



FAO/OIE/WHO Tripartite Statement on the Pandemic Risk of Swine Influenza

A recent report¹ on the circulation of A(H1N1) subtype influenza viruses in the swine population in China with evidence of zoonotic potential has alerted the world to the pandemic risk associated with swine influenza viruses. This particular genetic clade (1C.2.3) of swine influenza A (H1N1) viruses had previously been reported by the Harbin Veterinary Research Institute, China in 2016, and from 2016-2018 remained the most commonly detected genotype of influenza viruses in surveillance undertaken in swine populations in China.

“Although there is limited data assessing human infections and circulation of these viruses in pigs, awareness and vigilance is strongly advised for a number of reasons” says Keith Sumption, Chief Veterinary Officer of the FAO. “The viruses analysed in the recent report from China show characteristics associated with increased ability for zoonotic transmission – the potential ability to infect humans. The viruses have some genetic markers to suggest human infection is possible; they can replicate in human airway cells, and viruses can be spread via respiratory droplets passed between ferrets.”

It is important that new and updated **swine influenza surveillance data collected by countries are rapidly analysed and risk-assessed** on a global scale to enable tracking how endemic and novel viruses are spreading. With the aim to facilitate and support this, [OFFLU](#) (OIE-FAO Network of Expertise on Animal Influenza) advocates timely sharing of swine surveillance data from all regions to ensure that a One Health approach is applied to emerging influenza A viruses and that diagnostic tools are regularly updated to detect a wide range of influenza viruses, including emergent strains.

It is recommended that laboratories continue to **conduct tests for swine influenza** according to [OIE International Standards](#). Further testing information, protocols, and guidance for surveillance in animals and in humans are given on the [OIE](#), [FAO](#) and [WHO](#) websites

A number of countries have reported sporadic [human infections](#) with novel influenza viruses including strains of swine-origin, under the WHO [International Health Regulations](#) in the past decades. Cases of human infections with swine influenza A viruses from the 1C genetic clade have been reported from Eurasia^{2 3} in recent years.

¹ www.pnas.org/content/early/2020/06/23/1921186117

² www.offlu.net/fileadmin/home/en/publications/pdf/Position_piece-OFFLU_China_swine_H1v.pdf

³ www.who.int/influenza/human_animal_interface/Influenza_Summary_IRA_HA_interface_10_07_2020.pdf?ua=1



“The timely release of genetic sequence data and sharing of virus isolates of emerging influenza viruses with GISRS ([Global Influenza Surveillance and Response System](#)) has allowed both public and animal health specialists to rapidly assess associated risks” informs Ann Moen, Chief Influenza Preparedness and Response Unit, WHO. “Such timely action is critical to inform effective mitigation measures and prepare for a potential pandemic.”

Over the past four decades instances of sporadic transmission of influenza viruses between animals and humans have occurred. These sporadic zoonotic infections remind us that the threat of an influenza pandemic is persistent. While avian influenza has been the focus of surveillance and pandemic preparedness, swine influenza should not be neglected. The 2009 H1N1 pandemic was caused by a strain of swine influenza A virus which was introduced into humans and spread worldwide. Since then humans have re-introduced these viruses back into pigs, where they continue to evolve. It is important to identify emerging influenza viruses in swine populations and investigate their potential to infect humans.

The Tripartite contributes to this through supporting the understanding of the complexity and diversity of human-animal interfaces in different regions and significant differences in capacities of animal and human health national surveillance between countries and across geographic regions.

“Influenza in swine is not an OIE listed disease and thus does not require reporting to the OIE by the veterinary authorities. However, due to the pandemic risk associated with animal influenza viruses, there is a need for continued surveillance and risk assessment of emerging strains in swine populations” says Dr Matthew Stone, Deputy Director General (International Standards and Science), OIE.

“Through the international partnership between OIE, FAO, WHO and contributing laboratories, emerging influenza [variants](#), that may be of public or animal health concern, can be identified and flagged for further attention. We continuously monitor changes in circulating influenza virus strains in animal populations worldwide.”

The development of zoonotic influenza A candidate vaccine viruses, coordinated by WHO, remains an essential component of the global strategy for pandemic preparedness. Such readiness is dependent on continued monitoring through surveillance in animals including swine populations and timely reporting of human infections under International Health Regulations. The WHO Collaborating Center at China CDC has previously reported human infections by other 1C A(H1N1) variant viruses, including two recent viruses with a similar 1C.2.3 genotype. A candidate vaccine virus from a similar 1C.2.3. (Eurasian avian-like) A(H1N1) virus has been developed by the WHO Collaborating Center at China CDC, available for development of human vaccines for pandemic preparedness purposes.

Knowledge gained from international One Health cooperation, highlighted in the Tripartite's Commitment (2017) and WHO Global Influenza [Strategy](#), allows animal and human health experts to conduct timely risk assessment, update diagnostic tests and diagnostic reagents, anticipate vaccine component requirements, and develop response plans for current or future events.