

30 August 2013



Pan American Health Organization



*Regional Office of the
World Health Organization*

Middle East respiratory syndrome coronavirus (MERS-CoV) and Avian Influenza A (H7N9) update

Alert and Response Operations

International Health Regulations, Alert and Response and Epidemic Diseases

Differences between MERS-CoV and H7N9

MERS-CoV

- First identified Spring 2012
- France, Italy, Jordan, Qatar, Saudi Arabia, Tunisia, United Arab Emirates, United Kingdom
- Source of infection for sporadic cases unclear
- Some clusters indicate limited human-to-human transmission
- No specific drugs or vaccines
general care only
- Incidence increasing

H7N9

- First identified Spring 2013
- China
- Most cases probably due to contact with infected poultry/live markets
- Small clusters, limited human-to-human cannot be excluded
- Neuraminidase inhibitors available
- Early stages of vaccine development underway
- Incidence decreasing



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Similarities between MERS-CoV and H7N9

- Both probably originated in animals
- Sporadic cases and clusters reported
- No community-wide outbreaks
- Frequent severe respiratory disease and fatalities
- Striking number of cases in men older than 50
- Expected to evolve over coming period



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MERS-CoV

- Information about human cases as of **30 August 2013**:
 - From September 2012 to date: 108 laboratory-confirmed cases, 50 deaths (CFR= 46%)

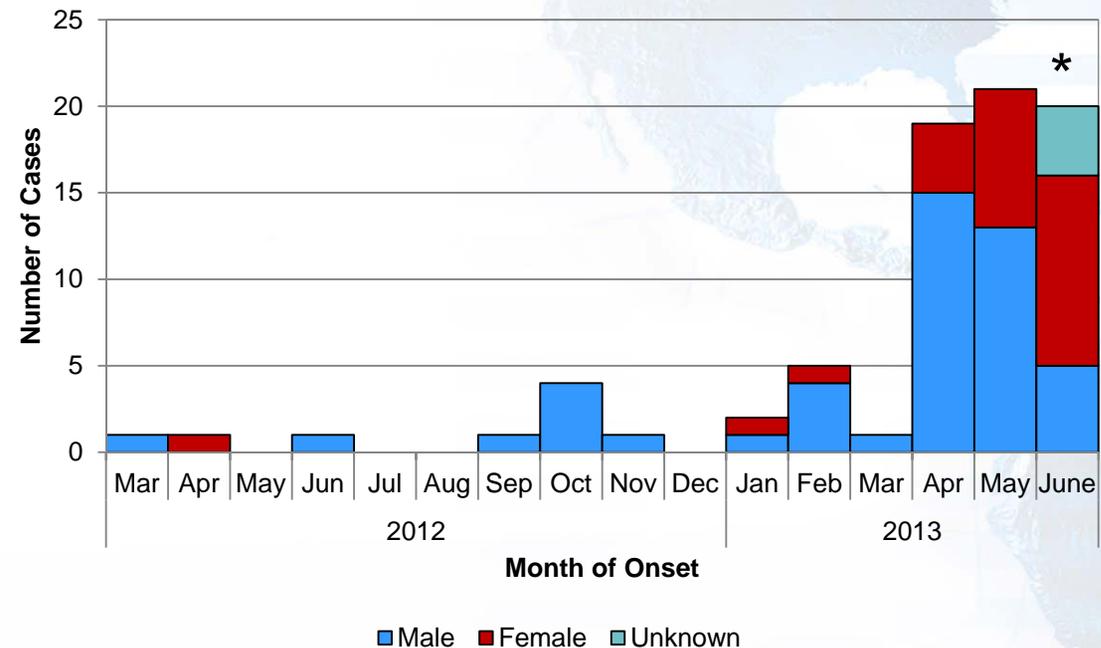
Country of probable exposure	Cases	Deaths
France	1	0
Italy	2	0
Jordan	3	2
Qatar	4	1
Saudi Arabia	88	43
Tunisia	1	0
United Arab Emirates	7	3
United Kingdom	2	1
TOTAL	108	50

- Countries where cases acquired infection in-country from an unknown source
 - Jordan, Saudi Arabia, Qatar, United Arab Emirates.
- Countries where cases are associated with travel or contact with a returned infected traveler
 - Italy, France, Germany, Tunisia, United Kingdom

Description of Event

- Most patients male (n=104) (63%)
- Age range (n=102): 2 to 94 years old (median= 50 y/o)
- Onset of symptoms (n=67): from **20 March 2012** to **17 August 2013**

Confirmed cases of MERS-CoV by gender, 2012-2013 (n=77)



* For 19 of the 20 cases in June estimated onset date was used

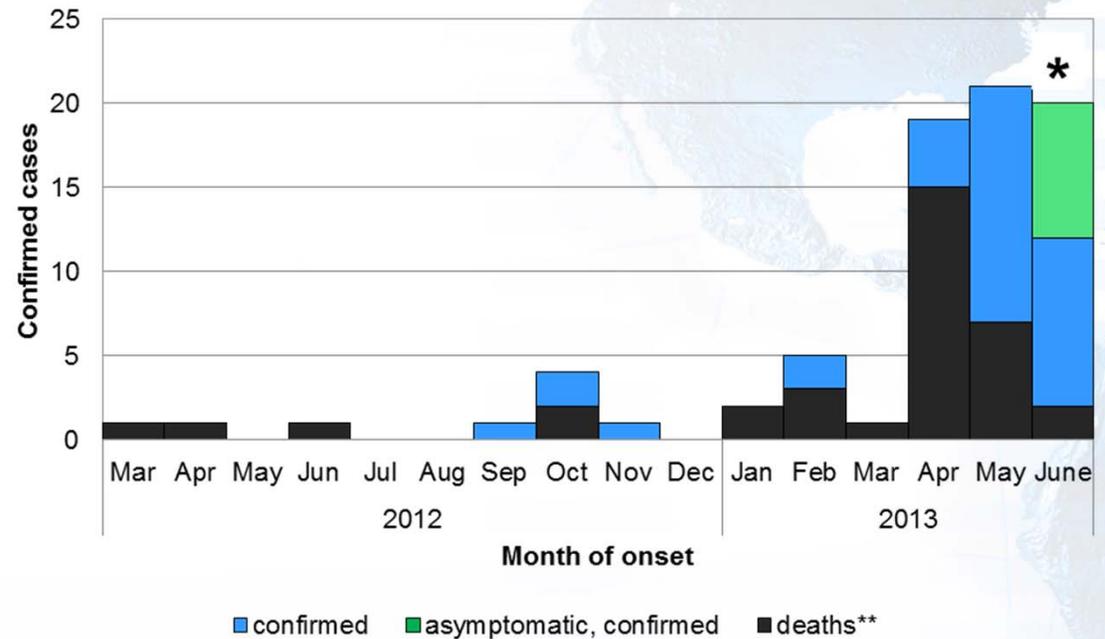
Description of Event

- Many clusters in families and HCW:
 - Jordan: 2 fatal in HCF - **April 2012**
 - Saudi Arabia: 3 cases (2 fatal) in family members - **October 2012**
 - United Kingdom: 2 family members (1 fatal and 1 mild case) – **Feb 2013**
 - Saudi Arabia: 22 cases including 10 deaths, linked to HCF, 2 HCW- **May 2013**
 - France: 1 patient infected after exposure to case – **May 2013**
 - Tunisia: cases in family members - **May 2013**
 - Italy: 3 cases (2 patients infected after exposure to confirmed case) - **June 2013**
 - United Arab Emirates: 5 cases (4 HCW linked to previously confirmed case) - **July 2013**
- In large clusters, connection between cases not fully understood & under investigation.
- Human to human transmission: Evidence for limited person-to-person transmission in some clusters.

Illness & Treatment

- All have respiratory disease
 - From asymptomatic, mild symptoms to severe pneumonia
 - Atypical symptoms can be predominant if immunocompromised
- No approved virus-specific therapy at this time

Confirmed cases and deaths of MERS-CoV, 2012-2013 (n=77)



* For 19 of the 20 cases in June estimated onset date was used

** 5 deaths with incomplete information were not included in the graph



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Statement of the IHR Emergency Committee concerning MERS-CoV*

“With the information now available, and using a risk-assessment approach, the conditions for a Public Health Emergency of International Concern (PHEIC) have not at present been met.”

* http://www.who.int/mediacentre/news/statements/2013/mers_cov_20130717/en/index.html

Technical advice of the Committee*

- Improvements in surveillance, lab capacity, contact tracing and serological investigation,
- Infection prevention and control and clinical management,
- Travel-related guidance,
- Risk communications,
- Research studies (epidemiological, clinical and animal),
- Improved data collection and the need to ensure full and timely reporting of all confirmed and probable cases of MERS-CoV to WHO in accordance with the IHR (2005).

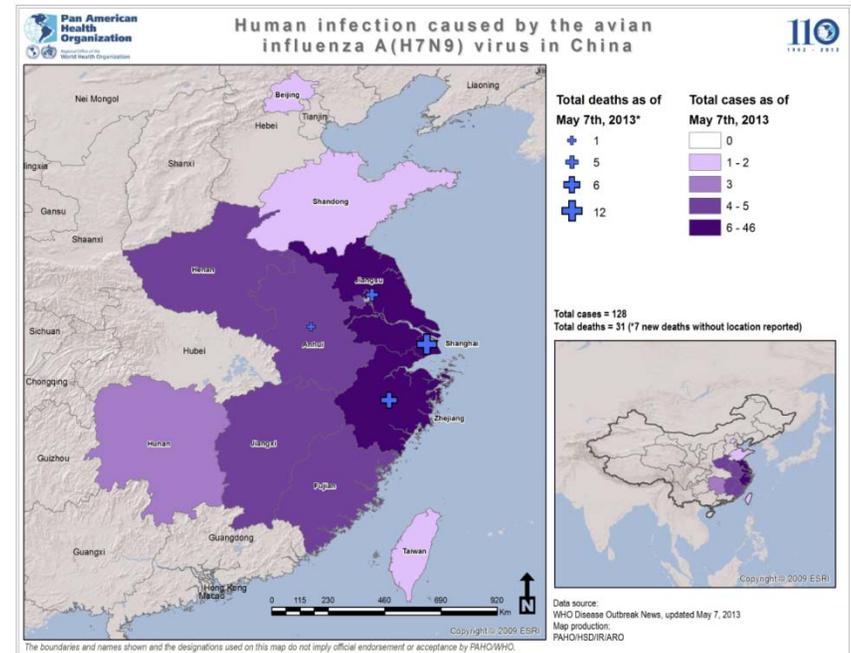
* http://www.who.int/mediacentre/news/statements/2013/mers_cov_20130717/en/index.html

WHO assessment and concerns MERS-CoV

- Limited human-to-human transmission so far
- Severe disease especially in immunosuppressed and people with co-morbidities
- International spread: risk of further amplification with forthcoming mass gatherings
- Challenges in countries where the surveillance is difficult (poor access to health care facilities, poor laboratory capacity, high incidence of other respiratory diseases)

Avian Influenza A (H7N9)

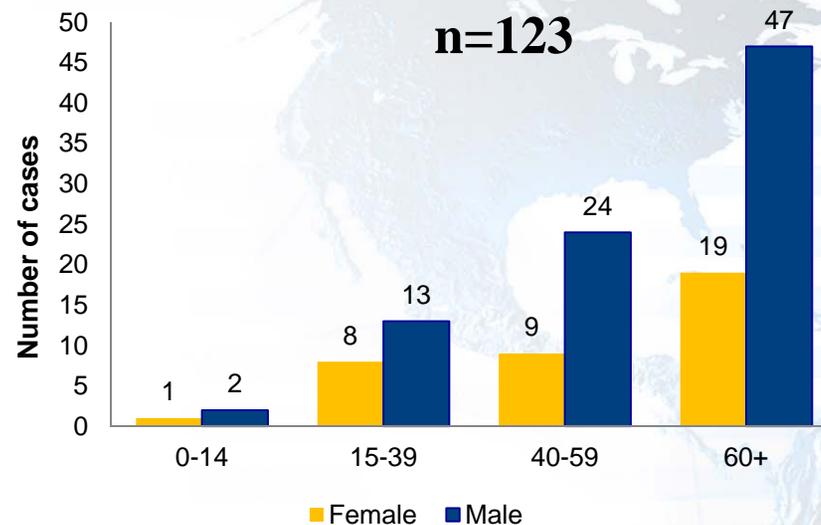
- Information about human cases as of **11 August 2013**:
 - 135 laboratory confirmed cases and 44 deaths (CFR=32.6%)
 - Family clusters
 - 1 confirmed case among close contacts in Shanghai



Distribution of confirmed human infection caused by avian influenza A(H7N9) by sex and age group

Age (n=127):

- Median age : 61 years (range 2 - 91)
 - 5 pediatrics
 - 68 (54%) cases are 60 or more y.o.
- Median age of confirmed deaths (n=22): 67 years (range 27- 87)
- 30% of female confirmed cases (n=38)
- 70% of male confirmed cases (n=88)
- Age distribution skewed to older age groups particularly for **Shanghai** (20/30), not as much for other provinces



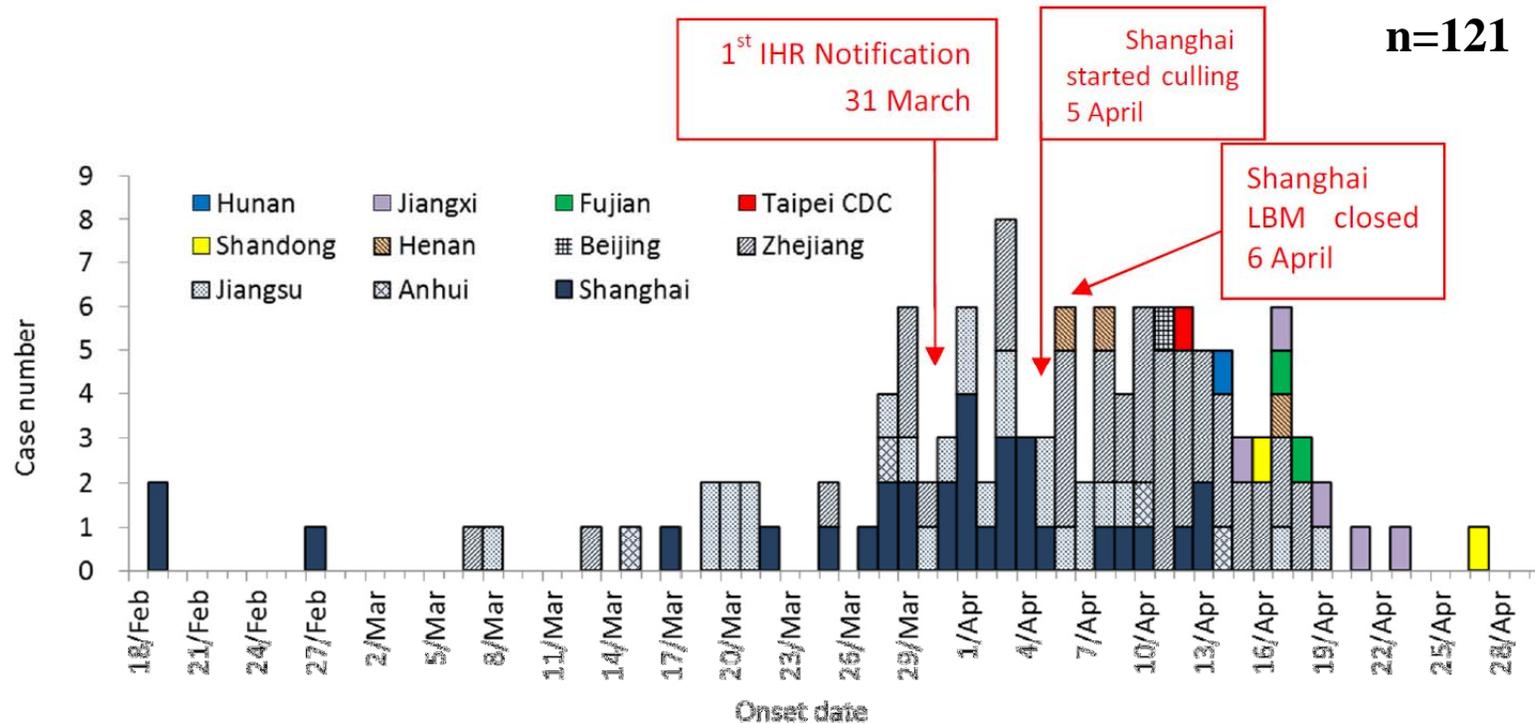
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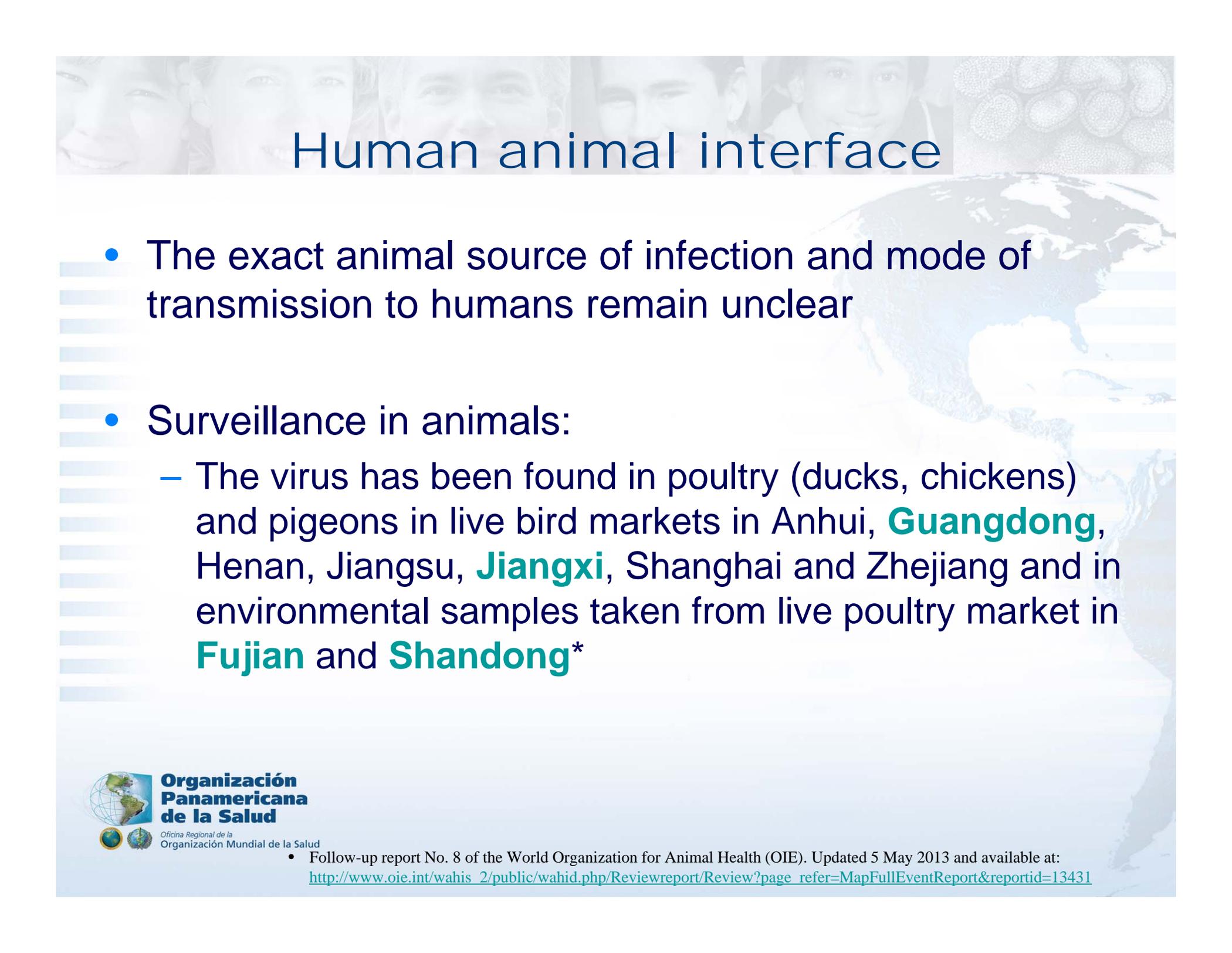


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Epidemiology

- The onset of the cases' symptoms occurred from February 19th to July 27th, 2013





Human animal interface

- The exact animal source of infection and mode of transmission to humans remain unclear
- Surveillance in animals:
 - The virus has been found in poultry (ducks, chickens) and pigeons in live bird markets in Anhui, **Guangdong**, Henan, Jiangsu, **Jiangxi**, Shanghai and Zhejiang and in environmental samples taken from live poultry market in **Fujian** and **Shandong***



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- Follow-up report No. 8 of the World Organization for Animal Health (OIE). Updated 5 May 2013 and available at:
http://www.oie.int/wahis_2/public/wahid.php/Reviewreport/Review?page_refer=MapFullEventReport&reportid=13431

WHO assessment and concerns -H7N9

- Measures by China having an effect, but also may be seeing effect of seasonality
- Need to assess risk through next winter season
- Not expected to disappear
- In 2 months in China, as many H7N9 cases as caused by H5N1 cases over 10 years
- Molecular genetic changes suggesting 'adaptation'
- Very unusual situation to face two highly credible pandemic threats at the same time
- Most urgent concern: develop 'sustainable' human-to-human transmission?
- International spread



MERS-CoV and H7N9 Travel and health

- Monitor and advise on global travel and trade restrictions
- Contact countries if inappropriate related travel and trade measure has been taken
- Coordinate regular meetings on travel with partners
- Maintain regular dialogue with travel and tourism sectors on latest MERS developments
- Publish travel advice and key technical and advocacy documents



Travel advice

MERS-CoV

- General precautions
- Reservoir and source of infection
 - unknown
- Cases traveled by airplane, ill and asymptomatic (incubation period possibly >10 days)
- Traveler and healthcare provider advice located on the WHO International Travel and Health website

Avian Influenza A(H7N9)

- General precautions
- Reservoir and source of infection - current evidence for live poultry, environment
- A case reported by China Taipei CDC traveled without symptoms, ill after arrival
- Traveler concerns addressed on the WHO H7N9 website



Public health measures

Current

WHO does not advise special screening at points of entry with regard to these events nor does it currently recommend the application of any travel or trade restrictions

Future

Risk-based approach, continually under review