

# 2022: The Year of One Health in Spain and Europe?

Health and Environment

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[This document forms part of a series of discussion notes addressing fundamental questions about global health. Its purpose is to transfer scientific knowledge into the public conversation and the decision-making process. These documents are based on the best information available and may be updated as new information comes to light.]

17 March 2022

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Spain approved its Strategic Plan for Health and Environment in late 2021. For the first time ever, this plan incorporates a One Health approach—i.e. it considers the **intersection between the environment and human and animal health**. In the coming months, we may see this integrative health perspective being consolidated in both Spain and the European Union (EU).

The [EU4Health](#)<sup>1</sup> Work Programme, approved earlier this year, contains significant financial contributions to the implementation of actions related to One Health in the EU. This European programme comes in the wake of other initiatives aimed at **promoting the One Health approach in health policies**, thanks to efforts on the part of the French Presidency of the Council of the European Union.

This integrative perspective can be very useful for analysing and preventing phenomena such as pandemics and antimicrobial resistance—a growing threat to the health of the population that cannot be addressed without taking animal health and the environment into account. Implementing this approach requires a **broad vision of health** that incorporates multiple areas of knowledge and relies on public awareness and collaboration ●

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<sup>1</sup> European Health and Digital Executive Agency (HaDEA). European Union.

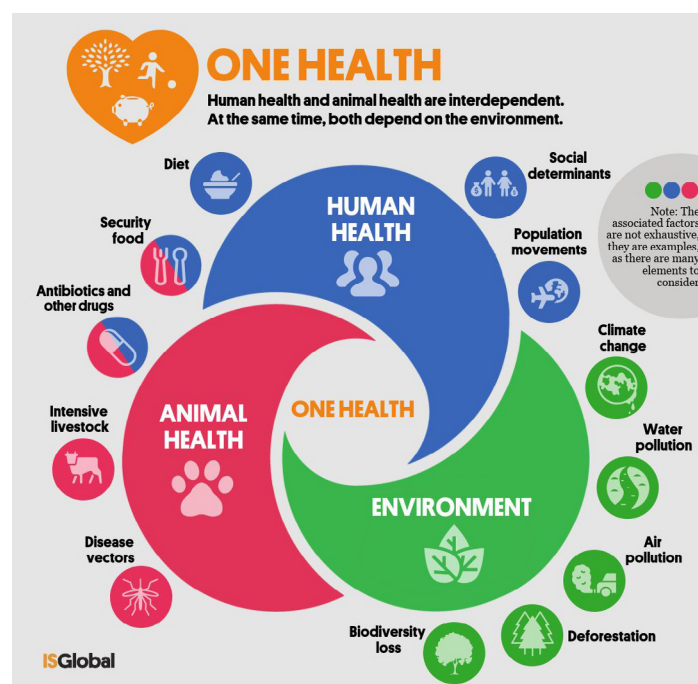
# 1. What Is One Health and How Does It Differ From Other Terms, Such as Planetary Health?

“The One Health approach proposes an interdisciplinary and holistic view of health that takes into account the links between human and animal physiology and pathology and considers how they relate to the environment. This framework is useful for studying diseases that can be transmitted between humans and animals.”

The **One Health** approach proposes an interdisciplinary and holistic view of health that takes into account the links between human and animal physiology and pathology and considers how they relate to the environment. This framework is useful for studying **diseases that can be transmitted between humans and animals**. The One Health approach also considers the **transmission of emerging contaminants**—both chemical and biological—and their effects on human and animal health, as well as on environmental microbiota, in addition to addressing **antimicrobial resistance**. The European Union and the United Nations have made extensive use of this perspective.<sup>2</sup> The COVID-19 pandemic has increased interest in One Health, given the possible animal origin of SARS-CoV-2.

The concept of **planetary health**, in contrast, focuses on the **interdependence between human activity and natural systems** such as water, air, land and biodiversity, while also analysing their impact on people’s well-being.<sup>3</sup> This approach considers that human health can only exist within the limits imposed by the planet. To strike a balance between these two perspectives, we must adopt an integrated and multidisciplinary approach by creating networks and coalitions encompassing all affected sectors—health and natural science professionals, economists and social scientists—with the aim of advancing the study of risks and proposing solutions and regulations. A defining characteristic of this viewpoint is that it proposes a central role for the concept of **equity**.

**Figure 1. The One Health approach, or how to achieve optimal health for people, animals and our planet at the same time.**



Source: ISGlobal.

<sup>2</sup> A European One Health Action Plan against Antimicrobial Resistance (AMR).

<sup>3</sup> Lerner H, Berg C. A Comparison of Three Holistic Approaches to Health: One Health, EcoHealth, and Planetary Health. *Front Vet Sci.* 2017;4:163. Published 2017 Sep 29. doi:10.3389/fvets.2017.00163.

# 2. How Has the European Union Incorporated the One Health Approach?

“Although interest in integrative approaches—and One Health in particular—has grown in the wake of COVID-19, the EU had already been considering this perspective before the pandemic.”

Although interest in these integrative approaches—and One Health in particular—has grown in the wake of COVID-19, the EU had already been considering this perspective before the pandemic. In 2017, the European Commission published the European One Health Action Plan against Antimicrobial Resistance.<sup>4</sup> This document acknowledges the presence and spread of antibiotic-resistant microorganisms in humans, animals, food and the environment, which give rise to an interconnected vicious cycle spanning these various niches. This is something that must be considered in an integrated approach guided by the One Health principle.

The project was recently complemented by another One Health-based European initiative that envisages the creation of a **cross-border pathogen surveillance system**. This initiative, which forms part of the crisis preparedness area of the 2022 EU4Health Work Programme, has been assigned a budget of €20 million. It also includes a monitoring and evaluation framework to strengthen the European One Health Action Plan against Antimicrobial Resistance.

Through Horizon 2020, the European Commission also funds the One Health European Joint Programme<sup>5</sup> a partnership of 44 food, veterinary and medical laboratories and institutes across 22 EU member states. This programme is based on the premise that “an interdisciplinary, integrative and international approach to One Health is essential to address the existing and emerging threats of zoonotic disease and antimicrobial resistance”. Through Joint Research Projects (JRPs) and Joint Integrative Projects (JIPs),<sup>6</sup> this initiative seeks to harmonise approaches, methodologies, databases and procedures for the assessment and management of food-borne hazards, emerging infectious threats and antimicrobial resistance.

Also this year, the **Scientific Committee on Health, Environmental and Emerging Risks (SCHEER)** noted that the rise of COVID-19 has precipitated wider recognition of the relationship between human health and the health of natural systems. According to this committee, growing environmental degradation, pollution, climate change and biodiversity loss are likely to eventually have an impact on human health, although the relationships between these factors are not well understood.<sup>7</sup>

The current **French Presidency of the Council of the European Union** has supported the One Health approach in regional policy. The issue was addressed at an informal meeting of Council health ministers (EPSCO), where the Presidency proposed discussing the future of EU public health around three priorities:

- Identifying areas of health for which action on a European scale would provide added value and which would require increased regional governance.
- Discussing ways to achieve the One Health approach in EU policy. The Presidency aims to consider, for the benefit of citizens, the connections that must be maintained between policies and legislation in various sectors: health, environment, agri-food, socio-economic, industrial and digital.
- Outlining a Public Health Union by considering how best to harness the full potential of the available European tools—i.e. by drawing on models for cooperation in other fields, such as the European Pillar of Social Rights and the European Green Deal ●

<sup>4</sup> A European One Health Action Plan against Antimicrobial Resistance (AMR). European Commission.

<sup>5</sup> The One Health European Joint Programme (OHEJP). European Union.

<sup>6</sup> Joint Research Projects (JRPs) and Joint Integrative Projects (JIPs). European Union.

<sup>7</sup> Statement II on emerging health and environmental issues (2022). European Commission.

# 3. How Has Spain Incorporated the One Health Approach?

“Along the same lines as the European Commission’s efforts, Spain’s Strategic Plan for Health and Environment aims to strengthen human, animal and environmental epidemiological surveillance, particularly in high-risk areas, and to establish special vector-surveillance zones to prevent outbreaks.”

Late last year, Spain published its Strategic Plan for Health and Environment.<sup>8</sup> for the period 2022-2026. The overall objective of this plan is to prevent health risks arising from environmental factors and determinants, thereby reducing the burden of disease they cause, and to identify new threats and facilitate the development of environmental health policies.

The plan is clearly inspired by the One Health approach. It was **conceived in an integrative manner**, through an analysis of the possible effects of climate change and biodiversity loss on the distribution of vectors with the highest transmissibility. Along the same lines as the European Commission’s efforts, the plan aims to strengthen human, animal and environmental epidemiological surveillance, particularly in high-risk areas, and to establish special vector-surveillance zones to prevent outbreaks.

The plan establishes a series of **measures to control zoonotic diseases and antimicrobial resistance**:

1. Implement effective systems for the **prevention and early control of outbreaks** of vector-borne diseases.
2. Improve **coordination** among the various government bodies involved.

3. Improve the **training** of professionals and raise awareness among the public, by means of academic agreements.

4. Improve knowledge regarding **risk management** of vector-borne diseases.

5. Assess the **health impact of comprehensive, multi-sectoral action plans** involving public and private institutions that play a role in vector-borne disease preparedness and response (National Vector-Borne Disease Preparedness and Response Plan). In addition to diseases transmitted by *Aedes* mosquitoes, these plans should cover diseases transmitted by all other major vectors and account for the effectiveness of vector- and outbreak-management measures ●

<sup>8</sup> Plan Estratégico de Salud y Medio Ambiente para el período 2022-2026. Ministry of Health (Government of Spain).

### **Box 1. How can we prevent 25,000 people from dying in Europe each year from multidrug-resistant bacteria?**

Antimicrobial resistance is one of the areas where the need for an integrated approach is most evident. A recent study published in *The Lancet*<sup>9</sup> found that infections caused by antibiotic-resistant bacteria killed more than 1.2 million people in 2019—more than the number of deaths caused by HIV and malaria.<sup>10</sup> At the EU level, the European Centre for Disease Prevention and Control (ECDC) has estimated that **25,000 people die** each year as a result of infections caused by multidrug-resistant bacteria, and that the cost associated with said infections in Europe is 1.5 billion.

The European Commission has invested more than €1.3 billion in antimicrobial resistance research since 1999, making Europe a leader in this field. **Initiatives undertaken include**, for example, the **New Drugs for Bad Bugs (ND4BB)**<sup>11</sup> programme, the world's largest public-private antimicrobial resistance research partnership, and **Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections**,<sup>12</sup> which aims to coordinate and align global research efforts in this field. The European Commission recently launched a **public consultation**<sup>13</sup> to collect evidence for further action in this area. This will lead to an initiative later this year, probably in the form of recommendations.

**ISGlobal's Antimicrobial Resistance Initiative** contributes to the fight against antimicrobial resistance through a mixed approach that includes:

#### **1. Research:**

- a.** Searching for new molecules with antibacterial activity to fight infections for which no effective treatments exist.
- b.** Developing new rapid diagnostic tools to detect and identify the causative agent of infection, with the aim of reducing the time between diagnosis and appropriate treatment.
- c.** Strengthening epidemiological data on the prevalence of antimicrobial resistance in the clinical sector.
- d.** Prevalence studies of drug-resistant bacteria in urban animals.

#### **2. Education:**

- a.** Helping to raise public awareness of antimicrobial resistance issues by designing communication and outreach activities and programmes.
- b.** Developing educational tools and innovative methods on prevention and antibiotic treatment targeting the population at large and students in particular.

#### **3. Policy:**

Promoting debate on antimicrobial resistance in the context of local and regional policies.

<sup>9</sup> Antimicrobial Resistance Collaborators. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. *Lancet*. 2022 Feb 12;399(10325):629-655. doi: 10.1016/S0140-6736(21)02724-0. Epub 2022 Jan 19. PMID: 35065702; PMCID: PMC8841637.

<sup>10</sup> "Pandemia silenciosa": las infecciones por bacterias resistentes a antibióticos matan más personas que la malaria y el sida. BBC News Mundo. 20 January 2022.

<sup>11</sup> New Drugs for Bad Bugs (ND4BB) Programme. European Union.

<sup>12</sup> Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections.

<sup>13</sup> Antimicrobial resistance – recommendation for greater action.

# 4. Conclusions and Recommendations

**“The One Health approach aims to create policies with a holistic view of health, taking animal health and the environment into account when addressing the complexity of phenomena such as pandemics and antimicrobial resistance.”**

The One Health approach aims to create **policies with a holistic view of health**, taking animal health and the environment into account when addressing the complexity of phenomena such as pandemics and antimicrobial resistance. This approach has multiple applications and proven benefits.

Interesting advances in this sphere have recently been made in both Spain and the European Union. We must **continue along this path** in order to achieve a broad vision of health that will help us face current and future challenges.

## **How can we advance towards these integrative approaches in global health?**

- By fostering **transdisciplinarity** in all professional areas of global health, from research staff to professionals involved in the natural and social sciences, medicine and veterinary medicine, among other fields.
- By focusing on disease **prevention**, including analysis of environmental, social and economic factors.
- By raising public and political **awareness** of the impact of environmental and biodiversity protection, climate action and animal welfare on human health, including the interrelationship with antimicrobial resistance.

- By supporting **European and international policy initiatives** in areas where there is added value in applying integrative approaches at a supranational scale.

- By applying **inclusive approaches to preparedness for future health emergencies**, particularly in the operations of the European Health Emergency Preparedness and Response Authority (**HERA**),<sup>14</sup> which should include professionals from all relevant sectors—including academics from various disciplines—in the decision-making process.

- By transferring research results from the One Health field to relevant agencies, including policymakers in Spain and other European countries ●

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<sup>14</sup> Health Emergency Preparedness and Response (HERA). European Commission

## TO LEARN MORE

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## How to cite this document:

Alberto Rocamora, Clara Marín, Clara Ballesté, Sara M. Soto and Cristina O’Callaghan. **2022: The Year of One Health in Spain and Europe?** Barcelona Institute for Global Health (ISGlobal). Policy Brief Series, no. 42. March 2022.

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