

Current major events

First oseltamivir-resistant pandemic (H1N1) 2009 influenza virus from the EMR

Yemen reported its first oseltamivir resistant pandemic (H1N1) 2009 virus in October 2009. This is also the first case of oseltamivir resistance virus reported from the Eastern Mediterranean Region.

The specimen was taken from a 3 year old female child who was admitted to the hospital on 07 October with high grade of fever, cough, sore throat, body ache and difficulty in breathing. The child is also a known case of congenital heart disease with pulmonary hypertension. The child was put on antiviral medicine and was tested positive for H1N1 by RT-PCR on 9 October at the National Public Health Laboratory of Yemen. The clinical condition of the child did not improve even 10 days after she was put on treatment. At this stage, her second nasal swab was tested positive for H1N1. The isolate was sent to NAMRU-3 (WHO CC) for routine antiviral resistance test and found to be resistant to oseltamivir. The patient has now clinically improved with no fever and difficulty in breathing.

Editorial note

Since the beginning of current influenza pandemic, a total of 40 cases of oseltamivir-resistant pandemic (H1N1) 2009 virus, including the one from Yemen, have been reported globally to WHO till the end of October 2009.

The pattern of resistance found in the oseltamivir resistant isolate collected from Yemen is the same as has been reported elsewhere in other WHO Regions. This case reported from Yemen is a sporadic one and not epidemiologically linked to any other case. Globally all resistant cases reported so far are geographically dispersed and not epidemiologically linked to one another. Extensive susceptibility testing of clinical samples and virus isolates also suggest that such resistant viruses are not circulating at a community level. However, the emergence of drug-resistant pandemic influenza virus merits close monitoring.

Geographic distribution of oseltamivir-resistant pandemic (H1N1) 2009 influenza virus,

WHO Regions	No of oseltamivir-resistant isolates reported	No of isolates of clinical specimens tested for antiviral susceptibility
African	0	71
Eastern Mediterranean	1	45
European	4	2323
Americas	16	6160
South-East Asia	0	20
Western pacific	19	3900
Total	40	12519

Source: *Weekly Epidemiological Record*, 30 October 2009

Features common to resistant isolates

- All the resistant viruses were sensitive to zanamivir;
- None of these viruses has arisen as a result of reassortment between pandemic (H1N1) 2009 influenza virus and any other influenza virus including the seasonal H1N1 strain;
- There has been no evidence of transmission of these viruses beyond the immediate setting in which they were discovered;
- Majority of patients with resistant virus infection had typical influenza-like illness and recovered without complication

The global experience with drug resistant pandemic influenza virus has shown that the risk of resistance is considered higher in patients who have prolonged illness (particularly those with severely compromised or suppressed immune system) and who have received antiviral treatment for an extended duration and still test positive for the virus.

From the public health perspective, there is a strong need to monitor vigilantly for changes in transmissibility or pathogenicity of the pandemic (H1N1) 2009 influenza virus which may not be evident on a case-by-case basis. Any changes in the transmissibility and drug resistance of the virus will have profound implication on the clinical case management. The countries of the EMR, a such, need to set up surveillance system for influenza with the virological surveillance so as to have better data on the evolution of the characteristics and pathogenicity of the virus in the Region.

Update on outbreaks in the Eastern Mediterranean Region

Pandemic (H1N1) 2009 in 21 out of 22 countries in EMR.

Cholera in Afghanistan

Current public health events of international concern [cumulative N° of cases (deaths), CFR %]

Avian influenza

Egypt	[87 (27), 31%]
Indonesia	[141 (115), 81.6%]
China	[38 (25), 65.8%]
Vietnam	[111(56), 50.5%]
Global total	442 (262), 59.2%

AWD/Cholera

Afghanistan	[662 (11), 1.6%]
Nigeria	[99 (18), 18.1%]

Pandemic (H1N1) 2009

AFRO	[13 536 (75), 0.5%]
AMRO	[174 565 (4175), 2.3%]
EMRO	[22 689 (137), 0.6%]
EURO	[64 000 (281), 0.4%]
SEARO	[42 901 (605); 1.4%]
WPRO	[129 509 (465) 0.3%]
GLOBAL Total	[447,200 (5738), 1.2%]

CFR=Case-Fatality Rate