

# Clinical Features of the Initial Cases of 2009 Pandemic Influenza A (H<sub>1</sub>N<sub>1</sub>) virus infection in China

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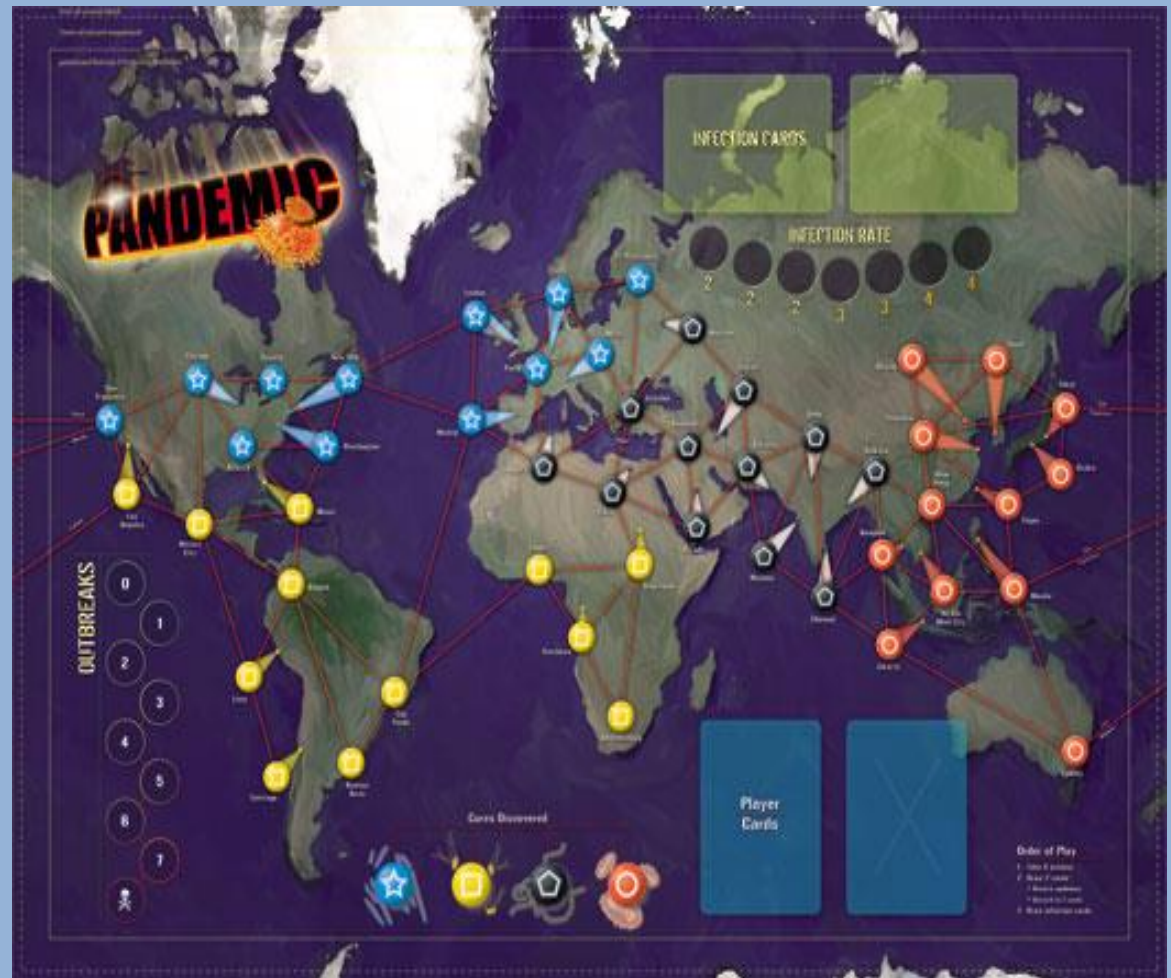


**NEJM – December 24, 2009**

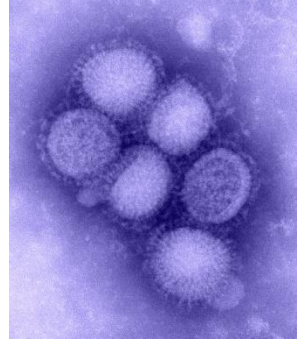
# H1N1 Pandemic

April 2009

USA & Mexico



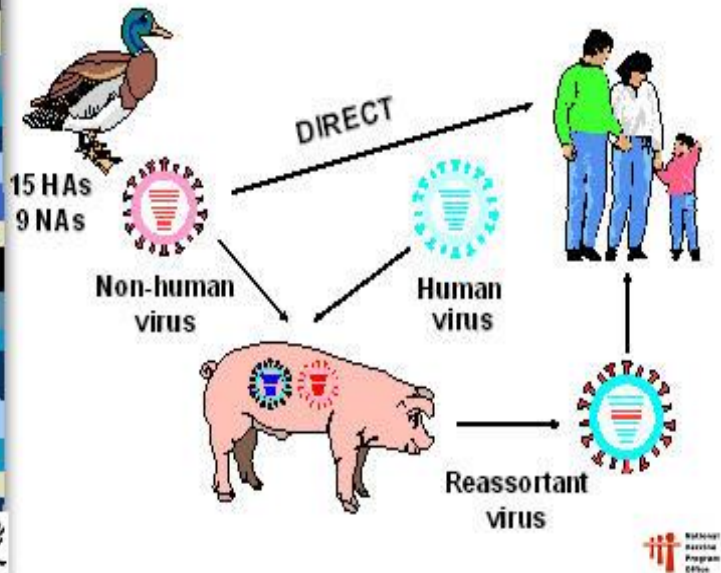
# H1N1 Virus



Triple-reassortant influenza virus; containing genes from:

1. human
2. swine
3. birds

## Genesis of New Human Influenza Viruses



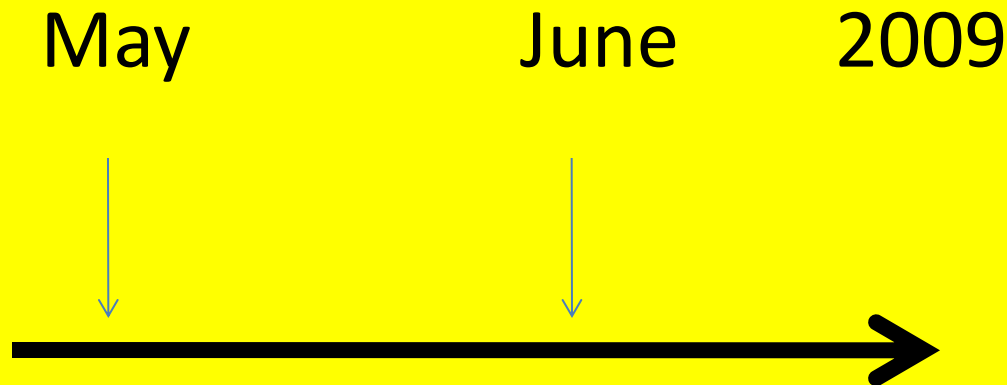


# First cases of H1N1 in China

**First 3 cases of confirmed infection  
were documented between  
10-15/ May 2009**



# First cases of H1N1 in China



**426 with confirmed infection**

# First cases of H1N1 in China

Confirmed infection:

Actions:

- ❖ hospitalization
- ❖ quarantine

# First cases of H1N1 in China

## Why to isolate patients?

- Closely monitoring patients!
- Tracking the incubation period!
- Clinical features.
- Lab & Radiographical results
- Nature and extent of viral shedding.

# First cases of H1N1 in China: Organization



- Chinese Ministry of Health
- Chinese Center for Disease Control and Prevention
- All community and teaching hospitals in china



# First cases of H1N1 in China

## Inclusion criteria “1”:

- Influenza-like illness:  $T^{\circ} \geq 37.5^{\circ}\text{C}$  and at least one of the following symptoms:
  1. Sore throat
  2. Cough
  3. Rhinorrhea
  4. Nasal congestion

# First cases of H1N1 in China

## Inclusion criteria “2”:

- History of travel to suspected countries in the previous 7 days OR
- Epidemiologic link to a person with confirmed or suspected infection in the previous 7 days

**Confirmed: + RT-PCR**

# First cases of H1N1 in China

Suspected

“+” RT-PCR

1-2 h

Confirmed

Quarantine



# First cases of H1N1 in China

## At Quarantine

- Several number of swabs (Nasopharyngeal & Pharyngeal).
- Close follow up of the patients.



Return to normal body  $T^{\circ}$  :

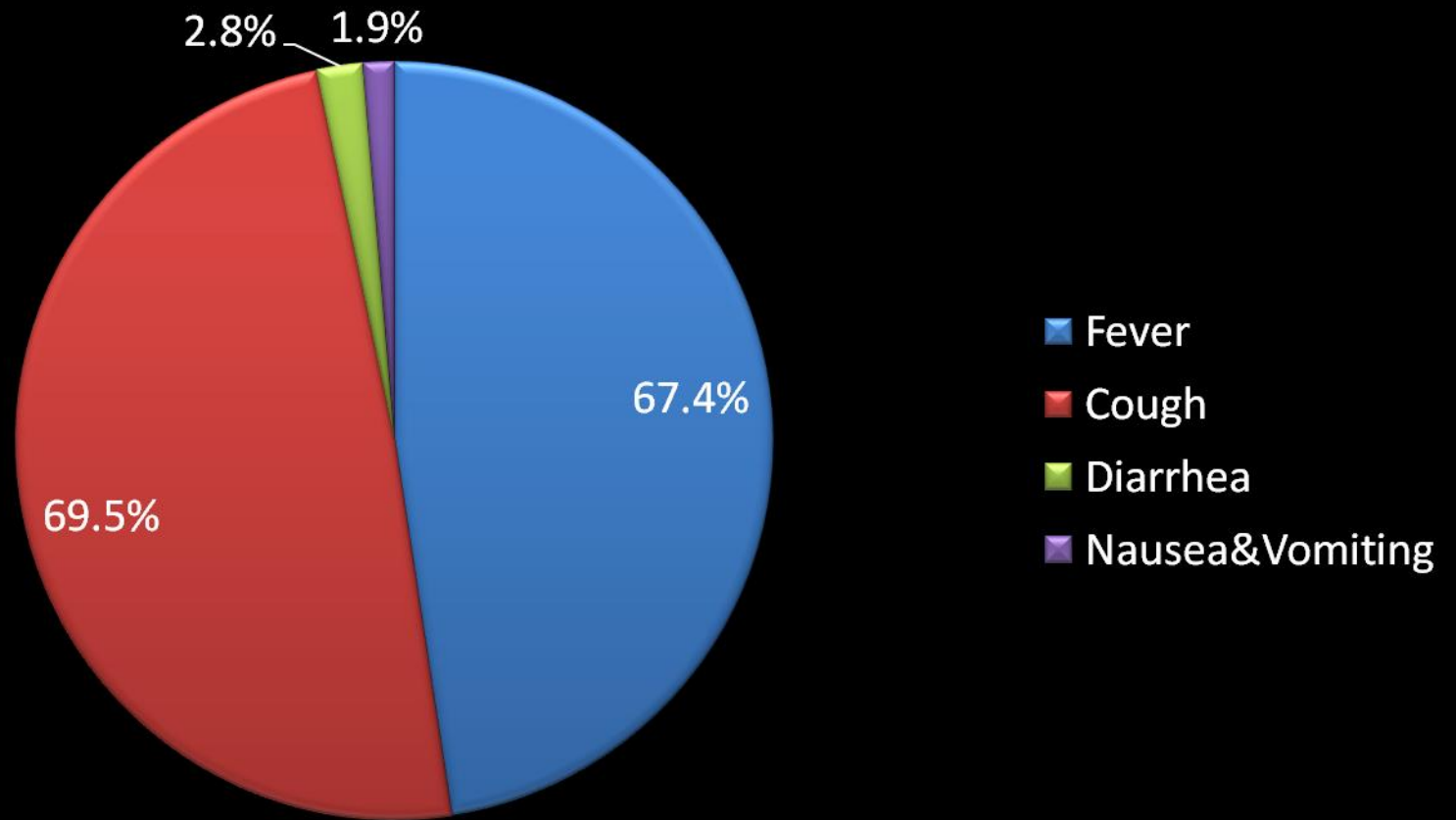
$T^{\circ} \leq 37.3^{\circ}\text{C}$  for 12h after the withdrawal of antipyretics

# First cases of H1N1 in China

## Criteria for discharge:

- Two readings of normal body Temperature on 2 consecutive days
- The absence of respiratory symptoms
- Two consecutive RT-PCR “-” results

# H1N1 First cases in China Symptoms





# First cases of H1N1 in China

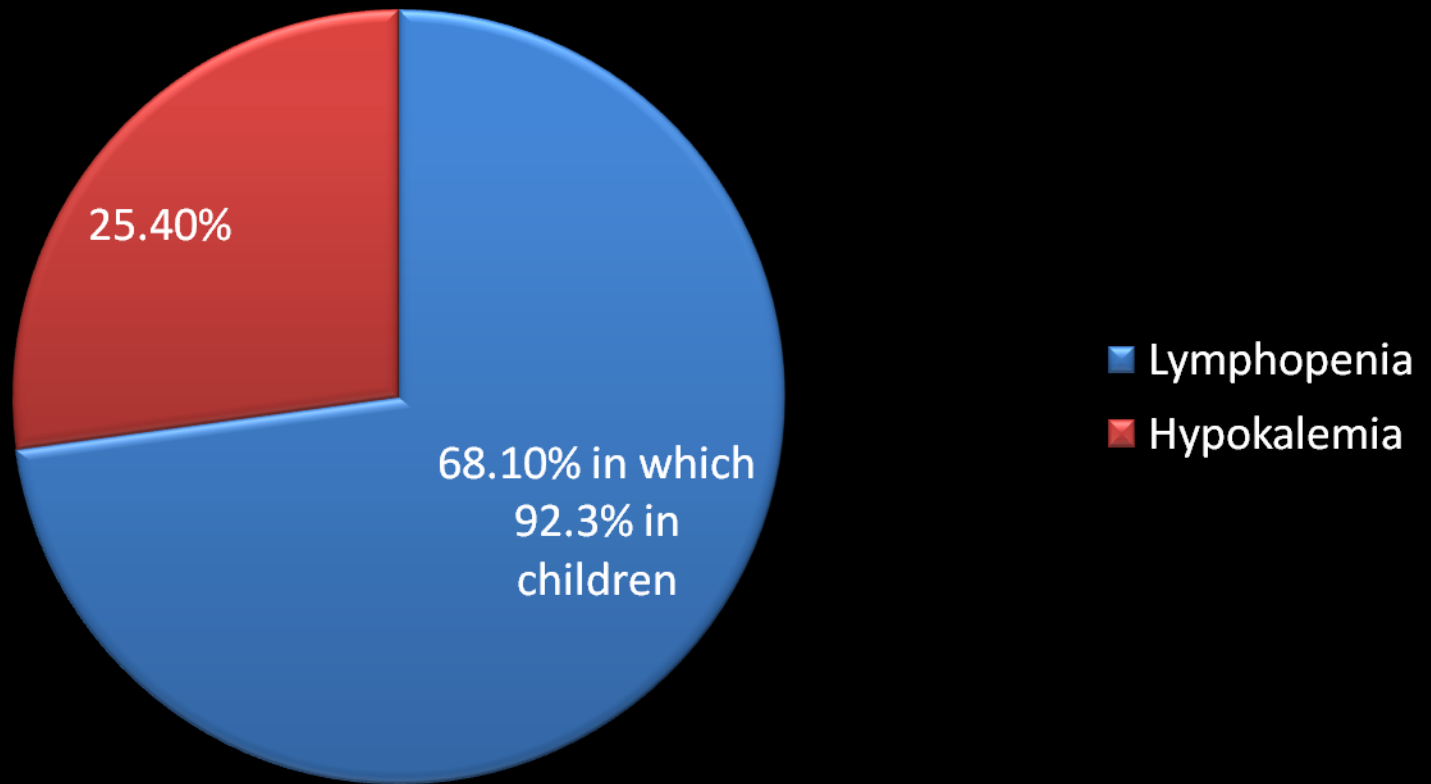
## RESULTS

The median incubation period = 2d (range 1-7)  
{exposure-onset}

Leukopenia ----- 21.4%

1. Developed in 2d (1-3)
2. WBC returned to normal 7d (6-9)

# H1N1 First Cases in China lab!



# First cases of H1N1 in China

## Clinical Outcomes

- All patients were discharged.
- The median duration of fever = 3d (1-11).
- The median time from the first symptoms to “+”  
Rt-PCR = 1 day (0-2).

# First cases of H1N1 in China

## Clinical Outcomes

Oseltamivir was administered to 351 patients and was administered to 254 of these patients (72.4%) within 48 hours after the onset of illness.



# First cases of H1N1 in China

## Clinical Outcomes

RT-PCR were available for 421 patients.

- ❖ The median time from the onset of illness to a negative RT-PCR = 6d (1-17)
- ❖ The median interval from the time  $T^{\circ}$  returned to normal to a negative RT-PCR = 3

# First cases of H1N1 in China

## Clinical Outcomes

❖ The median time from the onset of illness to a negative RT-PCR = 6d (1-17)

Persistent RT-PCR positivity (>5days)!!!?????



# First cases of H1N1 in China

## Clinical Outcomes

Persistent RT-PCR positivity (>5days)!!!?????

- Age of less than 14 years.
- Male sex.
- >48h between the onset of symptoms and treatment with Oseltamivir.

# First cases of H1N1 in China

## Clinical Outcomes

Adverse effects:

5 patients

- 2: Oseltamivir alone
- 3: Oseltamivir + Levofloxacin/azithromycin

# First cases of H1N1 in China

## Clinical Outcomes

- Nausea & Vomiting:
  - ✓ 1 patient – Oseltamivir alone
  - ✓ 1 patient – Oseltamivir + Levofloxacin

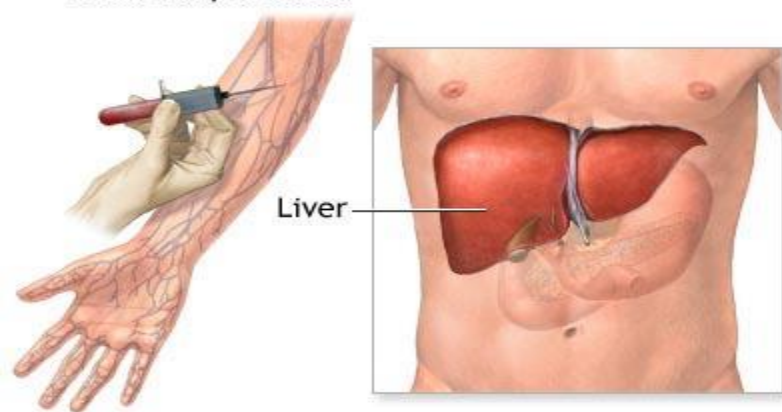


# First cases of H1N1 in China

## Clinical Outcomes

- Abnormal liver function ( $\uparrow$  enzymes & Bil.):
  - ✓ 1 patient – Oseltamivir alone
  - ✓ 1 patient – Oseltamivir + Levofloxacin

Blood sample taken



# First cases of H1N1 in China

## Clinical Outcomes

- Rash:
  - ✓ 1 patient – Oseltamivir + Azithromycin

# **First cases of H1N1 in China**

## **Conclusion:**

- **Quarantine:**
- **Unknown biologic action**
- **Absence of effective vaccination**

**1. July 10, 2009:**

**Hospitalization for Isolation has not been  
mandated in China**



# **First cases of H1N1 in China**

## **Conclusion:**

**2. “It has been difficult to define the true incubation period of the virus.**

**2-7 days in China**

**1-7 days in USA (642 patients studied).**

# First cases of H1N1 in China

## Conclusion:

	China	USA	Mexico
Fever	67.4%	94%	>China
WBC- Lymph.	21.4%↓- 68.1%↓ lym	Both ↑↓	-----
CXR	19 (local patchy)	-----	Severe pneumonia
Oseltamivir with + CXR	48h	-----	8days

# First cases of H1N1 in China

## Conclusion:

**3. The average duration of viral shedding according “+” RT-PCR is 6 days**

Although a “+” RT-PCR does not necessarily indicate shedding of infective virus, PCR is more sensitive than culture for viral detection.

# **First cases of H1N1 in China**

## **Conclusion:**

- 4. Beginning of Oseltamivir within 48h of symptoms reduce the duration of viral shedding.**

# **First cases of H1N1 in China**

## **Conclusion:**

**5. The median interval from normalization of body temperature to “-” RT-PCR = 3days.**

**□ 5 days for 87.9%**

**□ 7days for 96%**



Thank you!

