

Policy Brief

Mapping One Health Research Priorities, Operationalisation, and Implementation in ASEAN

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Key Messages:

- Since 2016, ASEAN has made considerable progress in translating the One Health (OH) approach into regional initiatives, with momentum accelerating during the COVID-19 pandemic. These efforts span diverse priorities such as public and animal health emergencies, zoonotic and infectious diseases, and antimicrobial resistance. Since the 2010s, OH-related research in ASEAN has grown exponentially, focusing on health system strengthening, zoonotic risks, infectious disease elimination, food safety, antimicrobial resistance, and ecological integration.
- ASEAN's OH efforts have been effectively mapped and operationalised into policies, regulatory frameworks, institutions, and knowledge products, contributing to regional implementation. Most ASEAN Member States have established mechanisms for OH coordination, communication, and collaboration (3Cs), which serve as the foundation for mainstreaming OH into cross-sectoral strategies. Some countries have also adopted national OH strategic plans.
- Despite these advances, OH implementation still primarily emphasises human-animal health linkages, with limited environmental integration. Challenges persist, including fragmented 3Cs across sectors, insufficient funding, limited resource mobilisation (e.g., technology, infrastructure, and skilled workforce), lack of evidence-based business models, and weak public-private partnerships.

The One Health (OH) concept, aimed at achieving optimal health outcomes through the interconnectedness of people, animals, plants, and their shared environment, has evolved significantly since its early iteration as 'One Medicine' in the 1820s. The term 'One Health' gained global traction in 2004, encompassing ecology, public health, and broader societal factors. In ASEAN, OH has been operationalised since 2016 and gained increased attention during and after the COVID-19 pandemic, through initiatives addressing zoonotic diseases, antimicrobial resistance, and joint OH declarations and action plans.

Political commitments to OH in ASEAN have grown alongside a rise in related academic research, which has helped to provide a scientific foundation for addressing health threats at the human-animal-environment interface. However, the overall effectiveness of OH implementation in the region remains uneven. This brief maps the development of OH research, initiatives, and political commitments across ASEAN, offering guidance on how to translate the OH concept into practical action at the regional level.

Moving forward, the success of OH in ASEAN will depend on strengthening 3Cs through coordinated action, sustained political commitment, and reliable financing mechanisms. Such efforts will be crucial to overcoming fragmented priorities, siloed initiatives, and resource limitations that currently hinder the full integration and impact of One Health in the region.

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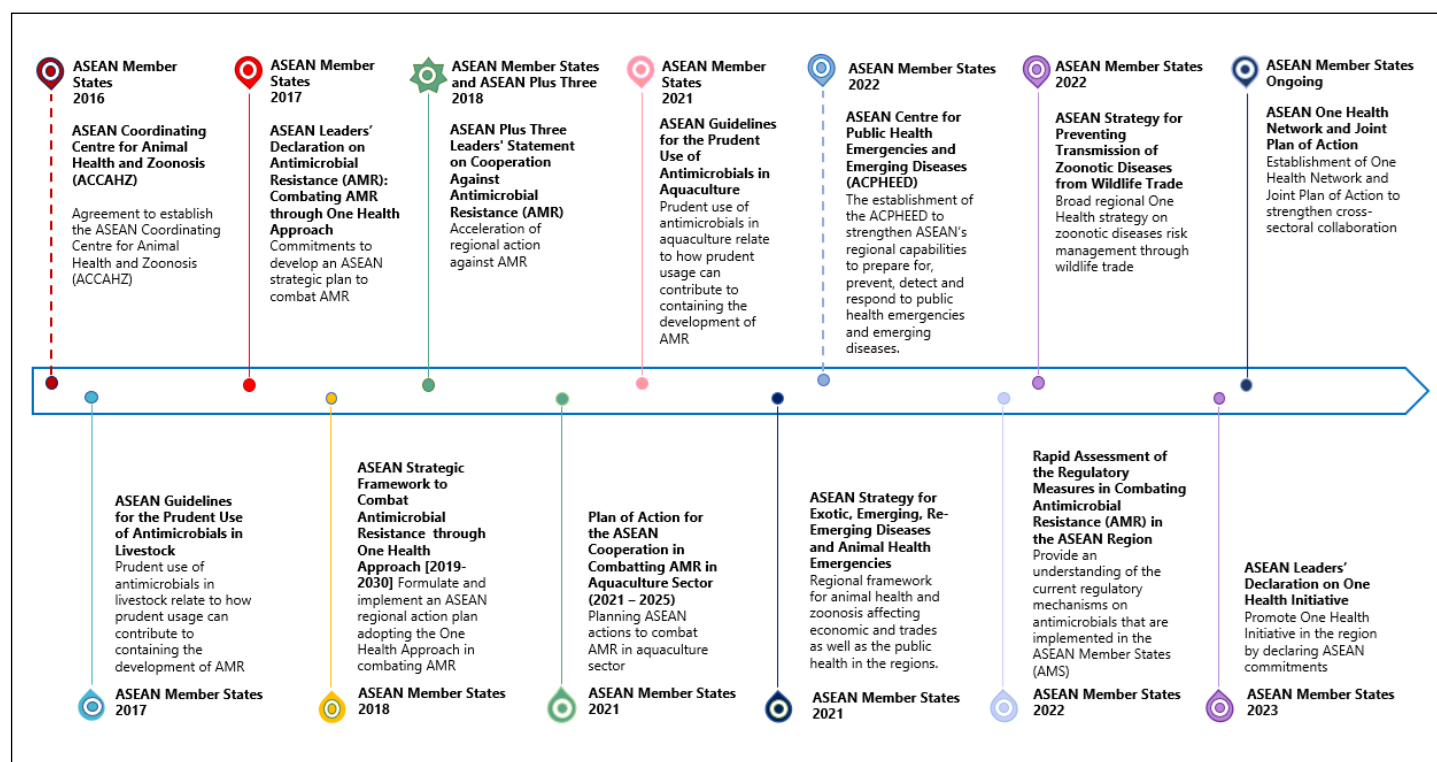
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Chronicle of One Health Agenda

The One Health (OH) concept has a long and evolving history, shaped by numerous initiatives pioneered by OH experts and institutions across various periods. These initiatives have addressed a wide range of OH priorities – illustrated in Figure 1 – including zoonoses, veterinary pathology, infectious diseases, One Medicine, funding, antimicrobial resistance (AMR), pandemic prevention, and coordination mechanisms.

According to the global OH outlook, the concept can be traced back to 1821, when it was first introduced by Rudolf Virchow, MD. Since then, it has advanced significantly, particularly following the formation of the OH Tripartite, later the Quadripartite, and the development of the Joint Plan of Action (JPA). The OH approach gained unprecedented traction during and after the COVID-19 pandemic, with intensified commitments and coordinated actions arising from high-level forums such as the G7, G20, and the United Nations General Assembly (UNGA).

Graphical Abstract



Source: Authors.

One Health Initiatives and Research in ASEAN

In Southeast Asia, regional OH initiatives have been effectively aligned with global efforts, as captured in Figure 1. These initiatives encompass policies, regulatory frameworks, institutional centers, and knowledge products that support the advancement of OH implementation at the regional level.

ASEAN's OH engagement began in earnest in 2016 and accelerated notably following the COVID-19 pandemic. Since then, member states have progressively aligned national OH research priorities and action tracks – covering zoonoses, AMR, food safety, and more – alongside the establishment of domestic coordination mechanisms and national OH strategies.

Notably, ASEAN has adopted two key OH declarations by regional leaders focused on antimicrobial resistance and broader OH initiatives. These declarations provide a foundation for operationalising OH into practice. During Indonesia's ASEAN Chairmanship in 2023, regional OH cooperation was further elevated through the launch of the ASEAN OH Network and the development of a Joint Plan of Action. This plan sets out concrete commitments amongst ASEAN Member States (AMS) to promote OH implementation and cross-sectoral collaboration, with sustained support from the regional OH networks.

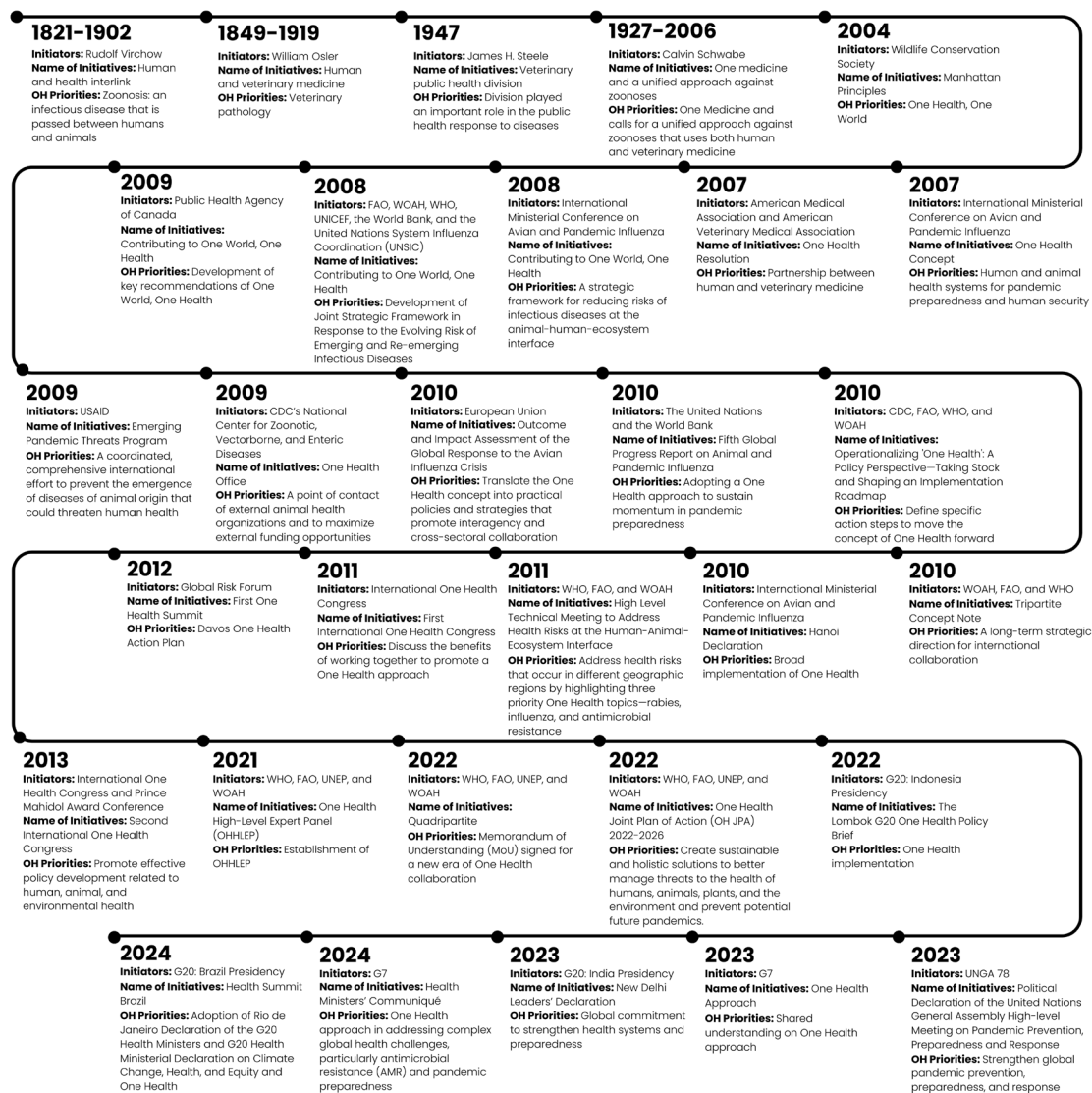
In parallel, OH-related research across ASEAN continues to grow, with an increasing number of publications by year and by country or territory. Bibliometric mapping of this research reveals priorities consistent with regional OH efforts: strengthening health systems, managing zoonotic risks, eradicating infectious diseases, ensuring food safety, combating AMR, and integrating ecosystem perspectives. These research trends further reinforce and inform the direction of ASEAN's OH policy and implementation agenda.

Implementation Mechanism and its Challenges

As Lam et al. (2025) noted, most AMS have national coordination mechanisms for OH and have mainstreamed OH in various strategies, but only a few have developed standalone national OH strategies. Moreover, within national research and development (R&D) agendas, environmental health and antimicrobial resistance are often under-prioritised.

At the regional level, three major OH implementation mechanisms are highlighted in the Graphical Abstract, driven by strong AMS commitments: the ASEAN Coordinating Centre for Animal Health and Zoonoses (ACCAHZ), the ASEAN Centre for Public Health Emergencies and Emerging Diseases (AC-PHEED), and the ASEAN OH Network.

Figure 1: Global OH Initiatives and Priorities



Source: Authors.

Under the leadership of the ASEAN Ministers of Agriculture and Forestry (AMAF), the ACCAHZ was established in 2016 to address zoonotic diseases. It led to key documents such as the 2021 ASEAN Strategy for Exotic, Emerging, Reemerging Diseases and Animal Health Emergencies and the 2022 ASEAN Strategy for Preventing Transmission of Zoonotic Diseases from Wildlife Trade. In 2022, ASEAN Ministers of Health launched ACPHEED to adopt a securitisation approach to public health, addressing future pandemics and infectious disease threats. In parallel, the ASEAN OH Network was established to reinforce multisectoral 3Cs, interconnected with national OH coordination mechanisms.

Despite this progress, implementation remains fragmented. AMS often face challenges understanding and executing an integrated OH approach. Observable obstacles include limited ecosystem integration, weak intersectoral collaboration, funding gaps, siloed education and training, inadequate resource mobilisation, underdeveloped business cases based on scientific evidence, and limited public-private partnerships.

Conclusions and Recommendations

ASEAN OH initiatives have expanded rapidly, supported by a rising volume of scientific research and publications. While regional and national operationalisation has advanced, implementation challenges persist – particularly due to siloed approaches and weak intersectoral coordination.

The following recommendations are proposed:

Research

- Integrate environmental dimensions into OH by advancing methods to capture complex environmental data relevant to human and animal health.
- Align OH research, practical initiatives, and political agendas across regional fora while considering current research capacities, infrastructure, and resource availability.
- Optimise the ASEAN OH Network and Southeast Asia OH University Network to promote research, innovation, and interdisciplinary collaboration in health, environment, and animal sectors.

Governance

- Develop specific, measurable, achievable, relevant, and time-bound (SMART) key performance indicators for OH frameworks, particularly the ASEAN OH POA, to transform strategies into actionable goals.
- Design indicator-based OH interventions at the ASEAN level to drive transformative change through motivation, guidance, and facilitation.
- Enhance OH governance by supporting ASEAN and national OH Networks, anchored in whole-of-society and whole-of-government principles.

Funding Mechanism

- Leverage existing and emerging funding sources, aligning them with the Sustainable Development Goals (SDGs) and the global OH agenda.
- Strengthen national resource mobilisation and foster public-private partnerships by identifying suitable engagement models and incorporating OH into their priorities.
- Develop science-based business cases to attract investment in OH, using robust evidence and effective intervention models.

References

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