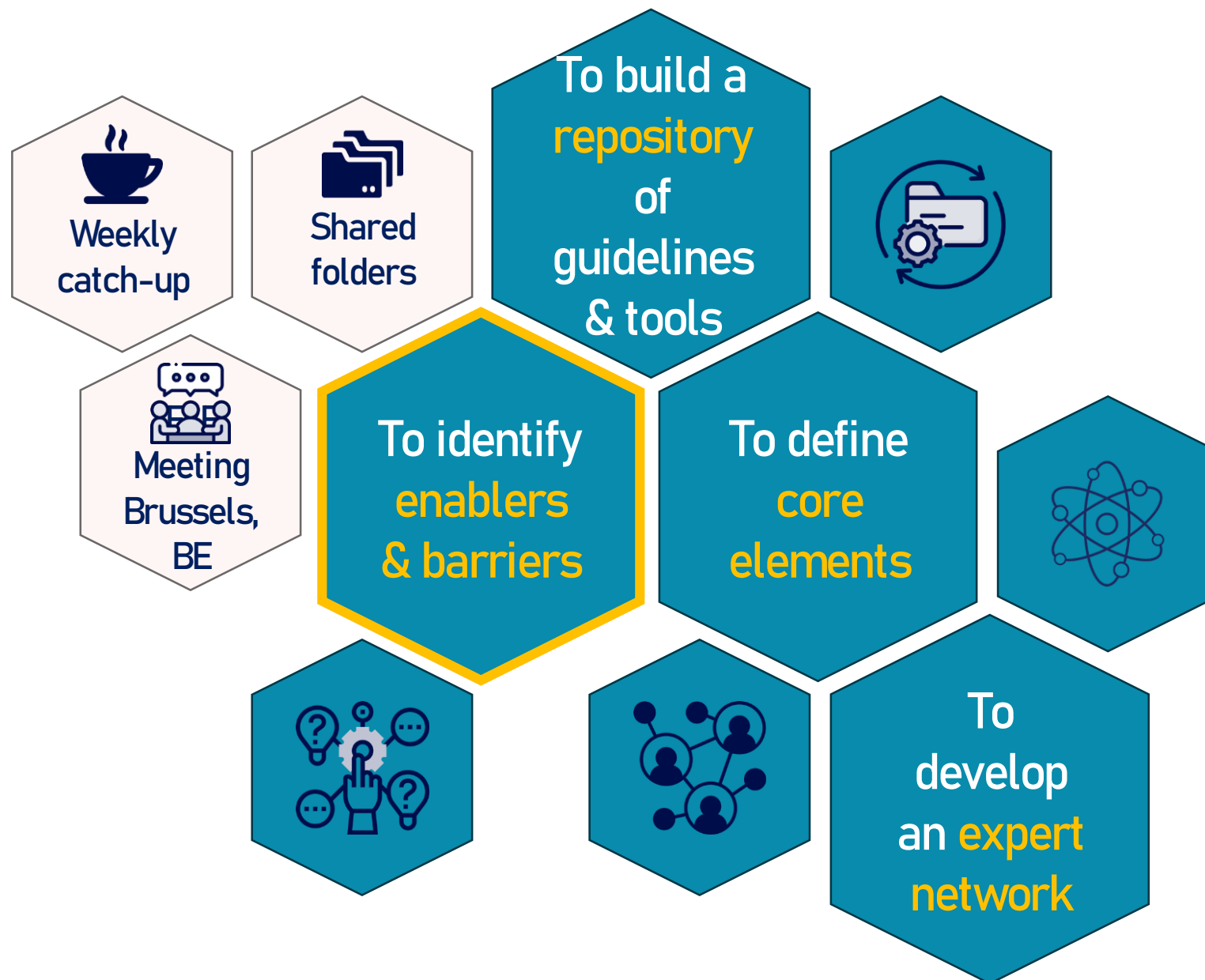
Results Literature Review

Core elements Food Producing Animals and Companion Animals AMS programs





Four Cornerstones of Collaboration





To identify significant **barriers** for successful sustainable implementation of AMS & IPC

Some perceived barriers

- Attitude of the veterinarian
- Lack of knowledge (veterinarian, animal owners, farmers, ...)
- Working in silos
- Economic constraints
- ...

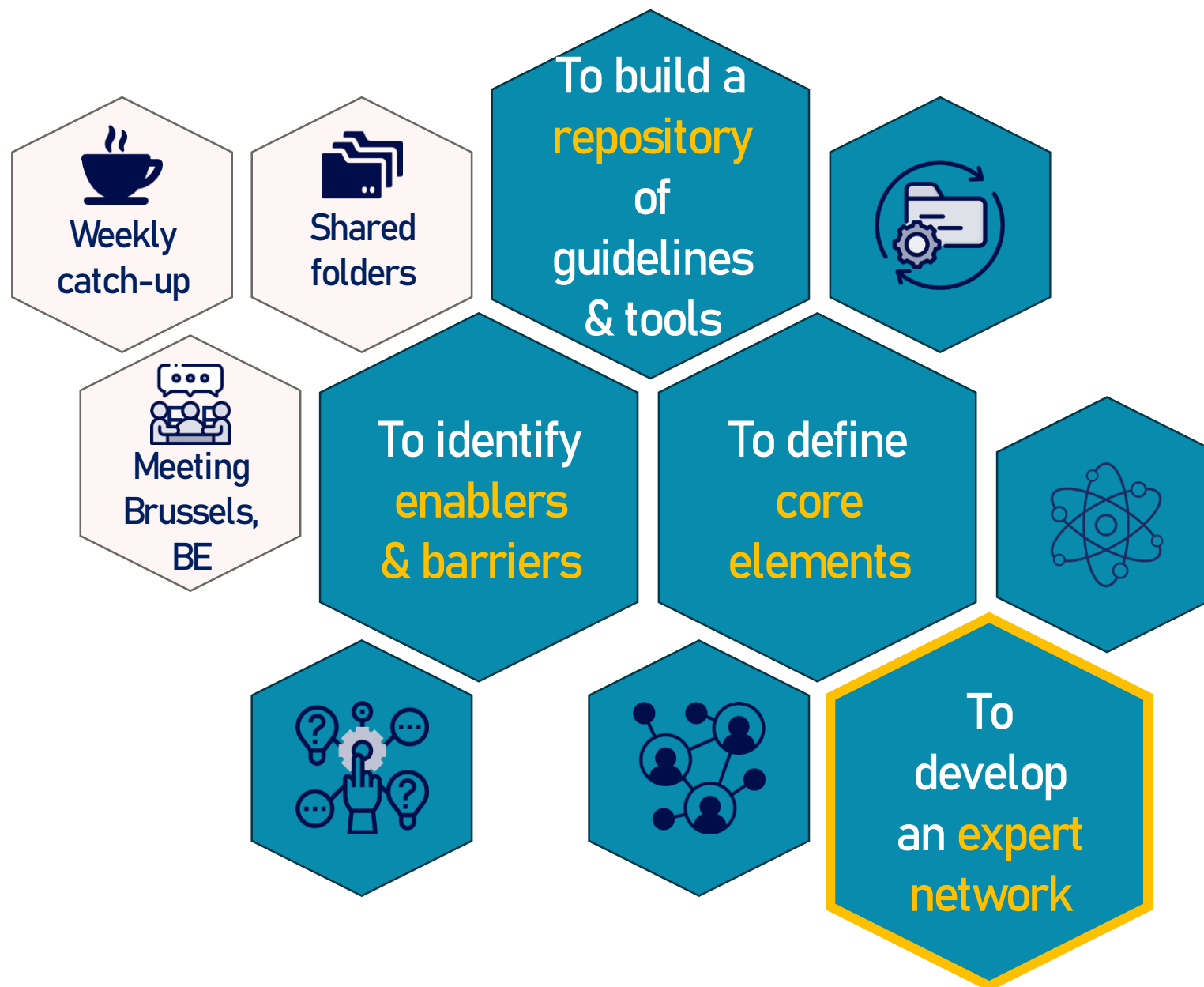


Some ideas for solutions

- Feedback — self-reflection
- Education and training
- Access to rapid diagnostic tools
- Low hanging fruit
- ...

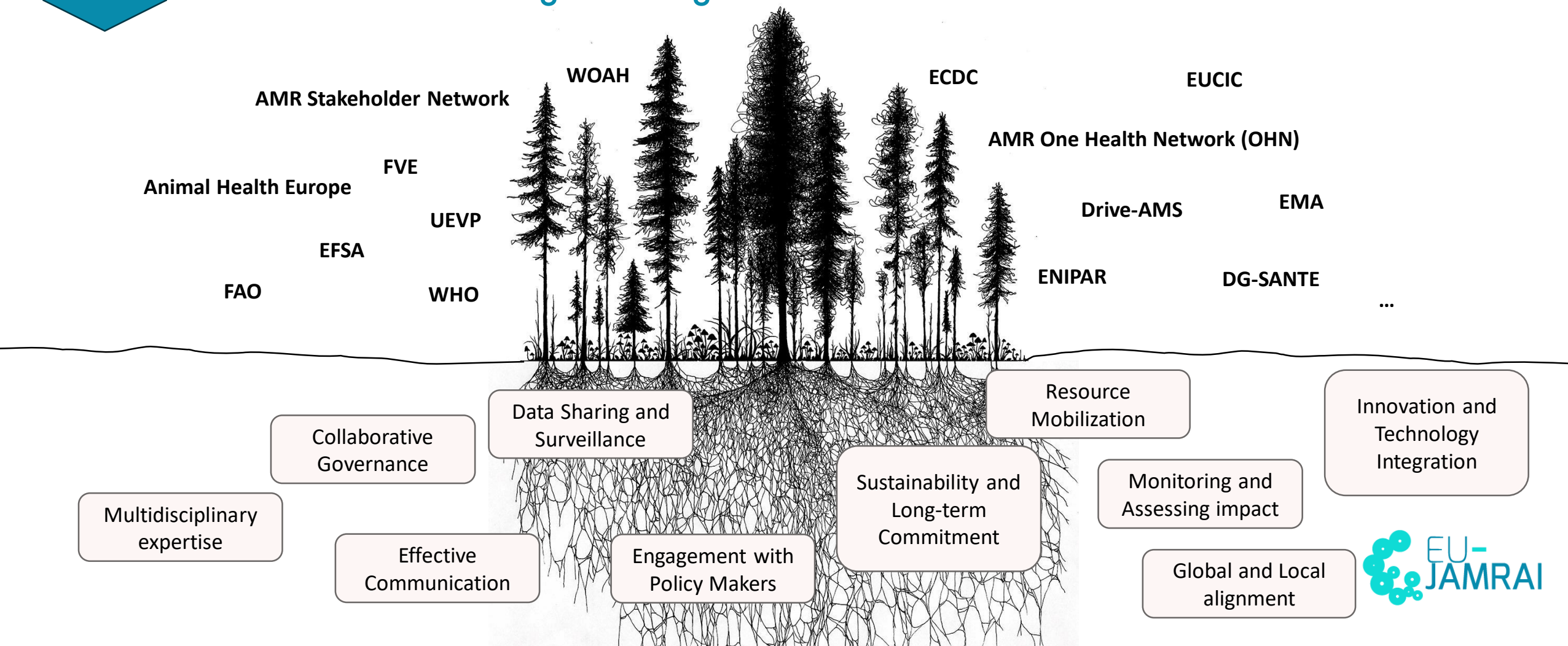


Four Cornerstones of Collaboration





To develop an **expert network** on AMS & IPC in animal health and foster interaction & knowledge exchange



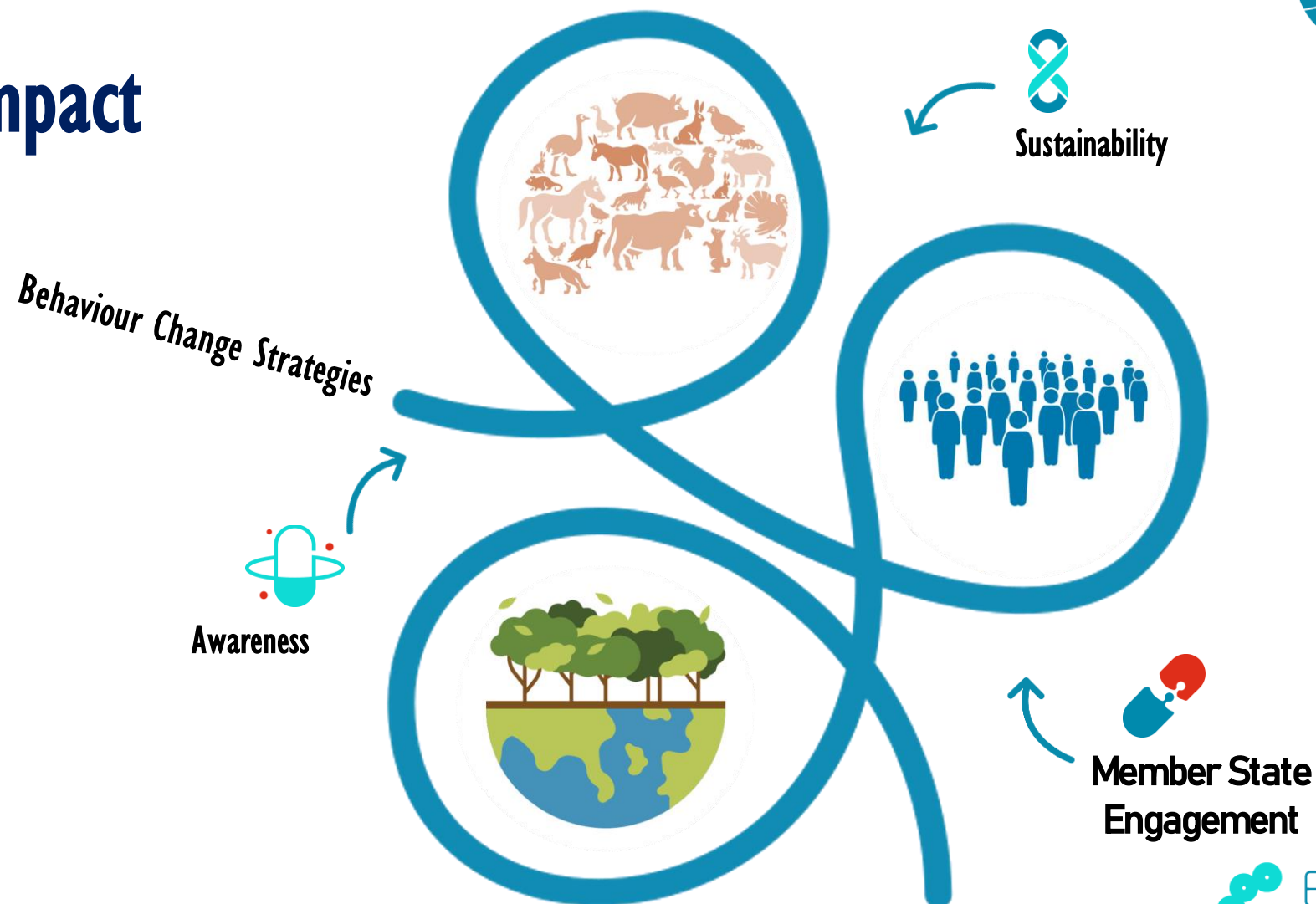


Navigating the Path Together 6.2 & 7.2 ROADMAP AMS & IPC IN ANIMAL HEALTH





From action to impact for advancing AMS & IPC



Q&A

Submit your questions by this Form.

- We will try to answer at the end of the presentation.
- If you give us the email, we will also address later unanswered questions



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the QR code**

 Mentimeter

Thank you!

i.y.a.wayop@uu.nl

mvilar_externo@aemps.es

E.M.Broens@uu.nl

cmunoz@aemps.es

anne.becker@dgz.be

julie.debouvere@dgz.be

evelyne.degraef@dgz.be

gitte.bekker@dgz.be



**Utrecht
University**



agencia española de
medicamentos y
productos sanitarios



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WORLD** 

to reduce Antimicrobial Resistance (AMR)



Efforts in environmental health

Ane Laburu (AEMPS, Spain)

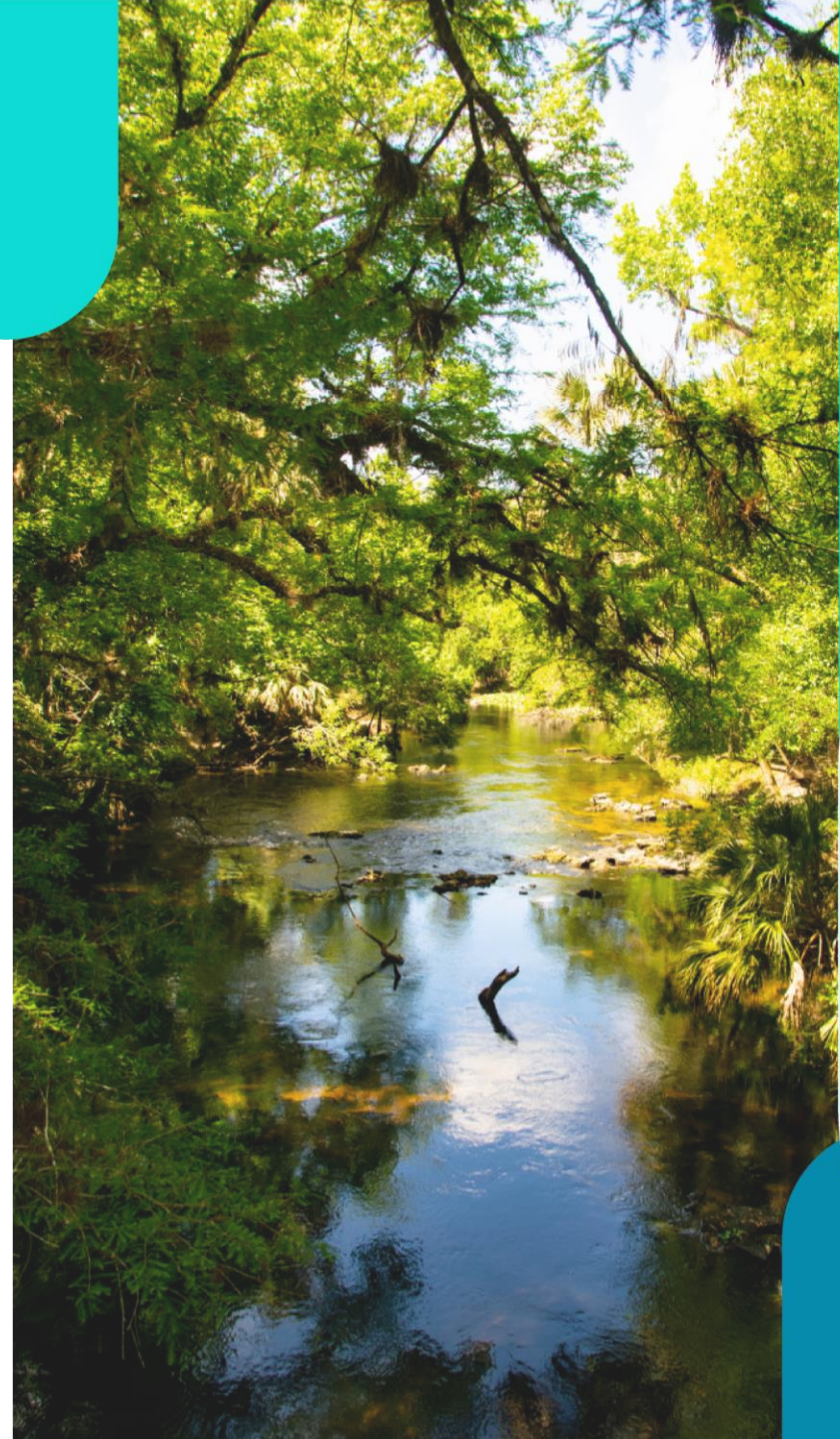
Roosmarijn Luiken (RIVM, Netherlands)

AMS and IPC: A joint approach to combatting AMR in the environment

Ane Laburu (Spanish Agency of Medicines and Medical Devices, AEMPS)

Roosmarijn Luiken (Dutch National Institute for Public Health and the Environment, RIVM, NL)

March 12th, 2025 — Bilbao, Spain



Let's have a quick round of questions!

What comes to your mind when you hear 'antimicrobial stewardship' and 'AMR Infection Prevention and Control' in the context of the environment?



Please scan the QR code to participate

 Mentimeter

Q&A

Submit your questions by this Form.

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- If you give us the email, we will also address later unanswered questions

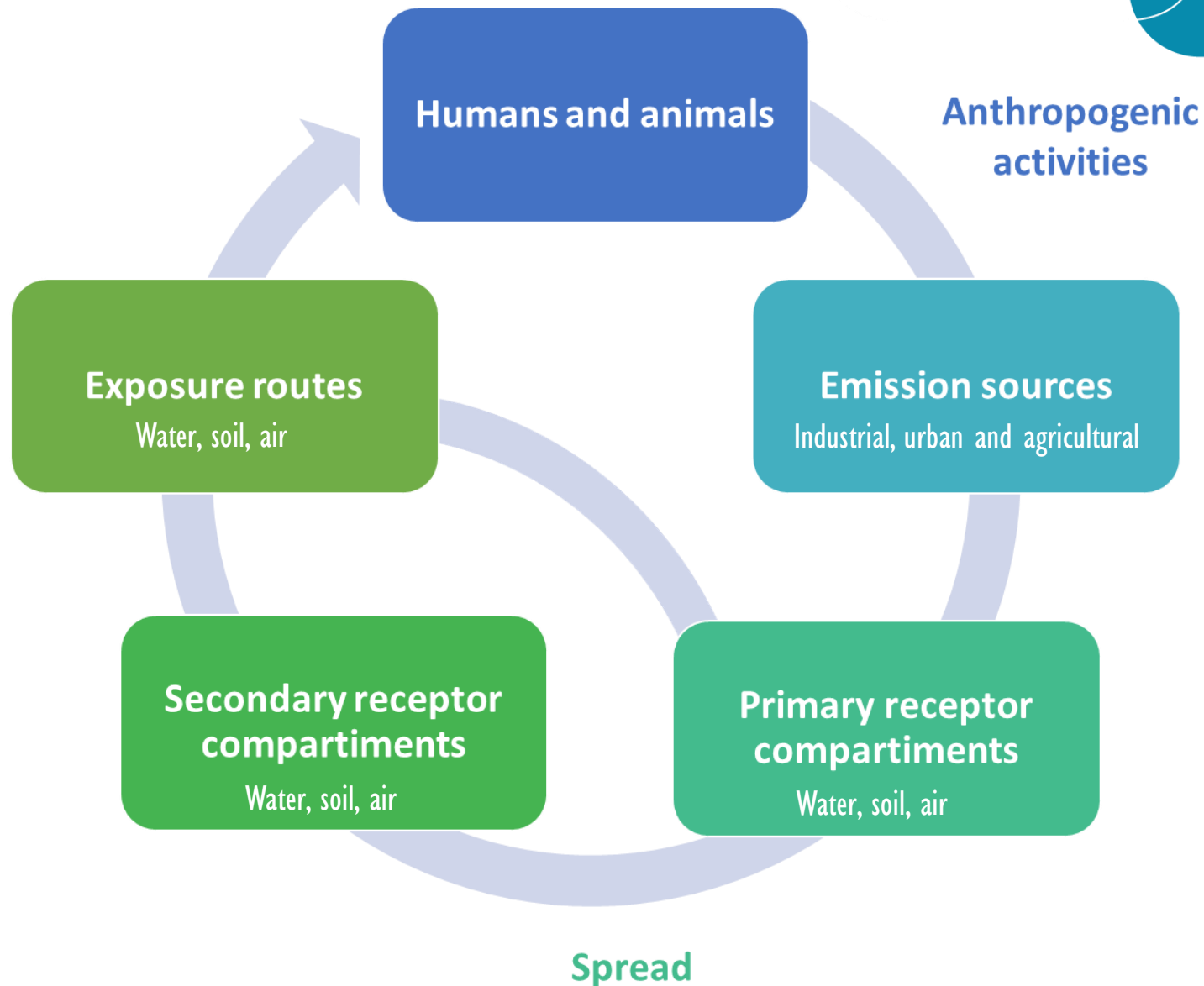


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The role of the environment in the emergence and spread of AMR determinants

- Antimicrobial-Resistant Bacteria (ARB)
- Antimicrobial Resistance Genes (ARG)
- Antimicrobial Residues (AR)



How do we define environmental infection prevention and control?

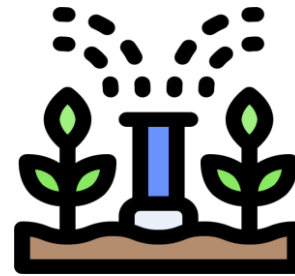
"Activities that reduce the emission of AMR determinants resulting from human and animal practices to the environment"



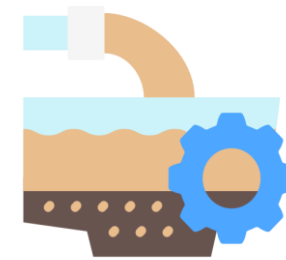
Advanced wastewater treatment



Manure treatment

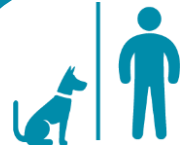


Water reuse management



Sludge management

How do we understand AMS in EU-JAMRAI 2?



Human and animal health

Rational Use (specific)

Clinical approach

Prescribers (i.e. doctors and veterinarians) and pharmacists



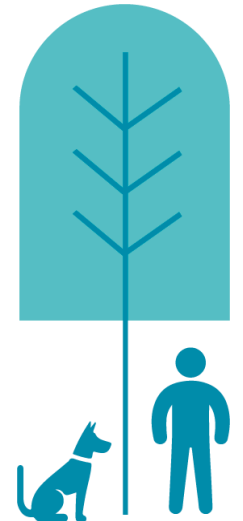
Environmental health

Responsible management (broad)

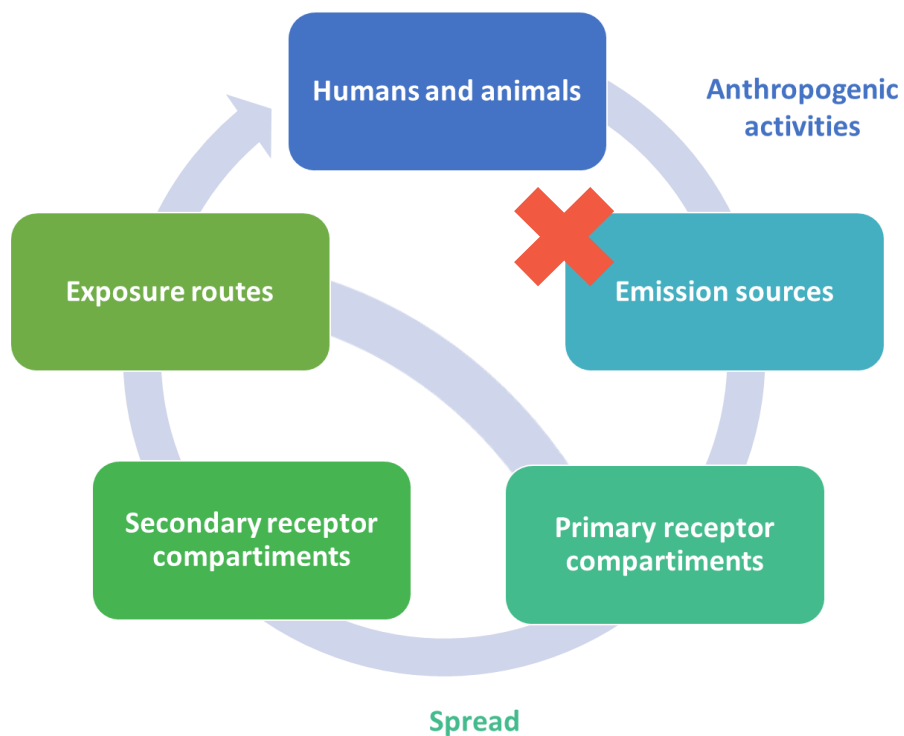
Cross-sectoral approach

+ Non-prescribers (i.e. farmers, wastewater managers, etc.)

Added value!



Common goal of environmental AMS and IPC



Reduce emissions of AMR
determinants into the environment



Why?

1) To reduce exposure to AMR via the environment.
o Through e.g. bathing waters, manured and irrigated soils, etc.



2) To reduce selective pressure of antimicrobial residues in the environment.



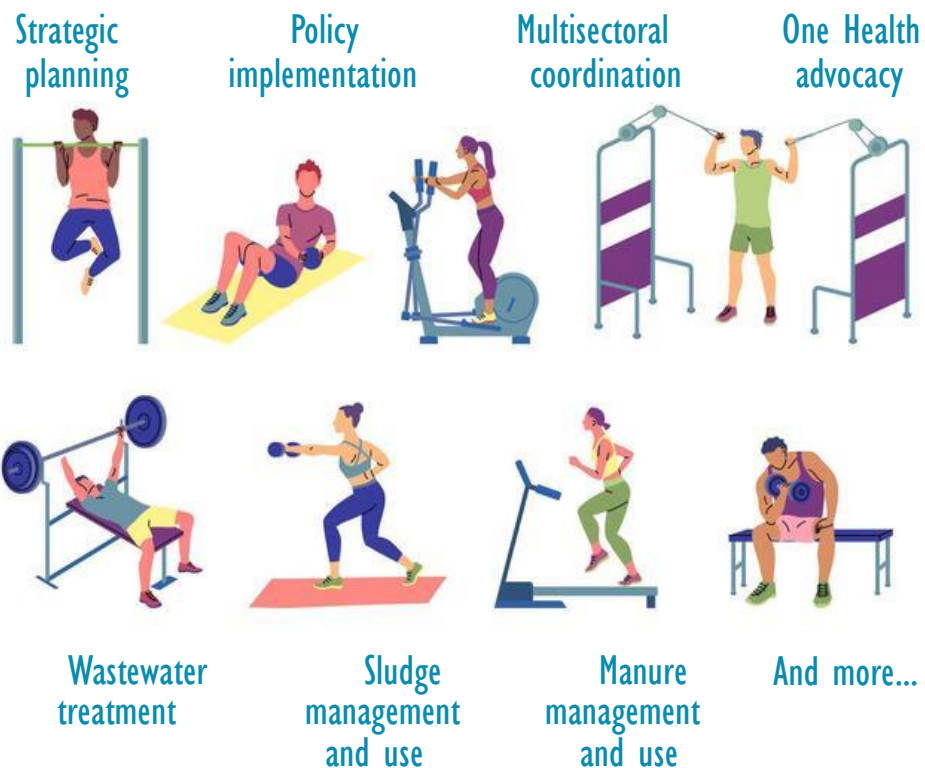
= to protect public and animal health

How are we tackling this goal in EU-JAMRAI 2?

- 1) By determining best practices for environmental IPC interventions that reduce emissions of AMR to the environment.



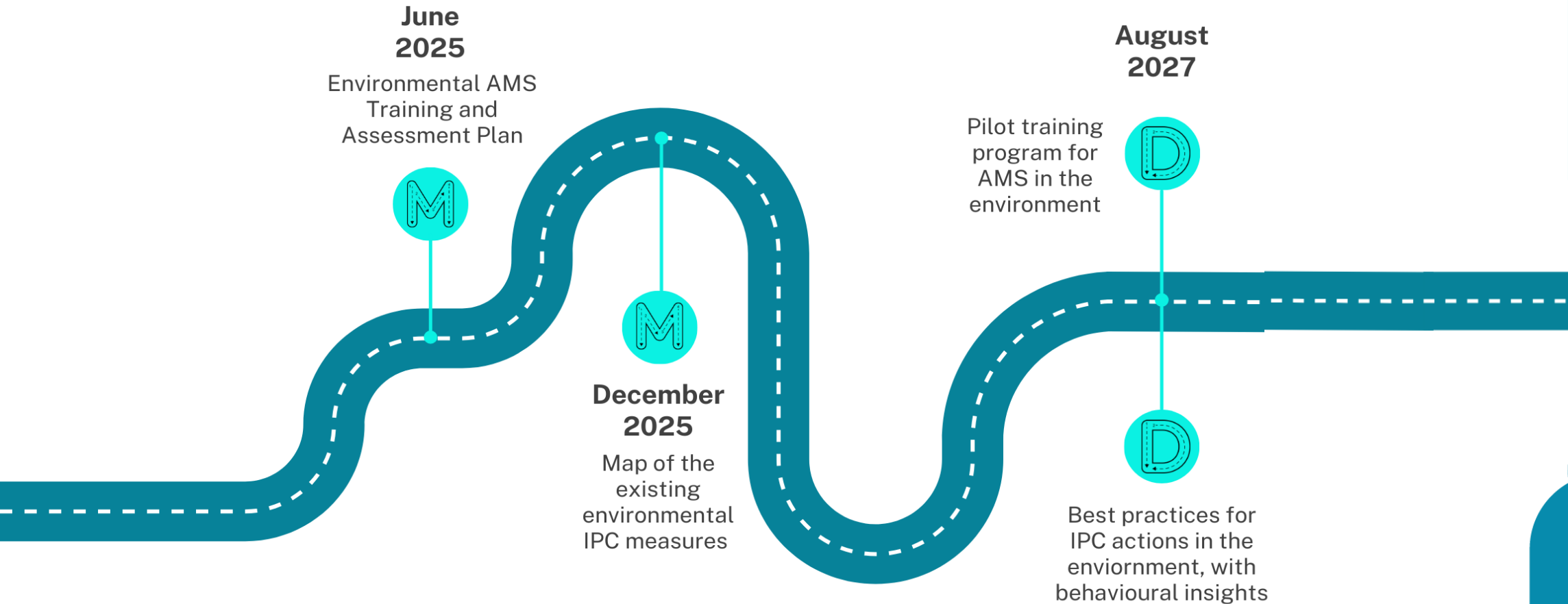
How are we tackling this goal in EU-JAMRAI 2?



2) By training key professionals in environmental AMS and the identified best practices.

"Strengthen AMS core competencies and best practices"

Strategic plan of AMS/IPC activities in EU-JAMRAI 2



"We have defined relevant stakeholders and target audiences"

Top concerns



- Integration of the **environmental approach** in **AMR NAPs**.



- Limitation of antimicrobial residues' **emissions from the pharmaceutical industry**.



- Optimization of **healthcare waste management** and **wastewater treatment** in **clinical settings**.



- Implementation of **sustainable waste management practices** in **agri-food systems**.



- **Treatment of AMR drivers in wastewaters** at wastewater treatment plants (**WWTPs**).



High - priority:

Policy makers
Antimicrobial manufacturers
Healthcare managers
Food producers
Wastewater managers

Low - priority:

Prescribers (physicians and veterinarians)
Dispensers (pharmacists)
Researchers and students
General public

More than 80 multisectoral representatives identified and registered as collaborators so far

"We are developing a survey to collect information on IPC interventions already existing in the member countries"



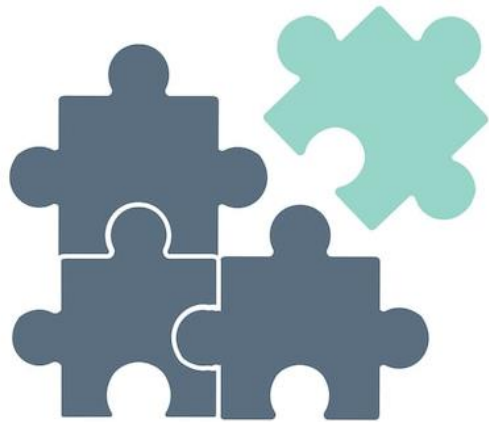
These IPC interventions in the environment are diverse and rarely primarily aimed at AMR emission reduction, so we must target different stakeholders to fill in our survey.

We collect info from pilots, research and full-scale national projects.

“We reviewed existing training materials and discovered that current opportunities to learn about AMS from an environmental approach are critically limited”

- Current AMS frameworks primarily focus on prescribing good practices, but lack comprehensive guidance on implementing AMS in environmental contexts.
- AMS in the environmental framework relies on basic awareness, lacking legislation and in-depth methodological resources with technical details on best practices.
- Key stakeholders beyond prescribers receive minimal attention.
- Face-to-face training opportunities are scarce, limiting practical knowledge transfer.

"We will implement innovative learning methodologies to effectively train key professionals in environmental AMS best practices"



Educational toolkit,
featuring a **step-by-step guide to implement innovative methods**
(e.g. MOOCs, Gamified learning platforms, LMS-based learning, VR-based simulations, etc.)

* The **method selection** will be based on the **recommendation of the most optimal approach for each target audience**, determined using a matrix developed by **education experts** and validated through a **focus group** with representatives from the target audiences.

Now to the practice...

example project about responsible management of antimicrobials and environmental infection prevention and control

What: project with a chain approach to reduce residues of pharmaceuticals and micropollutants in treated wastewater

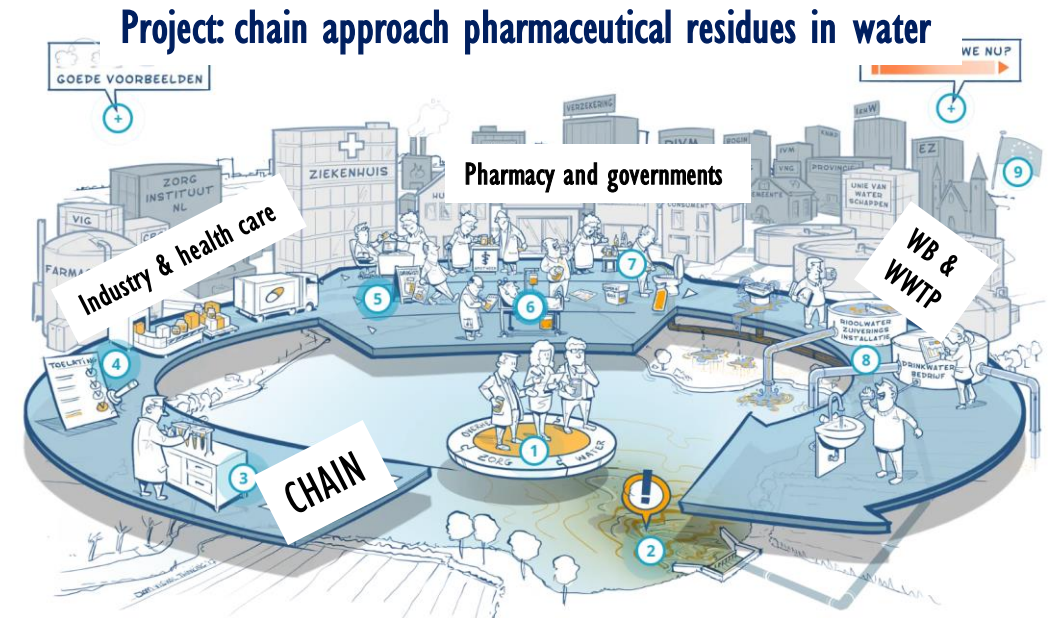
Why: Too high concentrations of pharmaceutical residues in surface water in NL.

IPC intervention: advanced wastewater treatment

Scale: research pilots and demo WWTP locations

Monitoring of intervention: removal efficiency of pre-selected indicator substances (incl AM's)

Side project: monitoring of ARG's



Source: 'Ketenaanpak Medicijnresten uit Water - medicijnresten.org

Motto of project: **learning while doing**

Upcoming environmental AMS/IPC activities in 2025:

Save the Dates!



**Focus group to
validate the matrix
of innovative
training
methodologies**
(March 17, 2025,
Granada, Spain)

**Second
workshop on
environmental
AMS**
(September,
Athens, Greece)

**Delivery of survey
for mapping
environmental IPC
interventions**
(April/May, 2025,
EU Survey)

alaburu_externo@aemps.es
roosmarijn.luiken@rivm.nl

What do YOU think?

Let's go to Mentimeter again and hear from you!

- Do you see any connections between our work in AMS and IPC in the environment and yours?
- If so, could you specify which connections/synergies between our work and yours you consider most relevant?



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Q&A

Submit your questions by this Form.

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Thank you!

- Ricardo Carapeto, Ane Laburu (AEMPS, ES)
- Heike Schmitt, Roosmarijn Luiken (RIVM, NL)
- Lida Politi, Leonidas Georgalis (NPHO, GR)
- Christophe Dagot, Luis Lucena, Thibault Stalder (UniLim, FR)



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4- Second panel discussion :

The interlinked impact of our One Health (AMS and IPC) activities – a joint perspective



Scan and submit your question to the panellists

Panel discussion: The interlinked impact of our One Health activities

Ana Paula Coutinho,
WHO



Caroline Whalley,
EEA



Ana Mateus,
WOAH



Francesca Latronico,
FAO



Bilbao Annual Meeting March 12th and 13th 2025

Session 2:

Improving implementation of IPC and AMS
in a One Health perspective

Wrapping up

Brian Kristensen (SSI, DK)

Maria Vilar (AEMPS, Spain)

Ane Laburu Dañobeitia (AEMPS, Spain)

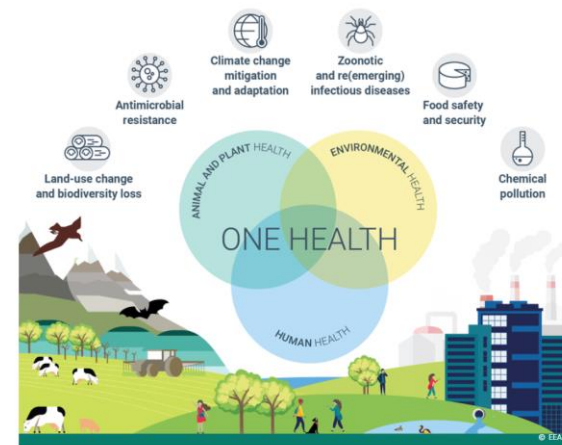
On behalf of WPL6 and 7



Highlights from the joint AMS and IPC presentation

The work on AMS and IPC is meeting the **EU Council recommendations on AMR** by

- Updating /creating the relevant frameworks
- Creating access to a repositories of guidelines and tools (toolbox)
- Increase sharing of knowledge
- Enforcing implementation by e.g. supporting pilots
- Applying behavioural science with focus on enablers and barriers for implementation



Important issues regarding the One Health impact

- A huge number of stakeholders
- Ongoing needs for communication to and between key professionals
- Making the needed networks to live and to be able to perform



6- Closing remarks

Thank you!



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