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Preventing Pandemics
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Preventing Pandemics

Tackling the risk factors of zoonoses is essential for the WHO instrument on pandemic prevention, preparedness and response.

Prevention at the source

Approximately 75% of emerging infectious diseases1, such as COVID-19, severe acute respiratory syndrome (SARS) and Ebola, are zoonoses, meaning they are transmitted between animals and humans. Addressing the root causes of zoonotic disease (re)emergence would decrease the likelihood of pathogen spillovers from animals to humans and constitutes the most effective way to reduce pandemic risks.

A growing body of evidence confirms that ecosystem degradation, land use change and the exploitation of wild and domestic animals accelerate the evolution, spillover and spread of zoonotic pathogens. Climate change, globalisation and unsustainable consumption patterns further exacerbate these risks[2,3,4]. As a result, measures to prevent emerging zoonotic diseases need to focus on anthropogenic activities such as increased interactions at the animal-human interface, and the growing demand for animal proteins, and their impact on animals and ecosystems[5,1].

Preventing the spillover of pathogens at their source would help to mitigate risk factors for the transmission of infectious diseases from animals to humans. Especially by avoiding prolonged contact with animals at the time of pathogen shedding, which is highest during handling, slaughter and consumption[6]. Pandemic prevention therefore should include comprehensive primary prevention[7] measures that promote better animal welfare and health as well as the cessation of high-risk practices.

The international pandemic instrument

The current International Health Regulations (IHRs) are largely built on the assumption that disease outbreaks cannot be prevented, only contained and extinguished[8]. As a result, most resources for dealing with pandemics are directed towards preparedness and mitigation measures[9], while pandemic prevention measures remain neglected. The international pandemic instrument, currently being drafted and negotiated by the Intergovernmental Negotiating Body (INB), creates a unique opportunity to fill this gap and ensure prevention.

It is of utmost importance that the focus of the pandemic instrument is not restricted to post-outbreak prevention measures, such as biosecurity, or pathogen surveillance, for which significant funding and resources are currently allocated. Instead, the instrument must also encompass pre-spillover prevention[7].

It has become clear that the current health mechanisms and processes have failed in part because they are not built on a holistic understanding of the interconnectedness between humans, animals and the environment[10]. The new instrument has a significant potential to rectify the siloed approach to public health if it is designed with One Health (as defined by the One Health High-Level Expert Panel, OHHLEP) at its core.

The economics of prevention

Tackling the root causes of zoonotic disease emergence is the most sustainable and cost-effective investment in safeguarding human health, while simultaneously supporting global health and development outcomes.

The global cost of the COVID-19 pandemic lies between USD 8.1 and USD 15.8 trillion (estimation from 2020)[11]. Yet COVID-19 is not the only zoonosis claiming human lives and disrupting economies. Research estimates the global value of lives lost due to zoonoses at a yearly USD 350 billion with an additional USD 212 billion in direct economic losses[7].

At the same time, prevention tackling the root causes of pathogen spillover from animals to humans is estimated to require annual investments of approximately USD 20 billion. **In other words, prevention would cost around 5% of the yearly value of lives lost from emerging infectious diseases[7].** In addition, it would bring ancillary benefits, such as carbon sequestration.

Regarding the main measures for primary prevention, researchers identify limiting deforestation and tackling wildlife trade as the most cost-effective ways to prevent pandemics[7,11]. The measures for stopping deforestation consist of eliminating harmful subsidies, supporting the territorial rights of indigenous people and implementing direct forest-protection payments that economically outcompete deforestation (this latter approach has proven to be more effective than carbon pricing)[11]. In addition, protecting rainforests alone would bring approximately USD 4.3 billion annually in social benefits from reduced greenhouse gas emissions[11].

Recommendations

Governments must seize the opportunity to establish an international pandemic instrument that advances prevention measures that address the root causes of zoonotic pathogen emergence, spillover and spread in order to effectively safeguard human health. This can only be achieved with One Health, as defined by the OHHLEP, incorporated as a cornerstone of the new instrument. Furthermore experts and civil society organisations working on animal health and welfare and environmental protection must be included in the deliberations and negotiations of the INB to complement the expertise of those in the health field.

FOUR PAWS urges governments in the INB to advocate for the pandemic instrument to:

- Address preventing the likelihood of spillover of pathogens from animals to other animals or humans in the first place through evidence informed primary prevention measures.
- Acknowledge the interconnections between human, animal and environmental health and wellbeing for pandemic prevention and ensure prevention measures align with OHHLEP's definition of One Health.
- Support the integration of One Health into international and national strategies for preventing, preparing and responding to infectious disease outbreaks. This should happen across all sectoral policies with joint investment and interdisciplinary approaches.
- Provide legal coherence between existing environmental and animal-related treaties such as the CBD[12], CMS[13] and CITES[14] and should reinforce and complement their existing provisions in line with a One Health approach.
- Include a legally binding obligation on Parties not to trade in, or market, any wild animals, either domestically or internationally. This must include mechanisms to limit the disturbance, unnatural migration, and removal of wild animal species through human encroachment, commercial wildlife trade, and other activities, such as live animal markets while including the local population in assessing sustainable measures.
- Explicitly recognise the role of food systems in enabling pathogen spillover, including in intensive farming contexts, and the benefits of sustainable food systems.

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