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Opinion

The First Global Forum of WHO Collaborating Centres and the One Health Summit, a landmark event redefining the future of global health science, with a reviewed history and update of the One Health concept

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1. Introduction

A recent definition of One Health was established by the One Health High Level Expert Panel (OHHLEP) following a consensus reached in its role as an advisory body to the Quadripartite of the World Health Organization (WHO), the Food and Agriculture Organization of United Nations (FAO), the World Organization for Animal Health (WOAH, formerly known as Organisation Internationale des Epizooties - OIE), and the United Nations Environment Programme (UNEP). This effort responded to the proliferation of existing definitions, which varied slightly according to differing scopes and objectives, including aspects such as, for instance, access to nutritious food, climate action, and contributions to sustainable development. Ultimately, meaningful transformation to improve health outcomes can only be achieved through sustained collaboration, cooperation, and diplomacy [1].

OHHLEP defined One Health as "an integrated, unifying approach that aims to sustainably balance and optimize the health of humans, animals, plants and ecosystems. It recognizes that the health of humans, domestic and wild animals, plants and the wider environment (including ecosystems) are closely linked and interdependent. The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development" [2].

The idea of interconnection and interdependency has been shaped over the centuries and has gained momentum and traction as many disciplines have substantiated earlier theories [3]. This concept has been extensively examined from its origins through to its future implications. The One Health approach adopts a broader, integrated, and unifying framework aimed at sustainably balancing and optimizing the health of humans, animals, and ecosystems [4].

The approach mobilizes multiple sectors, disciplines and communities at varying levels of the society [5]. Contemporary One Health concepts represent a reconceptualization of health management, developed in response to the exponentially accelerating environmental changes of recent times, which have occurred in parallel with the exponential growth of the global human population [6].

This article has been conceived after the holding of the First Global Forum of WHO Collaborating Centres (CCs) and the parallel One Health

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Summit in the city of Lyon, France, an historical event to mark a milestone in science for health and global health in general. This Forum constitues a landmak in the history of One Health in its worldwide implementation strategy and, therefore, a complete timeline enumeration of key events having marked the evolution of this concept is provided here. The largest network of the WHO CCs is analyzed before the cross-disciplinary complexity of One Health and a new chart flow is contributed to summarize the growing number of sectors and disciplines involved in this concept. Finally, the capacity of the WHO CCs network for the baseline implementation of the global, regional, national and local agendas of One Health is highlighted.

2. Landmarks in the history of One Health

The early discovery of infectious agents in human history laid the foundation for what would later be conceptualized as One Health [7]. It is evident that the principles and practices underlying the One Health approach have been in place for centuries, well before the term itself was proposed, as indigenous populations and other often underrecognized groups have long applied core values and resources grounded in systems thinking and an ecosystem-based approach to health [1].

One Health is a concept which took advantage of paradigm shifts leading to the development of scientific concepts and launching public movements. Modern One Health has evolved through a two-stage process. The first stage emerged within research and academic domains, where the concept was initially introduced and developed. The second stage involves its adoption as a global movement, extending beyond a purely scientific construct and becoming increasingly embedded in broader societal and cultural contexts [1].

To evaluate the significance of a new landmark in the history of One Health, it is necessary to outline the chronological evolution of its key milestones and the progressive expansion of its scope through the integration of diverse sectors and disciplines. Accordingly, we have drawn upon information compiled in several reviews addressing this historical development (Table 1) [1,3–6,8–11], and have further updated it by incorporating additional milestones that we have had the opportunity to witness firsthand.

3. The cross-disciplinary complexity of One Health

One Health is an integrated and unifying approach that recognizes the close interconnection and interdependence between the health of humans, domestic and wild animals, plants, and the broader environment, including ecosystems [12].

A common misconception is that One Health is limited to the area where humans, animals, plants, and the environment intersect, often illustrated by overlapping circles in standard graphical representations. However, this interpretation is misleading. One Health does not focus solely on this narrow zone of overlap; rather, it is grounded in the premise that humans, animals, plants, and the environment constitute a single, interconnected system in which each component requires equal attention to achieve optimal health outcomes for all [4].

An alternative visual representation is the so-called One Health Umbrella, which conveys an overarching framework encompassing multiple disciplines [8]. This model originated from the collaborative efforts of the Swedish One Health initiative [13]. Within this perspective, current emphasis is placed on a transdisciplinary and collaborative approach to complex health challenges, including both infectious and non-communicable diseases, with the aim of identifying sustainable and resilient solutions that are equitable, just, and respectful of environmental limits [10].

By linking humans, animals, and the environment, the One Health approach facilitates the comprehensive management of diseases across the entire continuum, from prevention and detection to preparedness, response, and long-term control, thereby contributing to global health security. Over time, this approach has increased in complexity, coming

Table 1
Chronology, people and events significantly contributing to the history and evolution of One Health, from the antiquity to nowadays. Abbreviations (in order of appearance): CDC = Centers for Disease Control and Prevention, USA; DHS = U.S. Department of Homeland Security; WCS = Wildlife Conservation Society; EMOP = European Multicolloquium of Parasitology; WHO = World Health Organization; WHO CCs = Collaborating Centres of the World Health Organization; FAO = Food and Agriculture Organization of United Nations; WOAH = World Organization for Animal Health (formerly known as OIE = Organisation Internationale des Epizooties); UNICEF = United Nations Children's Fund; UNSIC = United Nations System Influenza Coordination; IAEA = International Atomic Energy Agency; IFTM = International Federation for Tropical Medicine; UNEP = the United Nations Environment Programme; IUCN = International Union for the Conservation of Nature; OHCU = U.S. One Health Coordination Unit; DOI = U.S. Department of the Interior; USDA = U.S. Department of Agriculture; ECTMIH = European Congress on Tropical Medicine and International Health.

Timeline	Landmarks	Key issues
460–370 BCE	The Greek physician Hippocrates is considered the "Father of Medicine" and ancient founder of the modern One Health interconnected approach concept, when emphasizing that human health is inextricably linked to the environment and surroundings in his treatise "On Airs, Waters and Places", hence urging physicians to examine environmental factors to understand population health	Classical foundation
384–322 BCE	The Greek philosopher Aristoteles introduced the concept of comparative medicine through his study of common characteristics among different species, including people and other mammals	Introduced the concept of comparative medicine
1654–1720	The Italian physician Giovanni Maria Lancisi wrote of the important role the environment plays in the spread of diseases to humans and animals	Highlighted the role of the environment
1712–1779	The French Claude Bourgelat founded the first veterinary faculty in Lyon, France, and established formal education in animal health and in its interactions with human health in Europe	Importance of education on human-animal health interactions
1796	*The British physician Edward Jenner* developed the first vaccine, when recognizing cross-species immunity, by observing that dairy farmers and milkmaids who contracted cowpox (an animal disease) were immune to smallpox (a human disease)	Enlightenment of the One Health approach
1821–1902	The German pathologist Rudolph Virchow recognized the link between human and animal health, when noting that "between animal and human medicine there is no dividing line"	Scientific foundation
1849–1919	The Canadian physician William Osler, father of Veterinary Pathology, established the linkages between human and veterinary medicine	Linked human and veterinary medicine
1947	The American James Steele established the Veterinary Public Health Division which later became the CDC in the USA	Established the base for the CDC

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Table 1 (*continued*)

Timeline	Landmarks	Key issues
1964	The North American Calvin Schwabe coined the term "One Medicine" and called for a unified approach against zoonoses by using both Human and Veterinary Medicine, framing human, animal, and environmental health as one integrated system	Formal Concept of One Health when coining the term "One Medicine"
2002	While the **Homeland Security Act of 2002** established the DHS and emphasized agricultural security, bioterrorism, and zoonotic diseases, the specific term "One Health" emerged in its founding documents around 2003–2004	The "One Health" term appeared in the founding 2003–2004 documents
2004	WCS organized a symposium which set twelve priorities to combat health threats to human and animal health, later known as the 12 Manhattan Principles which formed the basis of the One Health-One World concept, and together with the WHO's One Health Conference allowed for the crystalization of the term "One Health"	Modern concept and official governmental and Intergovernmental adoption of the term
	The International Symposium on Bioterrorism, Major Epidemic Threats and Biosecurity, organized by Aileen M. Marty, USA, and Santiago Mas-Coma, Spain, within EMOP IX, in Valencia, Spain, highlighted One Health challenges caused by infectious diseases due to the use of biological pathogens as weapons or bioterrorism agents and their potential difusion through the environment underlying emerging endemic threats.	Focused on bioterrorism agents, including zoonotic agents, and their potential difusion through the environment
2007	The One Health approach was recommended for pandemic preparedness in the large meeting for the International Ministerial Conference on Avian and Pandemic Influenza in New Delhi	One Health approach recommended for pandemic preparedness
2008	WHO, FAO, and WOAH, together with UNICEF, UNSIC, and the World Bank, developed a Joint Strategic Framework in response to the evolving risk of emerging and re-emerging Infectious diseases, stated in their together document entitled "Contributing to One World, One Health™"	Developed a strategic framework for reducing risks of infectious diseases at the human-animal–ecosystems interface
2009	The Joint FAO/IAEA Programme on Nuclear Techniques in Food and Agriculture organized the International Symposium on Sustainable Improvement of Animal Production and Health at IAEA, Vienna, Austria, including an off-scheduled plenary session chaired by Santiago Mas-Coma to analyze the needed quick reaction and coordination between international organizations and	Included specific sessions on "Transboundary, Emerging and Zoonotic Diseases" and"One Health", highlighting the importance of emerging and re-emerging zoonotic diseases, their recognition, monitoring and control

Table 1 (*continued*)

Timeline	Landmarks	Key issues
	agencies to face emerging infectious outbreak threats	
	In a meeting hosted by the Public Health Agency of Canada, recommendations for actions that countries could take to advance the concepts of One Health were proposed	Recommended key One Health actions to be undertaken by countries
	A One Health office was established at the CDC	Recognition of the importance of the One Health approach at CDC
2010	The European Union reaffirmed its commitment to operate under a One Health umbrela; the United Nations and the World Bank recommended adoption of One Health approaches; the CDC, in collaboration with WHO, FAO and WOAH, hosted a meeting in which experts identified concrete actions to move the concept of One Health forward	Identified concrete actions to move the concept of One Health from vision to implementation
	The 2010 International Ministerial Conference on Avian and Pandemic Influenza in Hanoi, Vietnam, while analyzing the H1N1 pandemic and highly pathogenic H5N1 avian influenza, highlighted the need to focus on the links between human and animal health	Adopted the so-called Hanoi declaration to address threats at the humans-animals-ecosystems interface
	WHO, FAO and WOAH joined together to publish the "Tripartite Concept Note" which proposes a long-term strategic direction for international collaboration aimed at sharing responsibilities and coordinating global activities to address health risks that arise when humans, animals, and the ecosystem interface	Recognized that managing and responding to emerging infectious diseases is complex and requires multisectoral cooperation
2011	The WHO, FAO and WOAH Tripartite organized a high level technical meeting to address health risks at the human-animal-ecosystem interface	Builded political will for the One Health movement
	The First International One Health Congress held in Melbourne, Australia, highlighted the need to include other disciplines within the One Health approach.	Included economics, social behavior, and food security and safety
2012	The first One Health Summit held in Davos, Switzerland, approved the "Davos One Health Action Plan"	Pinpointed ways to improve public health through multi-sectoral and multi-stakeholder cooperation
2019	The open-access scientific journal "One Health" published by Elsevier became the oficial diffusion organ of IFTM in the IFTM Board and Elsevier meeting under the IFTM President Santiago Mas-Coma, Spain, and with the IFTM Vice-President Malcolm K. Jones, Australia, to undertake the role of Editor-in-Chief and the IFTM Board member Aileen M. Marty, USA, as Co-Editor, at the occasion of ECTMIH XI in Liverpool, UK	The journal "One Health" became the oficial diffusion organ of IFTM
2022	The Tripartite Alliance (WHO, FAO, WOAH) officially expanded to a Quadripartite	Recognized the critical role of environmental factors in the emergence and spread of diseases

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Table 1 (*continued*)

Timeline	Landmarks	Key issues
	Alliance with the inclusion of UNEP, by signing of a Memorandum of Understanding (MoU) to strengthen One Health collaboration, launching the One Health Joint Plan of Action (2022–2026) to guide global and national actions, tackling complex health challenges using an integrated, comprehensive approach, and fostering sustainable development	
2023	The Conference with WCS and IUCN in Durban, South Africa, recognized the need to move towards a One Health perspective for the well-being of people, livestock, wildlife and the environment under the One Health Umbrella	Emphasized the importance of wildlife by launching an initiative called AHEAD - Animal Health for the Environment and Development
	The World Health Summit held in Berlin, Germany, brought together Quadripartite leaders and emphasized the environmental pillar towards action, creating important collaborative decisions for the future of One Health, bridging as an integrated health to fortify sustainable actions through on-going scientific, economic, social, cultural and political One Health analyses	Put together the tems Planetary Health, One Health, Ecohealth, Climate Change, Population Health, Global Health, and all other "Health's"
2024	The OHCU was launched to unite 27 agencies across CDC, DOI, and USDA leading the implementation of One Health initiatives	One Health initiatives implemented in U.S.
2025	The U.S. National One Health Framework provided a roadmap for federal agencies covering the 2005–2009 period, by strengthening surveillance systems, improving laboratory biosafety, and addressing antimicrobial resistance	Provided a roadmap to prevent, detect, and respond to zoonotic diseases
2026	WHO, during the Director-General mandate of Tedros A. Ghebreyesus, to unite the worldwide network of its 800+ CCs in the First Global Forum of WHO CCs and parallely-running One Health Summit held in Lyon, France, with the purpose to encourage, push forward, coordinate scientific collaborations and cross-discipline networking, prioritize science actions according to global, regional and national needs, urgencies and emergencies, and translate results and conclusions to decision makers	Largest network of scientific centres of excellence of cross-sectorial and multidisciplinar capacity to become the implementation arm to face One Health challenges

to rely on multidisciplinary interactions across diverse sectors and disciplines, and to be implemented at community, subnational, national, regional, and global levels. Its effectiveness depends on shared governance, as well as efficient communication, collaboration, and coordination. The World Health Organization (WHO) has envisaged a world capable of preventing, predicting, detecting, and responding to health threats, while empowering multiple sectors to adopt a One Health approach that brings the health of humans, animals, and the environment into a unified perspective [14]. The adoption of this framework also enhances understanding of co-benefits, risks, trade-offs, and opportunities, thereby supporting the advancement of equitable and holistic solutions [12].

Considering (i) the aforementioned complexity, together with our four decades of multidisciplinary expertise in field studies conducted in endemic areas across all continents, laboratory research, sustained international collaborations, and extensive networking at multiple levels, particularly in relation to the neglected tropical disease of fascioliasis which constitutes the focus of our WHO CC; (ii) our involvement in international organizations, institutions, agencies, and federations related to health; and (iii) an in-depth analysis of the One Health literature, we have concluded that an appropriate graphical representation is necessary to facilitate a comprehensive and synoptic understanding of this approach. To this end, we here propose a flow chart illustrating the interactions among the various sectors and disciplines involved (Fig. 1).

This chart has been developed with the intention of encompassing all relevant aspects, thereby assisting readers in identifying additional dimensions that may not be routinely considered in research on a specific disease or health issue. As summarized in Table 1, numerous disciplines have been progressively incorporated throughout the evolution of the One Health concept. It is also important to note that, although the initial focus was placed on zoonotic infectious agents through the integration of human and veterinary medicine, the approach is equally applicable to non-zoonotic infectious agents and, consequently, to communicable diseases more broadly. Furthermore, the importance of comparative medicine and translational research within the One Health framework was recognized early on [5]. In addition, growing attention to vulnerable populations affected by non-infectious diseases and health disorders highlights the need to incorporate non-communicable conditions within the One Health context.

The importance of governance, policy, legislation, financing and advocacy in One Health approaches was already highlighted by WHO [15] and has been also recently confirmed when facing the disease risk consequences of catastrophic hydrometeorological events within a One Health analysis [16].

The importance of education and training underlies the FAO/WHO/WOAH Joint One Health Learning Taskforce, a coordination mechanism dedicated to strengthening One Health workforce capacity in support of effective One Health implementation at global, regional, and national levels. This responds to the growing need to equip the human, animal, plant, and environment health workforce with cross-cutting and profession-specific competencies required to prevent, predict, detect, and respond to complex health threats at the human–animal–environment interface, recognizing that a skilled, collaborative, and empowered workforce is a cornerstone of resilient health systems [17]. The yearly International Master Course on Tropical Parasitic Diseases joining many specialists of different WHO CCs from throughout and WHO Headquarters Geneva and organized uninterruptedly along a 19-year period (1987–2005) already was an early example of collaborative efforts in professional education and training [18].

The complexity shown in this chart (Fig. 1) fully fits the One Health approach needed for the large epidemiological heterogeneity of the zoonotic, snail vector-borne, food-plant-borne and water-borne parasitic disease of fascioliasis, except the aspects of armed conflicts and bioterrorism, at least according to our expertise so far [19]. This foodborne trematodiasis has recently offered interesting examples of One Health repercussions: human-guided migrations of livestock in the worldwide or countrywide spread of fascioliasis [20,21]; livestock exportation/importation leading to fasciolid hybridization [21]; microecology and macroecology influences on snail vectors [22]; experimental assessments proving the need to prioritize an unexpected species as reservoir in disease transmission [23]; the behavior of a sylvatic mammal impeding its participation in disease transmission despite being successfully infected [24]; climate change and altitude impact in the spread of the endemic area [25]; diversity of food, vegetables and water drinking as infection sources [26]; importance of solar radiation, soil

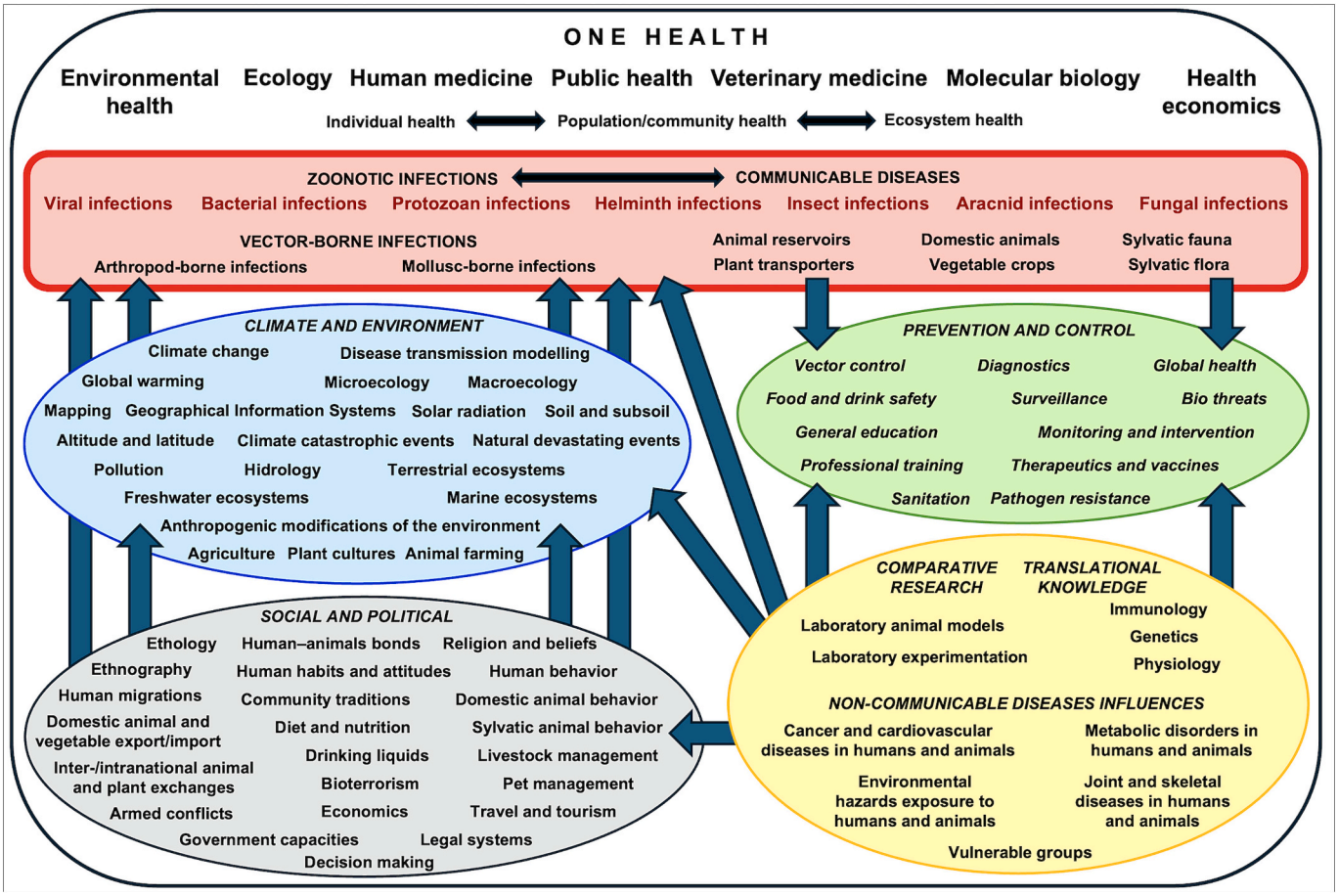

Fig. 1. The One Health approach field according to its broader concept, showing the complexity of multidisciplinar interactions (orig. S. Mas-Coma).

compaction, subsoil phreatic layers and pollution on the amphibious snail vector populations [27].

4. The WHO Collaborating Centres: the largest scientific network

A Collaborating Centre (CC) of the World Health Organization (WHO) is an institution officially designated by the WHO Director-General to support WHO programs at national, regional, interregional and global levels. These national scientific institutions represent the largest scientific network connected to any United Nations agency and is increasingly seen as a resource for a global movement to promote science, multilateralism, evidence and trust. In keeping with WHO's strategy for technical cooperation, these centres also reinforce national health capacity by contributing information, services, research and training to support improvements in public health [28].

Each WHO CC is designated for a 4-year period after an agreement about the key activities to be developed by the CC. CCs are obliged to submit an "Annual Report" as well as a "Final Report" at the end of the 4-year period, although contacts and exchanges between a CC and WHO may also occur extemporarily directly through the WHO Responsible Officer of each CC when required by either side (for instance, along our CC activity periods, we received WHO requests for quick intervention in countries such as Bolivia, Egypt, Iran, Vietnam, India and others). Each one of these reports are evaluated by experts, both internal and external to WHO, by only considering the achievements and results obtained in the activities specifiically requested by WHO. Only if the final report is positively evaluated, because of the successful results and after a collaboration agreement about key future objectives, may the CC be redesignated for a subsequent 4-year period. This process assures the scientific excellence and usefulness of the CCs for WHO.

The designated institutions are normally responsible for covering the costs of the research and work they have to implement at the request of WHO and in support of WHO's programmes. This model allows WHO to access resources that would otherwise not be accessible [28].

At present, there are more than 800 WHO CCs covering each one of the six WHO regions (Fig. 2). The global number of CCs is not permanent but fluctuates within a highly dynamic network, because of continuous new designations and cessations. When analyzing the geographical distribution of CCs according to countries [29], the map obtained highlights that there are several countries still lacking a CC, above all in the African region (Fig. 3). WHO aims to expand these collaborations to leverage the good will of researchers and scientists worldwide to contribute to the Organization's goal of achieving health for all and to keep standing with science [28].

The very large variety of the scientific specialties, research capacities and key activities of the CCs is worth mentioning: education and training; providing reference materials; analyzing and sharing data; standardizing terminology; field and experimental research; disease epidemiology and control in endemic areas; geographical distribution of infectious diseases; multidisciplinary research of infectious agent transmission; vector ecology and control; neglected tropical diseases; malaria; tuberculosis; HIV; rabies; public health; primary health care; mass gathering medicine; quality assurance; nutrition and food technology: clinics and pathology; diagnostics; therapeutics; immunology; vaccines; emergency and disasters; ethics; non-communicable diseases; tobacco and respiratory diseases; organ donation and transplantation; mental health; patient safety: pediatrics; oncology; dermatology; otolaryngology; ophthalmology; cardiovascular research; nursing; geriatrics; coordinate work conducted by multiple institutions on specific

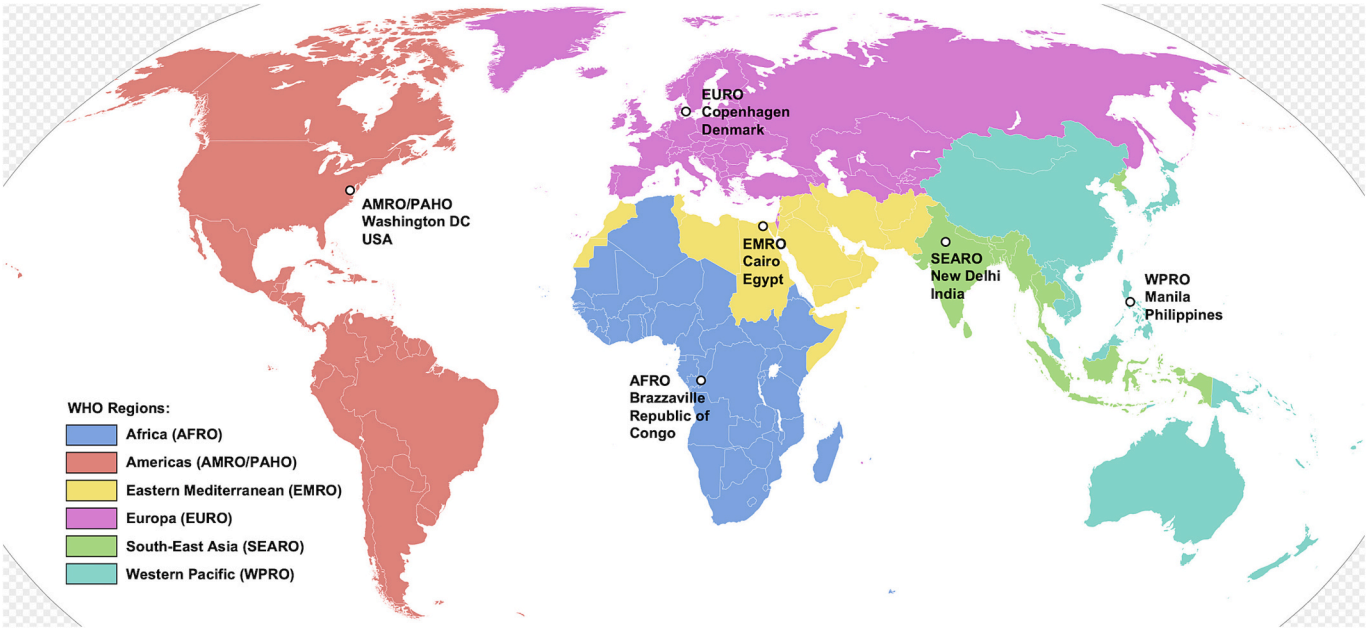

Fig. 2. World map showing the distribution of countries according to the six regions of the World Health Organization (modified from WHO).

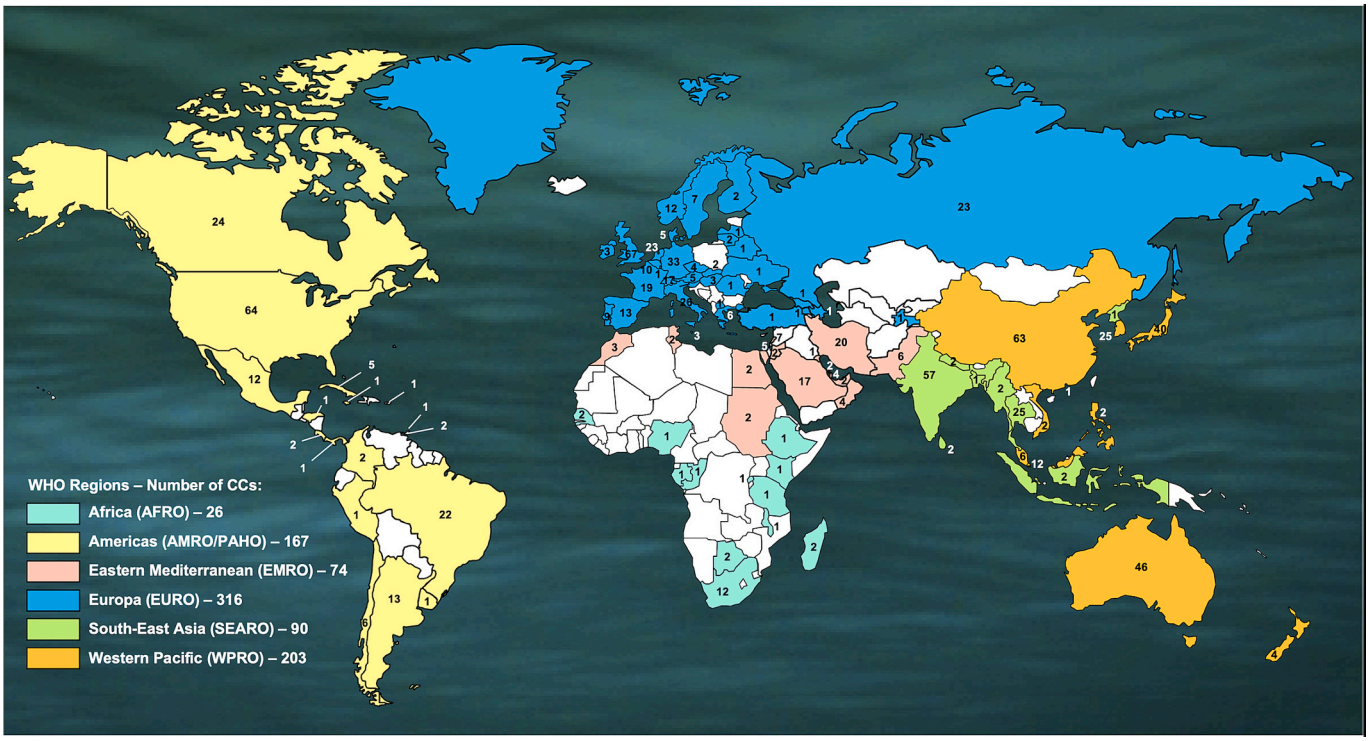

Fig. 3. Number of WHO Collaborating Centres per country, after the database official source of information about the WHO CCs worldwide (https://who.my.site.com/ecc/s/). These are not permanent numbers because this is a dynamic network which evolves rapidly due to new designations and mandate expirations of CCs.

topics; participate in collaborative research under WHO leadership.

This is only a list to exemplify the very different fields of activities of the CCs [28]. A quick analysis shows a large heterogeneity, but equally, it illustrates an impressive capacity to appropriately face the challenges posed by the global, cross-sectorial and multidisciplinary agenda of One Health at all levels.

This proved to be crucial while implementing the One Health Joint Plan of Action that was launched by the Quadripartite (WHO, FAO, WOAH, and UNEP) initially for the 2022–2026 period [30]. This initial joint One Health plan was designed to establish a framework for integrating systems and capacities in order to collectively improve the prevention, prediction, detection, and response to health threats. It seeks to enhance the health of humans, animals, plants, and the environment, while simultaneously contributing to sustainable development. Developed through a participatory process, the Plan of Action outlined a set of activities aimed at strengthening collaboration, communication, capacity building, and coordination across all sectors involved in addressing health challenges at the human–animal–plant–environment

interface.

More broadly, this One Health plan aspired to provide a cohesive framework through which systems and capacities could be aligned to improve collective responses to health threats. It underscored the central role of the One Health approach in global efforts to reinforce preparedness and resilience against epidemics and pandemics, including, e.g., Ebola, COVID-19, and monkeypox. Building upon existing structures and agreements, mechanisms for coordinated financing are currently being developed to support its implementation. In this context, the global network of WHO Collaborating Centres offers a critical platform with the necessary capacity to operationalize and advance this ambitious agenda.

5. Towards a coordinated science for health

As an organizing concept, One Health has demonstrated sufficient flexibility to accommodate diverse terminologies, perspectives, and operational approaches, while maintaining the coherence necessary to facilitate communication across disciplinary and institutional boundaries. Nevertheless, questions persist regarding its long-term viability and practical applicability [9]. An examination of the historical development of the One Health concept and the evolution of its associated agendas (Table 1) may give rise to the impression of constructing "castles in the air." Indeed, many of the identified milestones reflect theoretical frameworks, conceptual organizational efforts, aspirational goals, supportive political commitments, and governance initiatives. These have often operated at a largely discursive level, shaping narratives and fostering collective responses to highly complex challenges that transcend traditional disciplinary boundaries and tend to be mutually reinforcing.

However, critical questions remain, particularly regarding: (i) which scientists and health professionals will be responsible for implementing the proposed strategies in practice, i.e. across endemic areas, communities, hospitals, research centres, and laboratory settings; (ii) how the considerable heterogeneity of health dimensions, disciplines, stakeholders, and associated sectors will be effectively coordinated in order to establish and follow prioritized actions in a timely manner at global, regional, and national levels; and (iii) how outcomes and achievements will be appropriately channeled and translated into actionable insights for decision-makers, ensuring that they become effective and directly beneficial for humans, animals, plants, and the environment in pursuit of a sustainable future. In other words, the fundamental question concerns who will constitute the broad operational foundation of the One Health implementation process.

Regarding the aforementioned questions about science for health, it should be considered that the recent and present global scenario is not precisely an ideal, not even positive, situation. About 60% of known infectious diseases in humans originate in animals, and around 75% of emerging infectious diseases are zoonotic. The COVID-19 pandemic alone resulted in an estimated 15 million deaths and caused trillions of dollars in economic losses globally in 2020–2021 [31]. In the aftermath of the devastating impact of the COVID-19 pandemic, and within the context of the current climate of increasing geopolitical instability, science for health has undergone a period of discouragement, marked by insufficient funding, budget cuts, and a pervasive sense of stagnation. In this scenario, a renewed impetus capable of revitalizing motivation and opening a new phase of collaboration and progress has become urgently needed.

6. The One Health Summit

On World Health Day of 7 April 2026, global leaders gathered in Lyon, France, for a milestone "One Health Summit" [31], which counted on the highest dignitaries from several countries and where WHO and partners announced a new wave of concrete actions to better protect people, animals and the planet from future health crises (Fig. 4). The

Fig. 4. The Director-General of the World Health Organization (WHO), Tedros Adhanom Ghebreyesus, at the One Health Summit in Lyon (orig. M.D. Bargues).

One Health Summit underscored the interdependence between human health and the health of animals, plants, and ecosystems, as well as the need to adopt coordinated, science-based approaches to address shared health threats. A clear message was concluded: global health cannot be addressed in a fragmented manner. Responding to threats such as pandemics, antimicrobial resistance, and climate-related crises requires international scientific cooperation, investment in integrated surveillance systems, evidence-based public policies, and cross-sector collaboration (health, agriculture, environment).

The Summit highlighted the extent to which coordinated efforts can reinforce international dialogue and mobilize both public and private stakeholders towards a shared objective. In this context, WHO announced several major One Health initiatives, including the establishment of a new global network of institutions dedicated to One Health. This initiative is intended to mobilize multidisciplinary expertise and to deliver more robust and coordinated support to countries. It further aims to enhance the translation of global guidance into practical tools and field-level implementation, while strengthening training and peer learning through the WHO Academy and other relevant institutions, thereby contributing to a more coherent and country-oriented delivery model for One Health implementation [32,33].

Within this initiative, the Global Forum of WHO CCs parallely-running in Lyon was conceived as a forward-looking platform to deepen collaboration among leading academic and research institutions worldwide accelerating scientific innovation, data sharing, coordinated research and capacity-building. The message of both the One Health Summit and the Global Forum of WHO CCs was clear: tackling today's complex health challenges demands stronger multilateral cooperation, greater investment in science, and sustained efforts to translate the One Health approach into concrete action at global and local levels.

7. The WHO CCs Forum

The First Global Forum of the WHO CCs [33] was an unprecedented gathering which brought together nearly 300 experts from around the world in person at an event that marks a turning point in the field of science for health and in global health more broadly. Representatives from countries across all continents responded in large numbers to the call, with a strong online participation of experts of the worldwide 800 CCs, underscoring the growing interest in strengthening global health cooperation.

The International Federation for Tropical Medicine (IFTM) was represented by its past-president Santiago Mas-Coma and the IFTM Spanish representative María Dolores Bargues, respectively director and deputy director of the WHO CC and also of the FAO Reference Centre of Valencia, Spain. They personally participated in this first landmark gathering of all WHO CCs (Fig. 5), convened on the occasion of the 78th anniversary of WHO and held on 7–9 April 2026.

Fig. 5. The Director-General of the World Health Organization (WHO), Dr. Tedros Adhanom Ghebreyesus (center), with Prof. Santiago Mas-Coma (left) and Prof. María Dolores Bargues (right), both Expert members of the WHO Diagnostic Technical Advisory Group (DTAG) for Neglected Tropical Diseases (One Health subgroup: Neglected Zoonotic Diseases), respectively Past-President and Spanish Representative of the International Federation for Tropical Medicine (IFTM) and Director and Deputy Director of the WHO CC of Valencia (Spain), at the First Global Forum of the World Health Organization (WHO) Collaborating Centres (CCs) (orig. M.D. Bargues).

The WHO CC event began amid a sense of uncertainty and surprise among attendees, but it quickly evolved into a dynamic space for exchange, networking, and partnership-building. Over the course of the three days, the Forum steadily gained momentum. What initially was marked by a lack of references and established contacts gave way to a collaborative environment in which proposals for inter-centre networks, knowledge exchange, and new opportunities for cooperation emerged—even across highly diverse disciplines.

The Director-General of WHO, Tedros Adhanom Ghebreyesus, underscored the historic nature of the meeting and announced several significant measures: the convening of the next Forum in 2027 in Geneva—thereby advancing its frequency to a biennial cadence compared to the one initially proposed—which was immediately responded by a sporadic wide applause, and the establishment of a dedicated committee to strengthen the network of CCs, as well as to promote its expansion to countries not yet represented because of still lacking a CC (Fig. 3).

The originality of the Forum organization should be highlighted, including internet interacting by individual QR within sessions, open debates (Fig. 6A), feedback sessions, large group sessions according to specialties (Fig. 6B), large group sessions with participants divided after WHO geographical regions (WHO-EURO for Europa, PAHO for the Americas, EMRO for Eastern Mediterranean, AFRO for Africa, SEARO for South-East Asia, and WPRO for Western Pacific), small group analyses around round tables coordinated by a member of the organizers (Fig. 6C), and also in-person and on-line sessions of posters made following a WHO template (Fig. 6D). All this emphasized an underlying hard and well-structured work by the organization committee which enabled interaction between participants of different specialties who did not previously know one another and lead to progressively realize that we were in front of a unique occasion for the present-moment convenient re-stimulation of science for health.

The working sessions, characterized by a high level of participation, highlighted both the diversity and the disparities in experience among centres, while also revealing their considerable collective potential. Key themes such as artificial intelligence, knowledge transfer, mis- and disinformation in science, and the need for greater interconnection were central to the discussions.

The Forum concluded with a clear sense of "awakening" among participants, who began to recognize the strategic scope of this initiative. The WHO is now committed to consolidating this global community around two core principles: linking science with solidarity, and building a genuine "family" of CCs. This first Forum has not only laid the foundations for a new phase, but has also demonstrated that global scientific collaboration is more necessary, and more achievable, than ever.

8. Future perspectives

Experts agree that the momentum generated in Lyon must not be squandered. The global network of more than 800 CCs represents a unique, and already available, opportunity to strengthen global health action without the need for substantial additional investment. The challenge now lies in exercising clear leadership, structuring this diverse network, and channeling its vast potential through effective coordination.

The coordination of such a big number of excellence centres and the very large heterogeneity of disciplines and objectives of the CCs will not be an easy endeavor, but appears to be feasible if well-selected, experienced managers are put in place to deal with. Channalizing through the six WHO regional offices may help in that task.

Such an impulse and generated motivation would spread easily further beyond WHO CCs at global level on its own. Designing a stronger and more coordinated WHO CC community is in the correct way for today needs and the IFTM is where it should be.

The call is clear: to sustain the "spirit of Lyon", to translate this renewed enthusiasm into concrete initiatives, and to consolidate this collaborative momentum in preparation for the next Forum in 2027. To let this opportunity pass would be, quite simply, inexcusable.

CRediT authorship contribution statement

Santiago Mas-Coma: Writing – review & editing, Writing – original draft, Visualization, Conceptualization. **M. Dolores Bargues:** Writing – review & editing, Visualization, Project administration, Conceptualization.

Consent for publication

All authors read and approved the final version for publication consideration.

Ethics statement

There was no need for any specific ethics approval.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the contents of this paper.

Fig. 6. The First Global Forum of the World Health Organization Collaborating Centres (Lyon, 2006) in viewshots: A) open session on disinformation and misinformation in science; B) debate in large group attendance; C) question/discussion/answer internet interacting in small groups with WHO by using the personal mobile phones (in the foreground, left to right, D. Gosálvez, F.J. Moreno, S. Mas-Coma and S. Minue of the CCs from Granada, Madrid and Valencia); D) example of poster following the WHO template (A-C: orig. M.D. Bargues).

Data availability

Basic information on the Forum is available directly from WHO as noted in Reference No. 33.

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