

Summary of the teleconference held on Wednesday, 13 March 2019 for A(H3N2) Composition of Influenza Virus Vaccines for the Northern Hemisphere 2019-2020

This was an additional teleconference held after the WHO Consultation on the Composition of Influenza Virus Vaccines for the 2019-2020 northern hemisphere influenza season to discuss further the status of A(H3N2) viruses, for which a recommendation was postponed at the Information Meeting held on February 21, 2019 in Beijing, China.

Influenza activity overall is now declining in most countries in the northern hemisphere. However, in recent weeks, A(H3N2) viruses have circulated in greater proportions than A(H1N1)pdm09 viruses in Japan and the United States of America, and an increasing number of A(H3N2) viruses were detected in southern China. A(H3N2) viruses also predominated in Spain, France and Germany and were co-dominant with A(H1N1)pdm09 viruses in the Netherlands.

A(H3N2) viruses

Based on currently available genetic sequence data of A(H3N2) hemagglutinin (HA) genes, recent viruses circulating globally belong to genetic subclade 3C.2a1b and clade 3C.3a. The proportion of subclade 3C.2a2 viruses continues to decrease. Within subclade 3C.2a1b, viruses possessing the amino acid substitution T131K have become more prevalent in Asia, Europe and Oceania in recent weeks. Clade 3C.3a viruses have dominated in the United States of America and Israel, and have circulated in some countries in Europe where A(H3N2) viruses have predominated. For viruses collected and sequenced since January 2019, with data made available in GISAID, approximately 38% of A(H3N2) viruses belonged to clade 3C.3a while approximately 56% of viruses belonged to subclade 3C.2a1b.

In HI assays and virus neutralisation assays, the vast majority of clade 3C.3a viruses were antigenically distinct from clade 3C.2a (2a1, 2a1b, 2a2) viruses. In virus neutralization assays, the majority of subclade 3C.2a1b viruses remain antigenically similar to cell culture-propagated A/Singapore/INFIMH-16-0019/2016 reference virus, representing the A(H3N2) virus component of northern hemisphere 2018-2019 influenza vaccines. However, sera to egg propagated A/Singapore/INFIMH-16-0019/2016 showed reduced inhibition of currently circulating viruses.

Reassortants: A number of virus reassortants are under evaluation. These include reassortants representing both subclade 3C.2a1b and clade 3C.3a. WHO Collaborating Centres are in the process of completing full characterisation of these reassortants.

Calendar: The WHO will make a formal recommendation for the A(H3N2) component of northern hemisphere 2019-2020 influenza vaccines and suitable Candidate Vaccine Viruses (CVVs) on Thursday, 21 March, 2019. This will be preceded by teleconferences involving WHO Collaborating Centres, Essential Regulatory Laboratories and partners on Tuesday, 19 March and Wednesday, 20 March 2019.