

Update on H1N1 Virus

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Worldwide Situation

Although the pandemic influenza virus continues to be the predominant circulating influenza virus worldwide, circulation of seasonal influenza B viruses continue to increase and spread across Asia, parts of Eastern Europe, and Eastern Africa.

The overall pandemic influenza transmission continues to decline in Europe, North and South America, Southern Hemisphere, North Africa and Asia. Countries still reporting active influenza transmission include West Africa and parts of Southeast Asia with Thailand showing the most activity. Approximately half of all provinces in Thailand reported that more than 10% of all outpatients were seeking care for influenza like illness (ILI) and approximately 25% of all patients with ILI tested positive for influenza (currently the percentage for Europe is under 5%).

European Situation

For most countries in the European region, the pandemic influenza activity is considered to be reaching the end. Most experienced an early start to the influenza season (September/October) and the winter activity peaked earlier than in the past years (December as compared to February/March). In 19 of 22 countries reporting five or more years of influenza data, the peak clinical consultation rates that were observed during the 2009/2010 pandemic season did not exceed peak clinical consultation rates observed during the previous years. However in several countries, clinical consultation rates did exceed recent historical peaks within some younger age groups. 49 out of the 53 European countries reported laboratory-confirmed cases, the large majority of which occurred without complications. 4573 laboratory-confirmed deaths associated with the pandemic (H1N1) influenza virus have been reported to WHO/Europe. However this is an underestimation of the actual number of deaths associated with the pandemic H1N1 virus infections. 89.74% of influenza virus detections during 2009 were influenza A (H1N1). All the pandemic (H1N1) 2009 viruses analysed antigenically or genetically were similar to the vaccine strain and the majority was sensitive to both oseltamivir and zanamivir. Presently less than 5% of influenza-like illness seen by sentinel doctors are positive for H1N1. The number of reported Specific Acute Respiratory Infection cases has also continued to decline.

Local Situation

The last positive H1N1 confirmed case was on the 19th of February and the last Influenza A confirmed case was on the 20th of February. Since then all swabs have been negative. Antiviral dispensing has been decreasing

exponentially since the end of January. 91,922 persons up to the 16th of March have been vaccinated. The rate of influenza-like illness during week 9 was around 73/1000 consultations, a slight increase from week 8 which was 58/1000 consultations.

Prior infection with classical swine H1N1 influenza viruses is associated with protective immunity to the 2009 pandemic H1N1 virus

A study done in USA and published in Influenza and other respiratory viruses last March on experimental mice, showed that induced immunity to the 1918-derived H1N1 seasonal influenza virus and the 1976 swine influenza virus, offered a degree of protection against the 2009 pandemic virus. The implications of these findings add to the accumulating data that is suggesting that reason for the partial protection of older persons against the 2009 pandemic.

Morbid Obesity: a risk of influenza-related complications

A case-control design used to compare cases of hospitalizations and deaths from the 2009 influenza H1N1 pandemic occurring between April and July 2009 in the US suggested that persons who were morbidly obese (BMI ≥ 40 kg/m²) - even if they did not have chronic medical conditions recognized by the Advisory Committee on Immunization Practices as increasing the risk of influenza related complications - had an increased risk of hospitalization and potential death. These complications could be prevented with early antiviral treatment and vaccination.

Pandemic H1N1 mutation in India resembles Dutch findings

Researchers from India's National Institute of Virology announced this week that they detected a small mutation in the polymerase 2 (PB2) gene in the pandemic H1N1 virus in samples from three patients, the same change that surfaced in two Dutch patients last September. The Dutch researchers found the E627K mutation in the basic polymerase 2 (PB2) proteins in samples from two patients who had links to an island in northern Holland.

The E627K mutation in PB2 had previously been linked to increased replication and possible virulence changes in other influenza A viruses. Though the mutation has been rarely seen in avian-derived viruses, it had been associated with fatal H5N1 cases and H7N7 infections in humans. The clinical and epidemiological significance of the mutation is unclear and the experimental infection of ferrets with the H1N1 virus containing the mutation did not suggest increased shedding, virulence, or transmissibility.