

Current initiatives in One Health: consolidating the One Health Global Network

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Summary

The Global Response to Avian Influenza has led to a longer-term One Health movement, which addresses risks, including zoonoses, at the human–animal–environment interface, and requires the development of innovative partnerships at the political, institutional and technical levels.

One Health is a sustainable and rational option when the cumulative effects of health hazards on food and economic security are considered, but demands long-term financial investment. Projections of growth in the demand for livestock production and consumption in Asia and Africa also call for effective One Health responses. However, an effective response also requires validated evidence of the socio-economic value that the One Health approach can provide.

Implementing the One Health approach depends on forging strong links between human and animal health services, the environment and public policy. The authors present a list of some of the national and transnational partnerships established since 2006. Political support, good governance and effective policies and networks are crucial building blocks for One Health sustainability.

The Global Response to Avian Influenza was initially established under the joint leadership of the European Union, the United States and the United Nations System Influenza Coordination Office. Since then it has supported numerous initiatives, including the World Health Organization (WHO)/Food and Agriculture Organization of the United Nations (FAO)/World Organisation for Animal Health (OIE) Global Early Warning System (GLEWS). Indeed, the Global Response to Avian Influenza paved the way for an unprecedented WHO/FAO/OIE tripartite partnership, which promoted the integration of foodborne, neglected zoonotic and tropical diseases within the One Health movement and led to the tripartite High-Level Technical Meeting of 2011 in Mexico.

The One Health Global Network, which began as a proposition at an Expert Consultation in Winnipeg, Canada, in 2009, is now a reality. While its Global Guidance Group takes shape, the choice of soft governance – an approach which relies more on information and advisory guidelines than on hierarchy and legislation, and which aims to steer local organisations rather than to control them – remains challenging. Nonetheless, the emergence of One Health as a professional and academic discipline, together with the growing references to a One Health culture, also offers new opportunities.

Keywords

Avian influenza – Emerging disease – Global Guidance Group – Global Health – Governance – Neglected disease – Network – One Health – One Health Global Network – Pandemic – Partnership – Zoonosis.

Genesis of a One Health movement

Dealing with the risks that arise at the interface between animals, humans and the environment and controlling zoonotic diseases demands integrated action from both the human and animal health sectors, as well as support from and consultation with other sectors or industries that have a stake in health governance, and additional key inputs from the environment sector (1, 2, 3, 4). Considerable political and financial support has been mobilised to achieve regional integrated approaches to control emerging or re-emerging zoonotic diseases; for example, West Nile virus in New York City, monkeypox in the Midwest of the United States (USA), Nipah virus in Malaysia and Hendra virus in Australia and Singapore (5). The emergence of severe acute respiratory syndrome (SARS) and the spread of highly pathogenic avian influenza (HPAI) (H5N1) to Europe in 2005 focused attention on Asia as a hotspot for the emergence of novel zoonotic diseases (6), prompting calls for greater collaboration between the human health, animal health and environmental sectors, and extending these initiatives for the 'global good'. The Global Response to Avian Influenza (GRAI), launched at the first International Ministerial Conference on Avian and Pandemic Influenza (IMCAPI) in Beijing, January 2006, received a projected budget of US\$882 million in 2006 and the control of HPAI continues to attract considerable investment, driven by policy decisions on global health security and pandemic preparedness (7, 8).

The Global Response to Avian Influenza benefited from two closely related drivers. The first driver was the process of 'securitisation' of sanitary crises from 2005, largely due to concerns generated not only by SARS but also by the weak responses to several natural catastrophes (e.g. the heat wave in France in the summer of 2003 or Hurricane Katrina in the USA in August 2005) (5). Classical security approaches focus on the material disposition of the threat, including the distribution of power and military capabilities, while securitisation explores how a particular issue can be transformed into a matter of security. Securitisation is an extreme version of politicisation that enables the use of extraordinary means in the name of security (8, 9).

The second driver was the rapid establishment of partnerships directed against H5N1, including strong leadership from the European Union (EU) and the USA. Together, they contributed the political driving force for broader networking from individual countries, the United Nations (UN), the World Organisation for Animal Health (OIE) and the World Bank (5).

The rapid evolution from a simple response to H5N1 towards an international coordinated response to the influenza H1N1 pandemic in 2009 and the emergence

of the longer-term One Health movement have been unprecedented and timely in terms of global public health (8, 9, 10). Emerging, re-emerging and endemic zoonotic diseases exhibit complex links with ecosystems, the environment and livelihoods, and pose substantial risks for smallholder farmers, communities, livestock and wildlife. A One Health approach is the most appropriate for the sustainable management of disease risk.

The economic and social dimensions of One Health

Preventing disease outbreaks is preferable to and far less costly in the long term than managing a global pandemic but initiatives require continuing financial commitments that become difficult to sustain when the health impact of emerging zoonoses is not realised in global terms. For example, in the case of H5N1, only 630 human cases and 375 human deaths were reported globally in the ten-year period from 2003 to 2013 (7).

Global emerging livestock markets and rapidly changing socio-economic conditions, especially in parts of Asia and Africa (11), have led to the worrying development of 'hotspots' of zoonotic disease emergence. These regions are increasingly compromised when it comes to public health. Their populations are already challenged by a host of endemic zoonoses that contribute to poverty both directly, through their impact on human and livestock health, and indirectly, through their cumulative effects on food and economic security (12, 13). Traditional farming practices continue alongside innovative methods to increase livestock productivity, but weak regional regulatory systems and national disease control responses often mean that rapidly changing systems have the potential to not only cause the emergence and re-emergence of zoonotic infections, but also, more importantly, to further alienate already marginalised smallholder populations, as recently seen in the avian influenza outbreaks in Asia (7). Humans living in close proximity to and/or having frequent contact with wild animals and livestock, and sharing the same ecosystem with them, all contribute to the emergence of zoonotic disease. A lack of community awareness, the absence of effective surveillance in humans and animals and limited access to human healthcare and veterinary services only serve to exacerbate the risk (12, 13).

The South and South-East Asian regions are predicted to have the greatest absolute growth in livestock production and consumption over the next 40 years (11). Agricultural expansion, cultural practices (such as wildlife, trade and wet markets) and a rapidly increasing livestock trade are strongly associated with increased zoonotic disease transmission in regions such as these, where poor livestock keepers make

up 47% of the population. There is an opportunity to apply One Health approaches here, to move beyond the management of 'outbreak' situations to the consolidated management of existing, endemic diseases and emerging and novel zoonoses, by placing vulnerable livelihoods and the issue of poverty at the core of any disease mitigation strategy (5, 14). Aside from the risk of HPAI, communities in South-East Asia carry a significant burden of endemic zoonoses which affect smallholder communities, including leptospirosis, schistosomiasis, Japanese encephalitis, hepatitis E virus, trichinellosis, brucellosis, *Streptococcus suis*, and members of the taenia-cysticercosis complex. One Health approaches that enable the management of both emerging and endemic zoonotic diseases may offer a practical and cost-effective route to poverty alleviation, by simultaneously addressing ecosystems management, animal and human health surveillance, and community participation in disease risk mitigation (5, 14).

Building the evidence base

There is growing evidence to show the added value of the One Health approach (15) and so the demand for One Health working practices from governments, donors, and the health professions, especially veterinary public health, is high and ever increasing (16, 17). The threat of emerging pandemics has been a major driver for greater multi-sectoral collaboration, resulting in a proliferation of One Health projects and platforms, particularly in Asia, that attempt to link animal, human and ecosystem health at the national and international levels (18, 19, 20, 21). Evidence of One Health working practices, however, is not well documented outside the Asia-Pacific region, and One Health platforms and service providers remain patchy in areas of high zoonotic disease risk in the developing world (22). Validated evidence that demonstrates the added value of One Health in socio-economic terms that can be used to inform policy decisions is key to the sustainability of One Health. Successful national, regional and global One Health practices that demonstrate cost-effective critical intervention points, their feasibility and impact are essential. Estimates of the 'total societal burden' of emerging and endemic zoonoses (the combined human and environmental costs – including the impacts on the food security of smallholder farmers and on the micro- and macro-economy – can provide compelling evidence for the value of putting the One Health approach into operation (15).

Implementing One Health: partnerships and platforms

Implementing One Health requires an appreciation of the links between human and animal health, ecosystems and

the environment in general, as well as between livelihoods and policy processes (23, 24, 25). Gaining the full value of the One Health approach demands the support of and consultation with all sectors and industries that have a stake in health governance, including inputs from the environment sector (26). One Health provides opportunities for individuals and institutions to work across sectors and networks, resulting in stronger national systems for combating emerging diseases and regional bonds. This is in line with transnational strategies, such as the Asia Pacific Strategy for Emerging Diseases (APSED).

The primary objective of most existing One Health partnerships is to strengthen and optimise zoonosis surveillance and control practices to improve livelihoods, ecosystems management and human and animal health. Where One Health platforms and partnerships have been established at the national, transnational, regional and global levels, they are considered beneficial and highly successful (see Table I) (22).

At the national level

Innovative national One Health surveillance and disease control demand both political will and an understanding of the links between human and animal health, the environment, people's livelihoods and policy processes. Such an understanding should inform policy recommendations and be underpinned by interdisciplinary approaches that combine epidemiological, socio-economic and socio-cultural research methodologies. Ensuring that One Health platforms include key local stakeholders and facilitate discussion and two-way exchanges between local district government staff across the sectors builds understanding and contributes to shared learning among community members, local organisations and public services. All of this contributes towards the sustainability of One Health. Communication between livestock keepers, communities and authorities with the aim of identifying interventions that are acceptable, affordable and adequate will embed One Health at the local, district and national levels. Ensuring that vulnerable individuals and communities (economically and otherwise) are made more resilient depends on contributions from all levels of society, from the household level right up to the national level (27). Interventions that incorporate an understanding of local knowledge, cultural practices, risk perceptions and gender issues are likely to gain more acceptance in local communities.

National platforms established across the Asia-Pacific region are crucial in developing One Health reporting systems, building surveillance capacity and assisting the implementation of the International Health Regulations (2005) and APSED 2010. They are also essential for the

Table I
National, transnational and global partnerships for One Health

Type of partnership	Remit/mandate
National partnerships	
Co-ordinating Office for the Control of Trypanosomiasis, Uganda (COCTU) Stamp Out Sleeping Sickness (SOS)	This inter-ministerial platform coordinates policy for all stakeholders involved in tsetse and trypanosomiasis control in Uganda. Control programmes for human sleeping sickness and all forms of <i>nagana</i> are coordinated and managed by COCTU to deliver a cross-sectoral response to human and animal disease
Swiss National Antibiotic Research Programme NRP 49: Antibiotic Resistance	The Swiss National Research Programme 'Antibiotic Resistance' (NRP 49) was developed to establish scientific strategies and new methods for monitoring and analysing antibiotic resistance in Switzerland. It is targeted at all relevant areas, including human and animal populations, agriculture, food and the environment
Communication Influencing Behaviour Change, Vietnam	The aim of this organisation is to use communication to reduce mortality and morbidity from highly pathogenic avian influenza (HPAI), to develop awareness that HPAI is preventable, to reduce animal-to-animal and animal-to-human transmission of HPAI and to promote behaviours that help to prevent HPAI in the agricultural and health sectors
Chars Livelihoods Programme, Bangladesh	This broad programme, based on One Health principles, aims to reduce extreme poverty, decrease environmental vulnerability, enhance economic opportunities and improve social well-being
Controlling Rabies in Bali, Indonesia	This One Health-oriented programme aims to bring the rabies epidemic under control and eventually eliminate it from the island; to raise awareness of the rabies health threat to all mammals, including humans; to develop a sustainable approach to rabies control by understanding its complexity; to promote community partnerships in health management and to generate a sustainable, participatory approach to disease surveillance and response
Healthy Food Market (INSPAI), Indonesia	INSPAI aims to improve the capacity of local stakeholders to develop and maintain healthy food markets on pilot sites and to improve public awareness in preventing and controlling the spread of avian influenza and foodborne diseases
Controlling Hydatid Disease, Nepal	This programme assists communities to define and describe their socio-ecological systems; identifies stakeholders' problems and needs concerning the ecosystem health of the river system; implements feasible and sustainable solutions to identified health problems (human, canine, ecological, economic); and develops a monitoring and evaluation approach to health for the river system of Kathmandu
Controlling Q Fever Outbreaks, the Netherlands	Consistent with the EU animal health strategy, this programme strives to focus on all issues linked to animal health, including public health, research and sustainable development, while recognising the importance of preventive measures such as vaccination, disease surveillance and emergency preparedness
The Human Animal Infections and Risk Surveillance (HAIRS) group, the United Kingdom	This programme identifies and raises awareness of emerging and potentially zoonotic infections that may pose a threat to health. It also promotes trans-disciplinary action among the agencies and institutions working to address infectious diseases in the United Kingdom
Pandemic H1N1 Response as an Example of One Health, the United States	Communication on HPAI H4N1 planning enabled the CDC and USDA to coordinate science-based messaging before H1N1 was diagnosed in pigs. The USDA undertook research that showed pigs recovered from H1N1 could safely be slaughtered. The CDC, USDA and pork producers designed a One Health response, resulting in no impact on pork sales
Animal Health Clubs, Sierra Leone	This multi-sectoral collaboration teaches communities about healthy living, beginning with rabies, from primary schools to universities
Transnational partnerships	
Community-Based Avian Influenza Risk Reduction Programme (CBAIRRP)	This programme strengthens community and institutional capacity to reduce the risk and mitigate the impact of avian influenza in four Mekong countries: Cambodia, Laos, Myanmar and Vietnam
BiodivHealthSEA	BiodivHealthSEA investigates local perceptions of biodiversity changes in Cambodia, Laos and Thailand. With partners in Singapore and France, links to health are analysed through global governance, national public policies and the actions of non-governmental organisations in the domains of health, the environment, conservation and development

Type of partnership	Remit/mandate
Transnational partnerships (cont.)	
Mekong Basin Disease Surveillance (MBDS) network	The MBDS network has proven its effectiveness in regional cooperation among Cambodia, China, Laos, Myanmar, Vietnam and Thailand: reporting, communicating and containing disease outbreaks in isolated and economically marginalised border communities; promoting information exchange between communities and policy-makers and sharing information via inter-ministerial collaboration
Control of foodborne <i>Salmonella</i> in the European Union	An approach to reduce exposure of humans and animals to <i>Salmonella</i> , and reduce cases of salmonellosis in the EU. It aims to improve reporting methods and data collection for food, feed and animals in EU Member States, improve the investigation of foodborne diseases, ensure food safety along the food chain, control <i>Salmonella</i> resistance to antibiotics, and build capacity in monitoring and controlling zoonotic diseases
South-Eastern Europe Health Network (SEEHN), Eastern Europe	The SEEHN Network aims to promote the sustainable development of its Member States by improving the health of their populations through better cooperation, collaboration, integration, capacity building, and coordination in public health at the regional level. This includes supporting reform of Members' national health systems and contributing to their economic and social development
Asia Pacific Strategy for Emerging Diseases (APSED)	This is the common strategic framework for countries and areas in the Asia–Pacific region to strengthen their capacity to manage and respond to emerging disease threats, including surveillance, risk assessment and response, laboratory work, zoonoses, infection prevention and control, risk communication, public health emergency preparedness, regional preparedness, alert and response, and monitoring and evaluation
Integrated Control of Neglected Zoonoses (ICONZ); One Health for the Next Generation (OH-NEXTGEN); Advocacy for Neglected Zoonoses (ADVANZ)	This suite of linked projects, funded under the EU Seventh Framework Programme, aims to improve human health and animal production in developing countries in Africa through the integrated control of neglected zoonoses (www.iconzafrica.org); provide One Health training for the next scientific generation in the Sahel and Maghreb (www.oh-nextgen.eu), and advocate for neglected zoonoses (www.advanz.org)
Animal and Human Health for the Environment and Development (AHEAD)	AHEAD facilitates cross-sectoral collaboration in the interests of 'win-win' land-use opportunities that are good for people and wildlife across Africa
Southern African Centre for Infectious Disease Surveillance (SACIDS)	SACIDS harnesses scientific and technological innovations to improve capacity in Africa (human, financial and physical) to detect, identify and monitor infectious diseases of humans, animals, and the environment, and their interactions, to better manage the risks they pose
Global partnerships	
Global Response to Avian Influenza (GRAI)	GRAI provides international coordination and partnership for HPAI between political stakeholders, development partners, the United Nations and the World Organisation for Animal Health (OIE). GRAI led to the establishment of the network of expertise on avian influenza, OFFLU (OIE–FAO) and a Global Early Warning System for Major Animal Diseases (GLEWS) (WHO, FAO, OIE)
Tripartite collaboration	In 2010, the FAO, OIE and WHO established a tripartite partnership and published a concept note on sharing responsibilities, and the collaboration and coordination of global activities and integration of control systems. Rabies, zoonotic influenza and antimicrobial resistance were flagged as priorities. The tripartite concept note acknowledges that, while integration has been attempted in some countries, other countries' control systems have limited collaboration (17)
Connecting Organizations for Regional Disease Surveillance (CORDS)	CORDS aims to strengthen the standard of infectious disease surveillance globally by connecting and enhancing existing and nascent regional disease surveillance networks, and by establishing new networks, particularly in conflict or low-resource settings
Emerging Pandemic Threats programme (EPT)	This programme enlists the One Health Strategy to pre-empt or combat diseases that could start future epidemics, and draws on expertise from the human and animal health sectors to build regional and national capacities for early disease detection. It is supported by USAID

CDC: Centers for Disease Control and Prevention

FAO: Food and Agriculture Organization of the United Nations

USDA: United States Department of Agriculture

USAID: United States Agency for International Development

WHO: World Health Organization

bi-regional strategy of the WHO South and East Asia Regional Office and the Western Pacific Regional Office. At the district level, One Health management can build and strengthen national systems in line with APSED, while district-level One Health platforms that promote local participation further strengthen local leadership and ownership, enabling a multidisciplinary culture which is better able to tackle health and ecosystem challenges.

In Africa, the national response to sleeping sickness and animal trypanosomiasis in Uganda is a good example of a One Health platform that is working well in practice. The Co-ordinating Office for the Control of Trypanosomiasis in Uganda (COCTU) is the formal secretariat of the Ugandan Trypanosomiasis Control Council (UTCC), established by a parliamentary Act in 1992. This permanently funded inter-ministerial platform coordinates policy for all stakeholders involved in tsetse fly and trypanosomiasis control in Uganda. Both forms of human sleeping sickness and all forms of animal trypanosomiasis (also known as *nagana*) are managed in coordination with COCTU to deliver a cross-sectoral response to human and animal disease. Sleeping sickness is normally endemic but can rapidly become epidemic due to a range of human, animal and ecological factors. It is perhaps not surprising that lessons learned from more than 100 years of human and animal disease control have resulted in a One Health platform for disease management and risk mitigation (28).

One Health developments have also been implemented at the national level in several developed countries. Examples include the Canadian Public Health Agency, with an established record of integrating animal and human health professionals in its structure, which played a key role in launching the implementation of One Health (23), and the USA, which played a crucial role in GRAI alongside the EU, taking advantage of the movement to create One Health structures in the Department of Agriculture and the Centers for Disease Control and Prevention, Atlanta. The EU has also made One Health the flagship of its domestic veterinary public health policy, as well as integrating One Health into various external actions.

At the transnational level

Several transnational networks have been implementing the One Health approach in Asia and the challenges and successes of these networks have been well documented. It is now time to build upon these networks. One Health working practices benefit regional organisations such as the Association of Southeast Asian Nations (ASEAN) and other biosecurity and bilateral trade agreements that are contributing to development in the region.

There have been a number of multi-country One Health projects across South-East Asia (22) (see Table I). The

Mekong Basin Disease Surveillance (MBDS) network, for example, established in 1999, comprises 25 cross-border surveillance sites in Cambodia, China, Laos, Myanmar, Vietnam and Thailand, and undertakes surveys and reports on 18 infectious diseases (including avian influenza, dengue, typhoid, cholera, influenza and SARS). The MBDS network has proved its effectiveness in regional cooperation; reporting, communicating and containing disease outbreaks in isolated and economically marginalised border communities; promoting the exchange of information between communities and policy-makers, and sharing information via inter-ministerial collaboration.

Outside Asia, successful surveillance networks and partnerships have been implementing One Health for some time; for example, the Southern African Centre for Infectious Disease Surveillance (SACIDS) and Animal and Human Health for the Environment and Development (AHEAD).

Long-term institutional approaches to zoonoses management that sustainably strengthen the regional and national institutional base for One Health require a rigorous assessment of governance structures, policy processes and stakeholder networks. This can only help decision-makers to better understand, and become more informed about, ways to optimise existing structures to address health risks at the animal–human–environment interface. The challenge is to support, build upon and broaden the existing One Health platforms that were established to detect emerging threats, to also encompass the endemic infectious disease burden of communities. One Health should address marginalisation, using techniques for eco-health interventions that improve community participation and build the local capacity for ‘voice and action’. For example, since disease risk is most acute in economically marginalised and fragile ethnic populations, who are vulnerable to rapidly changing landscape ecology, it may be timely for networks such as MBDS to include surveillance for additional endemic zoonoses, ‘filling in the gaps’ in infectious disease epidemiology in border communities.

Political support for a trans-disciplinary One Health approach to endemic zoonoses is growing, with greater recognition that ‘packaged’ interventions that simultaneously address a variety of endemic zoonotic infections may reduce the risk of disease emergence and re-emergence, if delivered via a ‘sustainable livelihoods’ approach (12, 29, 30, 31). Building on established within-country and regional platforms for emerging infectious diseases can strengthen existing successful cross-sectoral initiatives, facilitate a One Health culture and expand activities to include a greater involvement of key stakeholders from the environmental sector, private sector and local communities. Closer working practices between these groups will optimise the

adoption of successful models by district, national and regional policy-makers – avoiding duplication of effort.

Global partnerships and advocacy for One Health

Understanding the impact of emerging and endemic zoonoses, and the development of successful control measures, can aid poverty reduction and improve food security through strengthening livestock management systems. Crossovers and commonalities between emerging and endemic zoonoses may help to drive the development of viable control options that are both cost effective and acceptable to local communities. In this way, action to prevent the emergence of novel infections and collaboration between sectors can generate new knowledge and new solutions.

The rapid spread of the avian influenza (H5N1) virus, responsible for HPAI, caused huge losses in poultry production with a direct negative impact on the livelihoods of the global poor. The fear that the virus could mutate and be transmitted from human to human, causing a global influenza pandemic, resulted in an unprecedented global response and the formation of GRAI in 2006: ‘a long-term strategic partnership between the international community and the countries affected or at risk in which adequate and prompt financial and technical support is mobilised to complement the efforts by countries and regions’, particularly in developing countries.

Partnerships established through GRAI enabled the control of avian influenza (H5N1) virus, prepared the world for the avian influenza (H1N1) pandemic in 2009 and provided a foundation for the development and application of One Health approaches globally (20). A major outcome of GRAI has been successful coordination and partnership at the international level among political stakeholders, development partners, UN agencies and the OIE. The Global Response to Avian Influenza was unusual, in that it was based on strong *ad hoc* collaboration between, and the joint leadership of, the EU, the USA and the United Nations System Influenza Coordination (UNSIC) who, in liaison with the World Bank and relevant UN agencies, developed policies and set up mechanisms for the crisis response.

The Global Response to Avian Influenza supported the development of the Global Early Warning System for major animal diseases (GLEWS), a joint system which builds on the added value of combining and coordinating alert mechanisms for WHO, FAO and the OIE. Through GRAI, the One Health concept has been further translated into strategies and policies (5). The One Health concept was put forward onto the international scene at the third IMCAPI Conference in New Delhi in December 2007, and

a joint strategic framework developed by FAO, OIE, WHO, UNSIC, the United Nations Children’s Fund and the World Bank was presented at the fourth IMCAPI meeting in 2008 in Sharm-el-Sheikh (Egypt).

In 2010, FAO, the OIE and WHO established a tripartite partnership, publishing a concept note on sharing responsibilities, the collaboration and coordination of global activities, and the integration of control systems for disease control. The Tripartite Concept Note acknowledges that, while integration has been attempted in some countries, collaborative work remains limited in the control systems of many countries (17).

From the human health perspective, there is growing evidence of the advantages of joint human–animal health systems in the field of diagnosis, prevention and control of neglected zoonotic diseases. In fact, this approach is considered essential for their successful control, leading to an overarching recommendation to ‘work towards the concept of One Health’. Basic initial efforts were targeted towards seven endemic diseases: anthrax, bovine tuberculosis, brucellosis, cysticercosis, cystic echinococcosis, rabies and zoonotic trypanosomiasis (29). The promotion of the One Health approach to neglected zoonotic diseases in developing countries has been firmly acknowledged by the neglected zoonotic diseases community, with the future research agenda envisaged as ‘interdisciplinary, participatory and integrated with prevention and control needs’ (30). Recommendations were made for action plans at the national, regional and global levels to assess the burden of neglected (endemic) zoonotic diseases in Africa, providing a framework for future control.

In 2011, a High-Level Technical Meeting was convened by the FAO/OIE/WHO Tripartite in Mexico City, providing a platform for stakeholders to discuss priorities at the human–animal–ecosystem interface within the One Health vision (25). This meeting highlighted rabies as an important topic, along with zoonotic influenza and antimicrobial resistance. The inclusion of rabies, a neglected zoonotic disease, as a priority topic is a positive sign that advocacy for these diseases may be increasing. This decision from stakeholders in these three sectors, encouraged by the Tripartite and close collaboration in control efforts, may pave the way for zoonotic diseases to be moved higher up the agenda for disease control and international health.

Governance and advocacy: the One Health Global Network

The capacity for detecting emerging zoonoses can be further increased through committed advocacy strategies, both at the higher policy level and through engagement with

affected communities, as well as through improved local surveillance networks. Institutional support for the One Health approach is growing, with a series of high-profile meetings having gone some way towards fostering political consensus and increasing advocacy within the international community. These meetings, supported by the EU, FAO, WHO and OIE amongst others, all highlight the inter-sectoral action required for a new cross-sectoral approach to health.

The concept of a One Health Global Network and the web portal attached to it (www.onehealthglobal.net) derive from a 'How to Make it Happen' expert-based process that began in 2009 in Winnipeg, Canada (23). This initiative was further developed in 2010 at Stone Mountain, Georgia, USA (24), and in 2011 in Atlanta, Georgia, USA (32). The One Health Global Network does not aim to replace any existing One Health initiative or structures. Instead, it proposes a 'network of networks' and the website it has developed is a portal to other One Health websites, case studies and resources (33). The One Health Global Network is developing rapidly, and the question today is not 'how to set up a One Health movement?' but how to monitor its rapid growth and establish a model of governance that is acceptable to all One Health stakeholders. The group of experts who voluntarily contribute towards the development of the network have suggested a soft governance structure for the One Health movement, i.e. one which relies more on information and advisory guidelines than on hierarchy and legislation. This would be achieved through the One Health Global Guidance Group (GGG), whose mandate includes advocacy; championing One Health concepts; providing input into biannual One Health conferences; and facilitating and enabling collaboration, connection and synergies, including funding opportunities.

Professional competences in One Health

Addressing new, re-emerging and recurring global health threats requires a long-term, more strategic approach to global health preparedness. Underlying the problem is the growing interaction between human and animal populations, driven by growth in the human population, new trends in animal production practices, changing patterns of wildlife populations, human intrusion on new ecosystems, and the trans-border mobility of humans, animals, food and feed products. It has been universally accepted that One Health expertise is required to tackle the human, animal and environmental challenges of the 21st Century – to identify, control and manage human and animal diseases in complex ecosystems and mitigate risk (4, 5). Demand for One Health working practices from governments and the professions (especially veterinary public health) is high but

the supply remains limited. Platforms and service providers are particularly thin in areas of high zoonotic disease risk across the developing world. Training and educational and professional networks can play a key role in filling this gap. Donors in the public and private sector are responding with investments that target the next generation for the delivery of One Health training at the undergraduate, postgraduate and continuous professional development levels (34).

Beyond an approach and a movement, One Health is now an emerging discipline that studies the complex relationships and interactions between animal health, human health, ecosystem health and socio-economics. New postgraduate programmes build on a solid foundation of biological, veterinary, medical, pathological, epidemiological and social science principles, and are tailored towards students with a first degree in veterinary or human medicine, agricultural science, biology, zoology, health, eco-health or related sciences, or in the social sciences (anthropology, policy, socio-economics and development studies). Students acquire and apply knowledge to:

- mitigate the consequences of interactions between animal, human and ecosystem health
- understand how a One Health approach can be applied in a range of practical situations
- be able to apply One Health principles to address and manage emerging disease threats
- approach other cross-sectoral aspects of health
- learn from successful case histories of One Health surveillance
- identify gaps or challenges in implementing One Health at the national, regional and global levels
- interpret and communicate scientific results and information across other related scientific disciplines and to other stakeholders.

A One Health culture is being built among researchers and practitioners from various disciplines, promoting dialogue between scientists, practitioners and policy-makers at the local, national, regional and global levels. To strengthen One Health capacity, training is needed at many levels. Networks that lead to increased operational synergies between outbreak networks and endemic disease networks worldwide are particularly valuable. Emerging professional training networks include the Field Epidemiology and Training Programmes in Asia, in which both medical (FETP) and veterinary (FETPV) public health professional training courses join to undertake outbreak investigations; programmes to build capacity for eco-health research in Asia (the International Development Research Center of Canada and the Australian Agency for International Development); the EU's Seventh Framework Programme for Research and

Technological Development (FP7) Next Generation of One Health Practitioners in the Sahel Maghreb; One Health for Africa and training provided by the Southern Africa Consortium.

The institutionalisation and progress of trans-disciplinary, cross-sectoral One Health working practices can be driven by:

– networks that offer training in methodologies that assist an understanding of community perceptions (in relation to

gender, ethnicity, and religious beliefs) to foster community engagement in disease risk mitigation

– the development of activities which showcase the added value of cross-sectoral solutions to health risks at the animal–human–environment interface, and

– training that leads to a culture of engagement in applied and policy-relevant trans-disciplinary research.



Initiatives actuelles « Une seule santé » : la consolidation d'un réseau mondial « Une seule santé »

A. Vandersmissen & S.C. Welburn

Résumé

La mise en œuvre d'une riposte mondiale contre l'influenza aviaire a débouché sur un mouvement à plus long terme axé sur « Une seule santé », qui aborde les risques sanitaires, zoonoses incluses, à l'interface homme-animal-environnement et requiert la mise en place de partenariats innovants aux niveaux politique, institutionnel et technique.

Dès lors que les effets cumulés des dangers sanitaires sur la sécurité alimentaire et la sécurité économique sont pris en compte, cette évolution apparaît effectivement comme une solution durable et rationnelle, mais elle exige des investissements financiers à long terme. Les projections relatives à la croissance du secteur de l'élevage et à la hausse de la demande et de la consommation en produits d'origine animale en Asie et en Afrique appellent également des réponses efficaces « Une seule santé ». Cela étant, une réponse efficace doit pouvoir disposer d'éléments d'information probants et validés sur la valorisation socio-économique d'une telle approche.

La mise en œuvre de l'approche « Une seule santé » passe par la création de liens solides entre les services chargés de la santé humaine et de la santé animale, la dimension environnementale et les politiques publiques. Les auteurs présentent une série de partenariats nationaux et transnationaux mis en place depuis 2006.

Le soutien politique, la bonne gouvernance et l'existence de politiques et de réseaux efficaces sont les éléments cruciaux à partir desquels il est possible de construire durablement une stratégie « Une seule santé ».

La riposte mondiale contre l'influenza aviaire a été mise en place sous l'impulsion conjointe de l'Union européenne, des États-Unis et du Bureau de coordination du système des Nations unies contre la grippe. Depuis sa création ce mouvement a soutenu nombre d'initiatives, dont le Système d'alerte précoce et de réaction rapide pour les maladies animales transmissibles à l'homme (GLEWS) de l'Organisation mondiale de la santé (OMS), l'Organisation des Nations unies pour l'alimentation et l'agriculture (FAO) et l'Organisation mondiale de la santé animale (OIE). La riposte mondiale a ainsi ouvert la voie à un partenariat sans précédent entre l'OMS, la FAO et l'OIE, ce qui a permis de promouvoir la prise en compte des maladies d'origine alimentaire ou des maladies tropicales et zoonotiques négligées dans la mouvance « Une seule santé » et abouti à la réunion technique tripartite de haut niveau entre les trois organisations, qui s'est tenue au Mexique en 2011.

Le Réseau mondial « Une seule santé », dont le projet avait été formulé lors d'une Consultation d'experts tenue à Winnipeg au Canada en 2009 est désormais une

réalité concrète. En attendant que s'établisse son Groupe d'orientation mondiale, le choix d'un modèle de gouvernance souple – une approche qui s'appuie plus sur la circulation de l'information et la proposition de lignes directrices, que sur une hiérarchie et des règles, et qui a pour but de guider les agences locales plutôt que de les contrôler – comporte de nombreux défis. Toutefois, l'émergence d'« Une seule santé » en tant que spécialisation professionnelle et universitaire ainsi que les références de plus en plus nombreuses à la culture « Une seule santé » nous offrent également des possibilités nouvelles.

Mots-clés

Gouvernance – Grippe aviaire – Groupe mondial d'orientation – Influenza aviaire – Maladie émergente – Maladie négligée – Pandémie – Partenariat – Réseau – Réseau mondial « Une seule santé » – Santé mondiale – Une seule santé – Zoonose.



Iniciativas actuales en materia de «Una sola salud»: consolidación de la red mundial por «Una sola salud»

A. Vandersmissen & S.C. Welburn

Resumen

La labor mundial para dar respuesta a la influenza aviar ha dado lugar a un movimiento a más largo plazo en favor de «Una sola salud» como planteamiento desde el cual abordar los riesgos existentes en la interfaz entre personas, animales y medio ambiente, incluidas las zoonosis. Un movimiento de esa naturaleza necesita el desarrollo de colaboraciones novadoras al nivel político, institucional y técnico.

Cuando se tienen en cuenta los efectos acumulados de los peligros sanitarios sobre la seguridad alimentaria y económica, dicho movimiento constituye una opción sostenible y racional, aunque exige inversiones económicas a largo plazo. Las proyecciones que auguran un aumento del consumo (y por tanto de la demanda y la producción) de productos ganaderos en Asia y África exigen asimismo respuestas eficaces en el marco de «Una sola salud». Una respuesta eficaz, sin embargo, también requiere sólidas pruebas científicas del interés socioeconómico que reviste esta óptica de trabajo.

La aplicación del planteamiento de «Una sola salud» pasa por forjar sólidos vínculos entre los servicios sanitarios y zoonosarios, los ambientales y las políticas públicas. Los autores presentan una lista de iniciativas nacionales y transnacionales de cooperación implementadas desde 2006.

Apoyo político, buen gobierno y políticas y redes eficaces son otros tantos elementos esenciales para la continuidad a largo plazo de «Una sola salud».

La dinámica de respuesta mundial a la influenza aviar se inició bajo la dirección conjunta de la Unión Europea, los Estados Unidos y la oficina del Coordinador del Sistema de las Naciones Unidas para la Gripe, y desde entonces ha contribuido a numerosas iniciativas, entre ellas la del Sistema mundial de alerta anticipada que llevan adelante conjuntamente la Organización Mundial de la Salud (OMS), la Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO) y la Organización Mundial de Sanidad Animal (OIE). La respuesta mundial a la influenza aviar abrió en efecto el camino a una alianza tripartita sin precedentes entre la OMS, la FAO y la OIE, que promovió la integración en el movimiento de «Una sola salud» de las enfermedades de transmisión alimentaria y las enfermedades tropicales y zoonóticas desatendidas y desembocó en la Reunión técnica tripartita de alto nivel celebrada en 2011 en México.

La red mundial por «Una sola salud», que se planteó en forma de propuesta en una consulta de expertos celebrada en Winnipeg (Canadá) en 2009, es hoy una realidad. Mientras que se constituye su Grupo de orientación mundial, la decisión de recurrir a un modo de gobernanza flexible, que pretende orientar, en lugar de controlar, a las organizaciones locales, o dicho de otro modo, de recomendarles pautas de trabajo en lugar de imponerles textos legislativos constituye un gran desafío. Sin embargo, el advenimiento de «Una sola salud» como disciplina profesional y universitaria, junto con el creciente número de referencias a una cultura de «Una sola salud», abren también nuevas oportunidades.

Palabras clave

Alianza – Buen gobierno – Enfermedad desatendida – Enfermedad emergente – Gripe aviar – Grupo de orientación mundial – Influenza aviar – Pandemia – Red – Red mundial por «Una sola salud» – Salud mundial – Una sola salud – Zoonosis.



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