



Policy advice WUR Zoonoses and Global One Health

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How do we achieve better control and prevention strategies of zoonoses, so that in the future we do not end up in the situation of the past two years again?

A simple answer to this question is not easy to formulate, but we do know that an integrated and international approach is the key. This approach, in which the health of individuals and the population, animals, plants and the environment are jointly weighed in order to achieve optimal global health, is called the Global One Health approach.

Wageningen University & Research (WUR) is active in almost all specific areas relevant to Global One Health; from combating animal diseases and disease vectors such as biting insects, to the functioning of ecosystems, and society's social, communication and behavioral aspects. But Global One Health is also emphatically about collaboration between government, science, the private sector and interest and stakeholder groups, and therefore about communication and decision-making processes, and implementation and implementation.

In this document, we draw particular attention to the importance of the transdisciplinary and multisectoral approach to zoonosis control and prevention in the future. More concretely: how do we get past the paper tiger that pandemic preparedness turned out to be in the initial phase of COVID-19? The effectiveness of any policy depends on the actual implementation. The flexible deployment of manpower, knowledge and mandate is a critical condition for actually realizing set goals in a crisis. One Health is therefore not only a matter for content experts and scientists, but also for policy makers, and organization and management experts who help to realize connections across separated sectors.

Zoonoses risk is determined by many factors. And while everyone has an interest in preventing zoonoses and pandemics, the necessary adjustments and measures affect different sectors in different ways; impact and interests are different between agriculture, ecology and the environment, public health, but also trade and economy (travel and tourism, logistics), employer tasks, etc. Moreover, the international context is of obvious importance when discussing a subject that by definition extends far beyond national and continental borders. Forward-looking cooperation is therefore essential.

The many factors that play a role in the emergence of zoonoses come together in the contact structures between wild and domestic animals, and humans. By contact structures we mean the manner and frequency in which different animals and people encounter each other. When that changes, risk profiles also change. This is happening, for example, through the globalization of trade and travel, changes in management of animal husbandry systems, trade in domestic and exotic animals. There is also a link between the risk zoonoses and a number of major societal challenges, such as climate change, deforestation and loss of biodiversity, and the way in which local and global food production systems are organized. It is important not only to pay attention to pandemic preparedness (i.e. being ready for the next pandemic), in other words to focus on mitigation measures after the disease has already spread to the human population, but also to prevention (i.e. preventing that a new pandemic arises). Active measures are needed now, that reduce the risk of the emergence of zoonoses and thus a pandemic later on. Active knowledge dissemination and exchange among and between all parties involved, including citizens, should also be given attention, as should smart surveillance and monitoring that provides a faster insight into situations where "harmless" animal diseases can potentially develop into epidemics or even pandemics. Measures aimed at prevention are more cost-effective in the long term and easier to implement than measures needed to contain an infectious disease in the human population.

Measures with broad social support can be more effectively implemented; here too there lies an important task: stakeholder communication and creating a wide understanding of actions and consequences, both in every-day life and in relation to controlling an infectious disease.

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Looking at the Netherlands, the combination of high densities of both the human and animal populations forces us to pay attention to zoonosis risk profiles associated with the way in which animal husbandry is organized. In the current set-up, there are recognized risks to human health associated with animal husbandry, especially where protective measures are not enforced. The Dutch goal of switching to more sustainable forms of animal husbandry with a view to reducing nitrogen emissions brings about changes in these risk profiles. Circular, smaller-scale and more mixed farming, but also the use of insects to upcycle low-value protein sources and waste streams, create new contact structures between wildlife and various kinds of livestock and pets, and people. These changes in risk profiles have not been taken into account in the intended transitions. The relationship with the desired stimulation of biodiversity is also important here: which places in the landscape can safely facilitate specific types of farms, and in what set-up? What effects are to be expected in the dynamic interactions with wildlife, and with the people who live, work and recreate in the agricultural landscape?

The chance that a new pandemic of the caliber of COVID-19 will arise abroad is considered greater than that it will originate in the Netherlands. So in addition to making our own country safer for diseases such as Q fever, it is necessary to develop knowledge and policy that aligns with the international setting. On a global scale, there are opportunities for the Netherlands to take a proactive role. Sharing the data from our otherwise efficient surveillance and (biosafety) control systems should be better supported by policy and legislation. The knowledge that is developed with Dutch expertise about sustainable and zoonosis-safe animal husbandry systems can be exported and implemented internationally. At COP26, a good step was made towards tackling deforestation, which requires appropriate and sustainable international policy. Other themes including the big one - climate change - must also be addressed in conjunction with our understanding of zoonoses. Institutions such as WUR must continue to actively participate in One Health knowledge networks, such as One Health EJP¹, and PREZODE², with broad support from the government.

On a global scale, there are opportunities for the Netherlands to take a proactive role.

How do we implement an effective Global One Health approach? Different sectors with divergent interests must work well and naturally with each other.

The report of the Dutch Expert Group on Zoonoses³, also known as the Bekedam report, which was commissioned by the Dutch government, presents the core recommendation "Improve the health of animals and the environment and people's general state of on the basis of a One Health approach". By now, there are countless reports and recommendations that sport that message: knowledge and insight from many different areas is needed to solve complex problems, or better yet, prevent them from arising in the first place.

This obvious fact still needs to be stated, because knowledge continues to be created, applied, assessed and stored away in silos; in different faculties, institutes or ministries, confined within regional and national boundaries, each with its own language and, very importantly, divergent interests.

Public tasks such as surveillance, monitoring, supervision, and control of infectious diseases are in principle well organized in the Netherlands, although it must now be recognized that the services providing these tasks have suffered greatly from continuous and far-reaching cutbacks. The services still work adequately, each in their own target area. However, this piecemeal approach is the main barrier to effective intersectoral zoonosis prevention. Moreover, prevention is a challenging and sometimes thankless task; it is not possible to prove that targeted measures have prevented or controlled a new outbreak. Due to the complex interrelationship of causes, it remains unclear whose task it is to prevent zoonoses from escalating. Institutions are largely resistant to change, hence it takes a long time and an enormous effort to break through this compartmentalization of responsibilities, regulations, and routines. Having a common and unifying vision of the future is indispensable to accomplish a breakthrough.



¹ <https://onehealthejp.eu/>

² <https://prezode.org/>

³ Dutch mainly, English language summary: Zoönosen in het vizier:
<https://www.tweedekamer.nl/kamerstukken/detail?id=2021Z12901&did=2021D27686>



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Given the size of the challenge of the COVID-19 pandemic, it is abundantly clear that such obstacles should not be a reason to give up on accomplishing change. In the past twenty years, society has shown an increase in ideas, initiatives and innovations, that can help change ingrained policy and organizational patterns, reinforced by joint citizens' initiatives. This happened not only in the Netherlands but also internationally. The research and academic world is also working on strengthening the One Health approach (e.g. One Health EJP). Networking and digital connection have resulted in an enormous increase in practical experiential knowledge as well as scientific knowledge about the theory of change and change mechanisms.

The One Health High Level Expert Committee⁴ recently appointed by the Tripartite-Plus has adopted a shared definition of One Health; that should form a good basis for building Global One Health institutions. Furthermore, comparative case studies will show what works and what doesn't. And, at all scales from local to global, support is needed for research, engaging the public and local stakeholders, and training a new generation of Global One Health professionals.

The Pan-European Commission on Health and Sustainable Development⁵ of the WHO, in which Louise Fresco, chair of the WUR Executive Board, was a member, also included One Health as the main route to achieving a healthier and safer future: "Operationalize the concept of One Health at all levels" .

The One Health definition developed by the OHLEP states:

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems.

It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and inter-dependent.

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.

OBJECTIVE 1

Operationalize the concept of One Health at all levels

The One Health approach, which recognises the interconnection between people, plants, animals and their shared environment, is not a new concept, but its adoption has been hampered by fragmented policy-making and financing, and siloed organisational structures. COVID-19 has demonstrated how when one part of One Health is at risk, the other pieces are also in danger. Now, more than ever, we urgently need to implement a One Health approach to respond to threats to human health and progress towards sustainable development.

It is alarming that the most positive scenario elaborated in the report by the WRR and KNAW⁶ describes society returning to normal; recovery is certainly important, but there should also be prospects for social and financial investments in prevention: a safer and healthier world should be considered a higher goal than a more effective crisis response when things have gone wrong again. The first important step to take in the Netherlands is to strengthen policies and broader network governance at the national level to enable multi-sector approaches to surveillance and interventions. In doing so, the wider context of socio-cultural and political backgrounds, as well as existing institutional practices and interests, must be taken into account.

Only with guts and a broad plan that has been developed with a broad vision and beyond all our silos will we come to a better, more future-proof, safer and healthier normal. WUR supports this with transdisciplinary, future-oriented and internationally embedded programs such as ERRAZE@WUR⁷ and the various KB programmes.

The Netherlands could help achieve this better normal through:

1. Room for experimentation for regional and central innovative collaborative platforms between public health, agriculture, economics, ecology, guided by transdisciplinary and transition-supporting researchers, including governance and organizational scientists and experts in diplomacy and public affairs, as well as communication. This could lead to a One Health Authority.
2. Inclusion of Global One Health aspects and consideration of risks and externalities in all (economic) policy, thereby strengthening long term public, animal and environmental health and zoonosis prevention and preparedness.
3. Facilitating international cooperation in early warning and prevention; strengthening cooperation between WHO, OIE, FAO, UNEP and WTO and continental departments. Mirror this in national and regional bodies.

⁴ <https://www.who.int/news/item/01-12-2021-tripartite-and-unep-support-ohlep-s-definition-of-one-health>

⁵ "Drawing light from the pandemic – a new strategy for health and sustainable development" kan hier gevonden worden: <https://www.euro.who.int/en/health-topics/health-policy/european-programme-of-work/pan-european-commission-on-health-and-sustainable-development>.

Excellent summary in this video: <https://youtu.be/eplnfHS2Lfu>

⁶ Dutch only: Navigeren en anticiperen in onzekere tijden; <https://www.wrr.nl/publicaties/publicaties/2021/09/02/navigeren-en-anticiperen-in-onzekere-tijden#:~:text=hier%3A%20Home%20Publicaties-.Gezamenlijk%20WRR%2D%20en%20KNAW%2Dadvies%3A%20Navigeren%20en%20anticiperen%20in,pandemie%2C%20inclusief%20het%20worstcasescenario.>

⁷ <https://www.wur.nl/en/Research-Results/Research-programmes/Cross-WUR-programmes/ERRAZE-at-WUR/Showcases.htm>

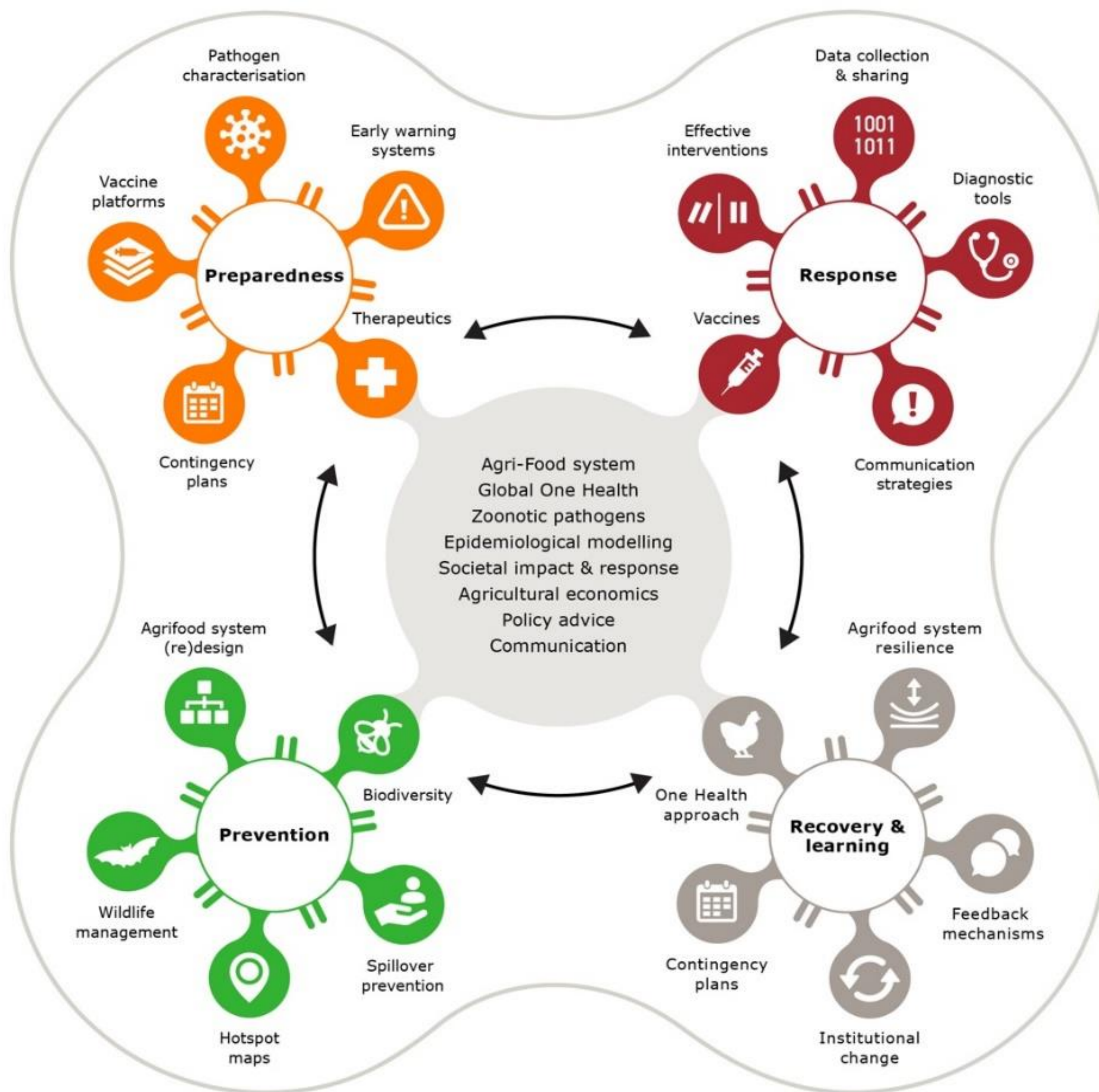




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Early Recognition and Rapid Action in Zoonotic Emergencies



Links:

<https://www.wur.nl/nl/Onderzoek-Resultaten/Onderzoeksinstituten/Bioveternary-Research/Uitgelicht/Zoonosen.htm>

<https://www.wur.nl/nl/Onderzoek-Resultaten/Onderzoekprogrammas/Cross-WUR-programmes/ERRAZE-at-WUR.htm>