

9TH CALL OIE *AD HOC* GROUP ON COVID-19 AT THE ANIMAL-HUMAN INTERFACE

10th September 2020

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Agenda

1. Research and development priorities
2. Review of guidance (including gaps)
3. Update on SARS-CoV-2 events in animals
4. Update on animal-human interface related research and animal/wildlife work

Meeting notes

1. Research and development priorities

WHO hosted the first *COVID 19: Global Research and Innovation Forum* in February 2020, where critical R&D topics were identified. In July 2020, the R&D Blueprint was reviewed, and gaps and priorities were discussed. Some countries are organising national level research coordination initiatives. OIE participated in the UK BBSRC-DEFRA Virtual Meeting with the purpose to define research priorities and gaps on SARS-CoV-2 at the human-animal interface in early September. The final report is pending publication, but there was agreement to understand the mechanisms for cross-species transmission, changes in the genome, understanding coronavirus in general, and understanding risks along the food production chain.

The Group was invited to brainstorm on priority areas for R&D. The most pressing topics to work on would be: host range and interspecies transmission; human to animal transmission and establishment of new animal reservoirs, especially in relation to spill-back into wild animal species such as bats and carnivores; wide scale serological testing of bat and other wildlife samples to establish a baseline in terms of pre-pandemic antibody landscape. Lastly it was raised the need for sustainability of research into SARS-CoV-2 as many of funding opportunities are for short term projects. The role of domestic animals (livestock and companion animals) should be further explored to develop effective risk mitigation measures.

WHO has funding (6M USD/Euro?) for human-animal interface research which needs to be dispersed by the end of the year and invited Group members to submit proposals of studies that could be funded by WHO under the R&D Blueprint.

2. Review of guidance (including gaps)

The Group agreed that the guidance documents available on the [OIE COVID-19 portal](#) remain relevant in light of newly published studies. The [Guidelines on working with free-ranging wild mammals in the era of the COVID-19 pandemic](#) were presented with the accompanying additional resources.

The Group agreed that there is the need to develop a similar document for domestic animals of susceptible species including farmed animals and a Sub-advisory Group to the ad hoc Group was designated for that purpose. USDA/CDC have already used a One Health approach to develop guidance on biosecurity when working with [mink](#) and rabbits (currently under development), which are species susceptible to SARS-CoV-2 infection, and response guidelines in the event of an outbreak.

3. Update on SARS-CoV-2 events in animals

Denmark: an overview was provided of the status of mink farm outbreaks. The mink farm industry in the country is comprised of around 14,4 million animals hosted in approximately 1200 farms. Recently, 10 mink farms had infection events, which have included mink, humans and a dog. Full-genome sequencing of human and mink samples has shown that the first five infected farms are part of the same chain of infection. Denmark recently changed its strategy of culling infected farms to surveillance and enhanced biosecurity to prevent infection from humans to mink and vice versa. A One Health approach has been taken for management of these outbreaks.

4. Update on animal-human interface related research and animal/wildlife work

The Group emphasised that, based on current evidence, livestock do not play a relevant epidemiological role in the pandemic.

Experimental studies from FLI, Germany, have demonstrated the susceptibility of racoon dogs to SARS-CoV-2. Experimentally infected racoon dogs did not show clinical signs but transmitted the virus to contact animals. Racoon dogs have shown potential to play a role as an intermediate host. In another study from FLI, domestic cattle (*Bos taurus*) were found to have very low susceptibility to the virus, without transmission to contact animals.

Results from a Canadian (NCFAD) experimental infection study of pigs showed that RNA specific to SARS-CoV-2 was detected 13 days post inoculation in one pig, with live virus isolated from the submandibular lymph node. The same pig also showed some clinical signs up to 4 DPI. Two additional animals had low levels of SARS-CoV-2 RNA detected in nasal washes at 3 DPI. The Group agreed that communication on these research outcomes should emphasise that infection was under experimental conditions and may not reflect the field situation. Several other studies have shown pigs not to be susceptible to SARS-CoV-2 or a risk for further transmission.

A study from Erasmus Medical Centre also found the susceptibility of rabbits to the infection.