Enhanced Global One Health Outcomes

Recommendations from HealthforAnimals (global animal health association), 2021

Introduction

'One Health' is built on an understanding that animal health, human health and our shared environment are part of a deeply interconnected system; what affects one will ultimately affect the others. The concept provides an essential framework to address shared health challenges and support global initiatives like the Sustainable Development Goals (SDGs).

One Health will be increasingly important as populations grow, demand for food - including animal sourced food - increases, the climate changes and biodiversity is challenged. People and animals are coming into greater contact, which offers both benefits and, if left unmanaged, potential risks.

Healthy animals can provide safe food, transport, and companionship while supporting the livelihoods of over one billion people. Alternatively, health-compromised animals result in challenges for people and the environment. It is essential that global activities, agreements and bodies recognize the vital 'One Health intersections' in our world. One Health is important to the developed world, but critical to the developing world where the majority of people depend on animals for their wealth and food.

Main One Health themes related to animals

Zoonotic diseases: The spillover of zoonotic disease is an area of growing concern because it can affect wildlife, pets, livestock, and people. Zoonotic disease has played a role in human outbreaks of diseases such as West Nile, Ebola, MERS, and SARs. Today, 75% of emerging diseases are zoonotic, with the majority originating in wildlife. Each year, the top 13 zoonotic diseases are responsible for an estimated 2.4 billion cases of human illness and 2.2 million deaths. Zoonotic spread can occur through direct human contact with wildlife, or livestock or pets may also serve as an intermediary host. For instance, if an unvaccinated dog is exposed to rabies, the entire household is at risk. Tackling zoonoses in animals with better prevention, surveillance, diagnosis, and treatment is the most effective and inexpensive form of control. The global 'Zero by 30' rabies strategy from OIE, FAO, WHO and GARC is a valuable example of this approach in action.

Safe, affordable food access: While robust food safety measures exist in developed, high-income markets, safe food is not guaranteed in developing regions that bear 'most of the burden of foodborne disease.' Protections are necessary at each step of the value chain to ensure overlapping safety layers that can save lives are in place. At the farm level, vaccination or other controls against a bacteria like salmonella significantly reduce entry into the food chain. Furthermore, safe food must also be accessible and affordable. Outbreaks of livestock disease like African Swine Fever or Avian Influenza can significantly increase food prices and risk safe, nutritious foods remaining out of reach of some consumers.

Sustainable production: When livestock health is at risk, the environmental footprint of farming grows. Sick animals consume greater quantities of natural resources and will never produce as much. For instance, when cattle fall ill, this can increase GHG emissions by up to 24% per unit of milk and 113% per beef carcass. Healthy livestock achieve increased growth rates, milk yields or egg production from each input unit. They also have longer lifespans and better-quality carcasses. Furthermore, as climate change accelerates, livestock disease is now able to thrive in areas that may have been inhospitable to certain parasites or disease strains in the past. This puts livestock health at greater risk, which subsequently threatens the people and environment around it. Healthy animals contribute to improved income of families that rely on animal farming.

Antimicrobial resistant bacteria: Antibiotics are a cornerstone of modern medicine and public health, which is why antimicrobial resistance (AMR) is such a global threat. Efforts in animal health to promote responsible use has delivered encouraging progress in recent years. Animal antibiotics sales declined by 34% in the EU since 2011, over 50% in the UK since 2014 and 38% in the US since 2015. The World Organisation

for Animal Health (OIE) recorded a 34% global reduction in mg/kg of animal antimicrobial use from 2015 to 2017. However, with people and animals sharing many of the same illnesses and some antibiotics being effective in both domains, a One Health strategy to AMR is essential. A 2017 University of Edinburgh study suggested that only reducing antibiotic use in animals but not in people has "little impact on the level of resistance in humans." A holistic One Health approach is the right framework, as set out in the recommendations.

Vector-borne diseases: Diseases transmitted by ticks, fleeas and insects – or 'vector borne' diseases – are a growing threat to people all over the world with over 700,000 deaths across the globe every year. The nature of diseases carried by insect vectors makes them difficult to control. One example is African sleeping sickness; the Tsetse flies that transmit the disease are found in 36 countries in sub-Saharan Africa, placing 60 million people at risk. Cattle and wild animals are often carriers of the disease, which can then be spread to people through fly bites. Parasiticides can control the parasite that causes sleeping sickness in animals before transmission to people occurs. One Health strategies for vector-borne diseases seek to understand how vectors circulate in the environment and interact with people and animals. This offers numerous pathways for control versus only treating the disease once it enters human populations.

Greater human health security: Safeguarding global health security requires minimizing the risk of acute, systemic public health events that threaten people. Rapidly growing populations, urbanization, global travel and incursions into untouched lands can amplify these risks. One Health frameworks are needed to address risk instead of strategies that simply seek to solve a health issue after it is emerged within people. Public health events do not occur equally across society and tend to fall on the most vulnerable.

Enhanced mental health: The inclusion of mental health in the Sustainable Development Goals under Goal 3 was a historic recognition of the importance of this issue to a sustainable future. Depression, a silent scourge, affects the mental health of 264 million people worldwide and is a leading cause of disability and a contributor to the overall burden of disease. Companion, therapy, and assistance animals have been shown to help alleviate mental health burdens, helping those struggling with challenges ranging from PTSD to depression to anxiety. A One Health approach to mental health could examine unique tools such as assistance animals and pets as a method for tackling these issues.

Eight recommendations to enhance One Health outcomes

1. **Dedicate resources for zoonoses monitoring, through a new One Health Preparedness Unit.**

Governments have programs dedicated to detection, surveillance and monitoring of disease spread in people. However, these are often under-funded and under-resourced, and few have complementary systems for animals. This creates gaps in our ability to predict or identify zoonotic spillover before it spreads. Increased human and financial resources at a national level will strengthen these efforts, but only to a point. Enhanced global collaboration is also required to ensure surveillance does not stop at national borders.

A central One Health Preparedness Unit that builds upon the existing programs of the OIE (WAHIS), FAO and WHO could help nations track disease spread and prepare for outbreaks before they occur. Like military contingency or 'wargame' planning, such a planning cell would develop global scenarios of diseases, threats, spread, as well as detailed prevention and preparedness plans. When surveillance shows a growing outbreak, the Unit is prepared to help nations implement quick-response strategies that can help quickly extinguish it.

A scenario development preparedness planning unit should involve the Tripartite, governments, and public and private entities with relevant experience. Focusing on the threats that could cause the greatest human, animal and environmental damage would provide outsized value. Outputs could be shared across governments to help predict zoonotic spillover.

2. **Create a One Health public-private information exchange platform within the Tripartite+.**

The COVID crisis also showed that the private sector has a significant role to play in preventing and addressing health crises. Yet at global level, no formal mechanism exists for the transparent engagement of the private and NGO sectors with public entities. Such a formal mechanism should be created under the

auspices of the Tripartite+. It would involve the human, animal, environmental sectors, and for good governance reasons, its processes would be public. Its core focus would be collaboratively developed, but would likely include preparedness, prevention, and planning for transboundary one health challenges. The platform could also develop methods for informing stakeholders about One Health such as:

- '*One Health Handbook for Ministries*': Identifying main challenges, methods for fostering 'One Health' cross-departmental collaboration, specific actions to take, etc.
- Organization of a regular, global public-private One Health conference showcasing best practices,
- Dedicated One Health site from the Tripartite+.

3 **Move to permanent rapid approval systems for innovative products: increase regulatory cooperation.** The COVID crisis showed that fast track and emergency use procedures for human and animal life saving products are possible, whilst respecting the requirements of medical product assessment. Making many of these adaptations permanent can allow for quick reaction to emergency crisis and mitigate endemic situations. Non-emergency, endemic disease spread remains the primary driver of illness worldwide and time lost during the regulatory process means products become available only years after they could address an illness. For instance, there is still hesitation among regulatory authorities to authorize companion animal vaccination against COVID-19 even when health impacts are being reported.

Furthermore, for products that receive an Emergency Use Authorization (EUA) during a crisis, data collected during this EUA period cannot always be used when applying for full authorization. This creates additional delays and ultimately prohibits regulators from reviewing valuable, real-world data.

Regulatory cooperation and harmonization of procedures between governments can be further accelerated so that safely assessed products can reach human and animal patients sooner. Political signals to accelerate harmonization and cooperation between governments, as well as promote more proportionate approaches to regulation and governance are necessary. These efforts can be made in existing human and animal health global forums. In addition, innovation could also be spurred by adopting a more practical approach for access to pathogen sequences in line with the Nagoya Protocol. The intention of this Treaty was never to slow or deter the development of new innovative products.

4 **Increase global investment in, and access to, veterinary services and preventative animal health tools.** Prevention of animal disease significantly benefits human health. In countries most threatened by animal diseases and from where many viruses emanate, there is structural under-investment in, and access to veterinary services, particularly preventative care. In areas that lack veterinary services and/or training, animal owners may only react to a health problem with treatment once it is acutely impacting the animal. Significant increased financial investment from governments and global financial entities in proven preventative approaches for underserved areas is required to protect people and animals. This includes veterinary infrastructure, animal biosecurity, vaccination, access to diagnostic, digital and traditional veterinary tools, awareness campaigns and further building of vaccine banks.

5 **Strengthen and focus antimicrobial resistance policies where they can make most impact.** Global political support for AMR policy development has been strong. WHO, OIE and FAO AMR action plans have spurred widespread creation of national AMR policies. Scientific evidence must be the basis for policies. The WHO, OIE, FAO and UNEP have created a range of tools and policies. Codex Alimentarius is strengthening a global Code of Practice. The One Health Global Leaders Group on AMR is creating global momentum for political action. Alongside these efforts, the private sector has taken significant actions with clear and measurable results. These results were achieved through stewardship, responsible use, investments in biosecurity, vaccination, alternatives, veterinary access, etc. Implementing these strategies in more markets, particularly emerging ones, can be done through strategic investments as outlined in item 7. The significant efforts in animal health resulting in the use reductions, will not address the issues underlying AMR unless similar levels of action are taken in the human health sector. These include more focus on addressing misuse and overuse, more comprehensive use reporting, significantly enhanced research into transfer routes, and more support for implementation of national AMR and One Health action plans in developing countries.

6 **Include animal health voices in a pandemic prevention and preparedness policies.**

As the world considers how to ensure better pandemic prevention and preparedness, it is critical animal health voices are part of those discussions. Too often in the development of global policy tools, experts in animal and environmental health are consulted only as an afterthought. This is no longer acceptable, and experience shows that policies developed within such silo thinking have been weak. The new joint WHO/FAO One Health effort, including the creation of the 'One Health High-Level Expert Panel' to collect, distribute and publicize scientific information, are good initial initiatives. The One Health philosophy should be much engrained in all global health policy development.

7 **Invest in sustainable food production and availability of safe food.**

There is significant scope to improve the sustainable production of safe food and advance the SDGs. This will require more investment in improving livestock and aquaculture health management, welfare, and health outcomes by better application and incentivization of available tools – vaccination, biosecurity, nutrition, diagnostics, digital predictive techniques, treatment, etc. In addition, better and more consistent application of OIE, FAO and Codex standards and policies can improve animal health, smooth global trade, sustainable production and compartmentalisation of disease. Across the wider food and agricultural chain, there are opportunities to further establish trust among food producers, processors and retailers based on accountability and transparency - all aimed at provision of high quality, safe, nutritious, and abundant food.

8 **Incorporate companion animal health considerations in development of One Health thinking.**

Covid-19 has increasingly exposed the significant burden created by stress and anxiety upon mental health. Assistance, therapy and companion animals are being leveraged in the response; however, they remain underutilized as a medical intervention despite scientifically validated benefits. Countries should evaluate how animals can factor into national mental health strategies. Furthermore, with close proximity to people, a comprehensive approach to companion animal health is required. Such an approach should include appropriate vaccination policies, nutrition approaches, and monitoring and treatment of zoonotic and vector-borne diseases. Digitally connected identification, traceability and monitoring products and solutions are increasingly being used to identify companion animals and maintain their health and safety. As in livestock, digital identification and monitoring solutions in companion animals and horses can positively contribute to preventing disease spread through surveillance of animal health status and movement.