



Draft Summary

OFFLU/WHO teleconference: surveillance issues around novel influenza A (H1N1) and the human animal interface
15.30 -17.00 (Paris time, GMT +2) on Thursday 21st May

The objective of this meeting was to gather epidemiologists and experts in swine and human influenza from the human and animal health sectors to brainstorm on aspects of surveillance for the novel influenza A (H1N1) virus in swine. Although this discussion focused on surveillance for the novel A (H1N1) virus, there was also some discussion about surveillance for influenza viruses in swine generally.

Experiences

The United States of America (USA), Canada and Mexico are currently at the forefront in addressing surveillance for the novel influenza A (H1N1) in pigs. All three countries have passive surveillance systems for influenza in swine. There has also been targeted surveillance among pigs where a link has been identified to suspect or confirmed human cases of novel influenza A (H1N1). To date, the novel influenza A (H1N1) virus has only been identified in pigs from one pig farm in Alberta, Canada. The pigs on this farm are believed to have been infected from a human with influenza-like illness.

Given the current novel influenza A (H1N1) situation in humans and the demonstrated susceptibility of pigs, it will not be surprising if there are further detections of novel influenza A (H1N1) in pigs.

Surveillance, monitoring, and epidemiological studies

The distinction between surveillance, monitoring, and epidemiological studies should be clearly emphasized; each answers a different set of questions. The group agreed that before implementing any activities, there should be a clear objective as well as a plan should positive results be found in pigs.

The primary objective of surveillance for novel influenza A (H1N1) in pigs is to protect public health; to date, infections in pigs have not been a significant animal health problem. The objectives of such surveillance need to be further elaborated, in order to focus it on gathering specific information that will inform specific public health (or animal health) actions. For example, if the novel influenza A (H1N1) virus, currently circulating in people, begins to transmit back and forth between pigs and humans, pigs could potentially act as a reservoir or amplifier for additional human infection, or could facilitate spread into new areas. Virological surveillance could identify reassortments or mutations in this new virus that could have additional public health impacts (such as antiviral resistance), which would influence country pandemic or epidemic disease preparedness planning.

The objectives of monitoring for influenza A viruses in pigs should be considered separately. These could have both public health and animal health benefits. Monitoring may help to establish baseline information on influenza viruses circulating in pig populations and identify new, emerging, reassortant or mutant influenza viruses which may have the potential to emerge as human pathogens. Monitoring, would also be useful to inform aspects of animal health such as vaccine and diagnostic test development, but is unlikely to be of benefit for early warning as the significance of positive results would be difficult to estimate.

Epidemiological studies need to be considered separately, and will help to inform options for risk management and disease management and control.

The importance of supporting any surveillance with appropriate and accurate communication was noted. While the primary objective of surveillance is to protect public health, a communication strategy should ensure appropriate public awareness and perception based on scientific evidence, minimising the negative impact on the swine industry.

Type of surveillance

Virological surveillance for the new virus is most appropriate but it must be conducted with the correct protocols and expertise. The period in which virus can be isolated from infective pigs is short. Serological studies for the moment cannot distinguish between this novel virus and other strains of influenza A H1 circulating in pigs. The availability of appropriate diagnostics is key in conducting surveillance effectively.

Targeting should be implemented for surveillance for the novel influenza A (H1N1) virus in swine. There are various possibilities for targeting, such as high risk groups, pigs showing signs of respiratory disease, and pigs linked to human novel influenza A (H1N1) cases.

In both cases, appropriateness of sampling protocols for different types and sizes of groups should be considered.

Although rarely reported, humans have been sporadically infected with swine influenza viruses. In these instances, animal health and public health should work together to conduct epidemiological investigations to determine the potential source of the virus, and virological investigations to assess whether novel strains may be emerging. These joint activities would become important for H1N1 should the epidemic spread to areas where pigs are raised more often in non commercial settings.

Risks to pigs and humans

History tells us that human pandemic viruses may enter swine populations and then become endemic within them. The possibility that this may happen with the novel influenza A (H1N1), currently circulating in humans, cannot be excluded. Experience from the outbreak on the Canadian pig farm suggests that this virus behaves similarly to typical SIVs infecting pigs, thus the animal health impact of its becoming established in swine populations is likely minimal.

If there is significant spill-over infection from human to swine populations there is a risk that pigs may play a role in the persistence of the virus. If novel influenza A (H1N1) was to become established in pigs, infected herds may serve to amplify the virus and increase the likelihood of reassortment.

Based on the current situation, South America and other southern hemisphere countries may increasingly face these risks in the coming months as they enter their human influenza season. Expansion of the epidemic into areas where humans and animals live more closely together may change the relative risks to both humans and animals.

Reporting

Neither swine influenza nor novel A (H1N1) in pigs is an OIE listed disease. However at present OIE Members should report an occurrence of novel influenza A (H1N1) in an animal to the OIE as it is an emerging disease. This mechanism is functioning well for the moment.

The OIE is in the process of evaluating new evidence, including ongoing animal studies, as it becomes available and will update its approach to this and other swine influenza viruses if appropriate.

Gaps

There are still many uncertainties and the scientific community is responding to the questions. Some of these knowledge gaps are currently being addressed through research, including assessment of the transmission and pathophysiology of infection in pigs. The development of new diagnostic protocols to detect the novel influenza A (H1N1) virus and to differentiate it from other influenza A (H1N1) viruses is also ongoing.

It was suggested that OFFLU can play a leading role in consolidating, analysing and disseminating some of this information.

Conclusions

Although many mandates of the public and animal health sectors are different, the importance of having strong functional links between these sectors on every level was clear.

Participants agreed that there must be clear objectives for surveillance, monitoring, and/or special studies in both affected and non affected countries, and that surveillance should be targeted. It was clear that more information was needed regarding this disease in animals and the real zoonotic risks to humans.

Next steps

Develop guidance on surveillance, monitoring and epidemiological studies for novel influenza A (H1N1) in swine (and potentially other animals), after further consideration of the issues raised above, including questions of implementation, scope, targeting, etc.

Identify specific public health questions and triggers (leading to specific public health actions) that could be answered by surveillance, monitoring, laboratory and epidemiological studies.

Consolidate data from existing surveys for influenza viruses in pigs.

Consolidate scientific findings from ongoing research and development about the behaviour of novel influenza A (H1N1) in pigs, coordinate analyses, and communicate findings to the network.

Contribute to development of a case definition for this disease in swine.

Specific topics for discussion will be identified to address these issues and will be coordinated jointly by WHO and OFFLU.