

PANDEMIC PHASE LEVEL 4: HUMAN CASES OF THE NOVEL INFLUENZA A/H1N1 STRAIN CONFIRMED IN SCOTLAND AND SPAIN

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Due to the spread of the ongoing international outbreak of infections with a novel influenza A(H1N1) virus (the so-called 'swine flu'), the WHO raised the alert level for pandemic influenza to Phase 4 on 27 April 2009. The first cases have been laboratory-confirmed on European territory, two in Spain and two in Scotland.

The current outbreak is thought to have started in mid-March of this year, with human cases of the novel influenza virus detected in Mexico and the United States (US). As of today, 28 April, 40 confirmed cases have been reported from five different states in the US, six from Canada as well as 33 from Mexico including five deaths [1-3].

Spain

On 27 April, the Spanish Ministry of Health confirmed the first human case in a patient presenting with mild influenza-like symptoms after returning from Mexico. The patient, a young male, is currently hospitalised for purposes of isolation and treated with oseltamivir. Twenty close contacts of this patient are currently quarantined in their homes, under prophylactic treatment with oseltamivir and actively followed by the Spanish public health services.

A second case was confirmed in Spain on 28 April. The patient is a young adult from Valencia (province). The clinical presentation was mild and the patient is recovering. He had been vaccinated against seasonal influenza in the six months prior to disease onset and did not report contact to infected animals nor to any other confirmed human cases.

This patient developed symptoms on 21 April, one day prior to his return from a trip to Mexico. He had been travelling as part of a larger group of students that also included the first confirmed Spanish case. All passengers on the same flight as the two confirmed cases have been traced and are receiving oseltamivir prophylaxis.

Scotland

On 27 April, two cases of the novel influenza A(H1N1) were confirmed in individuals in Scotland, United Kingdom, who had returned on 21 April from travelling to Mexico [4,5]. They were hospitalised with mild influenza-like symptoms and are now recovering. Currently, 22 close contacts of the two cases are being monitored, seven of whom have developed mild symptoms and are being tested.

The number of countries that have suspected cases under investigation is growing rapidly. Currently it is nine countries in the European Union (EU), the Czech Republic, Denmark, Germany, Greece, Ireland, Italy, Poland, Spain and the United Kingdom, as well as 13 non-EU countries.

Most of the confirmed cases in the US, Canada and all of the confirmed cases in Europe have a history of travel to Mexico. The course of disease is mild in all cases diagnosed in the US and Europe, no related deaths have been reported in these areas. While it is usually the very young and the very old who are affected most by influenza, the majority of cases in Mexico were otherwise healthy young adults. However, this may reflect a bias. The large majority of the more than 1,600 suspected infections in Mexico have not yet been laboratory-confirmed and may therefore not necessarily be related to the novel influenza A(H1N1) strain. A statement on whether the new strain targets a particular age or population group more than others is therefore not possible at this stage.

Strain characteristics

Viruses isolated from cases in the involved countries have the same genetic pattern. The virus is a new reassorted strain that carries a novel combination of gene segments from human, swine and avian influenza viruses and that has not been previously detected in pigs or humans. The genomic sequence of the strain have been made available by the World Health Organization (WHO); accession numbers to the sequence have been published on 25 April: http://www.who.int/csr/disease/swineflu/swineflu_genesequences_20090425.pdf

The virus can be transmitted from human to human and is resistant to amantadanes, but susceptible to neuraminidase inhibitors.

The degree of possible protection by seasonal influenza vaccination is currently under investigation by a research team in the US.

Public health measures

Pandemic phase 4 has implications for the affected countries such as the activation of national pandemic contingency plans, enhanced surveillance, characterisation and sharing of samples and sending regular updates on the situation to WHO [6]. The situation is of concern due to the fact that the virus is transmitted

from human to human and has already spread over considerable geographical distance among an immunologically naïve population.

All suspected cases should be investigated and samples sent for confirmation to a reference laboratory that is equipped to identify the new strain, which should be handled under BSL3 conditions. The novel influenza A(H1N1) strain will appear as non-subtypeable with the standard diagnostic tests. A guidance document for influenza laboratories is available from the WHO website: http://www.who.int/csr/disease/swineflu/swineflu_guidance_labs_20090425.pdf

A diagnostic kit approved by the US Food and Drug Administration and containing oligonucleotide primers for unambiguous identification of the current outbreak strain will be shared with reference laboratories in the EU shortly.

Information specific to the situation in Europe is updated daily on the ECDC website: www.ecdc.europa.eu

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